To interested parties

Notice, under Part D of Special Condition 3L (Pre-construction Engineering Outputs for prospective Strategic Wider Works) of the Electricity Transmission Licence, of a proposal to direct modifications to Table 1 in Part A of that condition in order to amend details of Pre-Construction Engineering Outputs

1. National Grid Electricity Transmission plc (the "licensee") is the holder of an Electricity Transmission Licence (the "licence") granted or treated as granted under section 6(1)(b) of the Electricity Act 1989.

2. Under Special Condition 3L (Pre-construction Engineering Outputs for prospective Strategic Wider Works) of the licence ("SC 3L"), the Gas and Electricity Markets Authority (the "Authority"[1]), may direct modifications to Table 1 in Part A of SC 3L ("Table 1") in order to amend details of Pre-construction Engineering ("PE") Outputs.

3. In accordance with Part C(i) of SC 3L, the licensee has given notice that there has been a significant change in the future outlook for generation connections or demand requirements and that to deliver certain PE Outputs in Table 1 is no longer economical and efficient.

4. In accordance with Part C(ii) of SC 3L, the Authority has determined that certain Output Substitutions to the PE Outputs in Table 1 are justified and it has determined the adjustments to be given effect through modifications to Table 1.

5. In accordance with Part D of SC 3L, the Authority hereby gives notice that it proposes to direct the modifications to Table 1 that are specified in Appendix 1 to this Notice. The proposed modifications are shown in tracked changes. The Authority proposes that this direction should take effect on 28 May 2018.

6. The reasons for our proposed direction are set out in Appendix 2.

7. In summary, the effect of the modifications we propose to direct will be to alter the details of the PE Outputs that the licensee is required to deliver during the RIIO-ET1 period and to specify the allocation of associated Allowed Expenditure to the outputs.

Further information

8. Copies of this Notice and other documents referred to in it are available on the Ofgem website (www.ofgem.gov.uk). Alternatively they are available from our Research and Information Centre, 9 Millbank, London, SW1P 3GE (020 7901 7003).

9. Any representations on our proposal to make this direction must be made on or before 18 May 2018 to Anthony Mungall at Ofgem, 3rd Floor, Commonwealth House, 32 Albion Street, Glasgow, G1 1LH, or by email to Anthony.Mungall@ofgem.gov.uk.

10. You can ask us to keep your response confidential, by clearly marking it confidential and providing reasons, and we'll respect this, subject to obligations to disclose information such as the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. However, we would like to publish as much of your response as we can. To help us achieve this goal we would appreciate it if confidential material could be provided in a separate appendix to your main response. This should also be clearly marked as confidential with reasons provided.

[1] The "Authority", "Ofgem", "we" and "our" may be used interchangeably in this document. The Office of Gas and Electricity Markets (Ofgem) supports the Authority in its day to day work.

Unless you mark your response confidential we'll publish it on our website, www.ofgem.gov.uk, and put it in our library.

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Steven McMahon, **Associate Partner RIIO Networks, Electricity**
Duly authorised on behalf of the Authority

11 April 2018

Appendix 1:

Modifications to Table 1 in Part A of Special Condition 3L of National Grid Electricity Transmission plc's electricity transmission licence

Part A: Baseline expenditure for Pre-construction Engineering Outputs

Table 1: Baseline expenditure for Pre-construction Engineering Outputs

Prospective Strategic Wider Works	**Baseline expenditure £m (2009/10 prices)**
Eastern HVDC (additional transfer capability across multiple boundaries in northern England)	19.110
Hinkley Seabank Project (additional boundary transfer capability in the South West of England)	22.765
~~Wylfa - Pembroke HVDC (additional boundary transfer capability in northern Wales)~~ Prospective future Strategic Wider Works Pre-construction Engineering Outputs	~~26.894~~4.129

Appendix 2: *Reasons for direction*

1. This appendix explains our determination on a pre-construction engineering (PE) output substitution request[1] received from the licensee and a related amendment to reallocate the allowed expenditure.

2. We allowed £46 million[2] in the RIIO-ET1 price control for the licensee to deliver engineering activities in preparation of constructing infrastructure projects expected to be considered under the Strategic Wider Works (SWW) arrangements.[3] The deliverables from these pre-construction activities are known as PE Outputs. Further detail on the PE Outputs is included in Part A of SC 3L.

3. The licensee can raise a request to amend the details of the PE Outputs prescribed in the licence through an output substitution (OS) request. When we receive a request we determine whether the proposed substitution is consistent with the licence requirements and whether it is justified as being economic and efficient, and then the modification to be made to the licence, including the allocation of the allowed expenditure.

4. The table below summarises the key details of the OS request received from the licensee, covering three categories:

   i. no change to the description or to the allocation of allowed expenditure.

   ii. removal of schemes where the associated pre-construction activity is no longer required.

   iii. introduction of new outputs and reallocation of the allowed expenditure made available as a result of step ii above.

5. Appendix 3 sets out further background information on the SWW arrangements.

Table 1: summarising the licensee's OS request[4]

Driver	Current PE Outputs	Current allowed expenditure	Description of proposal	Proposed allowed expenditure
i.	Eastern HVDC link	£19.110m	No change	£19.110m
ii.	Wylfa-Pembroke HVDC (WP)	£26.894m	The proposed investment and associated PE Output are not currently forecast to be required in RIIO-ET1.	-
iii.	Hinkley Seabank (HSB)	-	Re-allocate a significant amount of the allowed expenditure associated with WP project to the pre-construction activities applicable to the construction of the HSB project.	£22.765m
iii.	Prospective future SWW	-	Re-allocate the residual allowed expenditure value - reflecting the difference between steps 2 and 3 above - to the delivery of a new PE Output applicable to the construction of future SWW projects for the remainder of the RIIO-ET1 period.	£4.129m
		£46.004m		**£46.004m**

[1] Submitted in accordance with paragraph 9 of special condition 3L of the electricity transmission licence.
[2] Up to a total of £46million (2009/10 prices) can be spent by the licensee during RIIO-ET1 for delivery of PE Outputs.
[3] Under these arrangements, TOs are able to initiate a regulatory assessment of a proposal for the construction design of a major reinforcement project by providing a notice to us. More detail on the SWW arrangements is available from our website: https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0
[4] All prices shown are in 2009-10 prices

The licensee's current PE Outputs

6. Under the price control framework, the licensee is required to put forward a well-justified business plan setting out what it anticipates delivering during the price control period. We assessed this plan as part of the making of the price control settlement.

7. In its business plan, the licensee identified clusters of prospective transmission reinforcements in their 'best view'[5] plan that it considered suitable for future consideration under the SWW arrangements for delivery during the RIIO-ET1 period. Table 2 below summarises the high level detail of each prospective SWW project.

Table 2: summarising the licensee's existing PE outputs

TO[6]	Proposed project	Key driver for investment	Expected completion date
NGET	Wylfa-Pembroke HVDC link	Increase in the transfer capacity in North Wales driven by the expected connection of a large volume of onshore generation in the area and the proposed connection of offshore generation into Wylfa & Pembroke substations.	2020/21
NGET, SHE Transmission, SPT (joint project)	Eastern subsea HVDC link	Increase in the north-south transfer capacity driven by the expected connection of large volume of onshore wind generation connecting in the north of Scotland in the period up to 2020 (including new offshore generation in Firth of Forth).	2018/19

8. A total pre-construction allowed expenditure of £46.004m (2009-10 prices) was set to enable the licensee to deliver pre-construction activities across both projects. The current split of allowed expenditure for each project is summarised in Table 1.

9. In broad terms, the outputs were focussed on the delivery of activities to include: routing, siting and optioneering studies, project design, environmental assessments, technical specifications for cost tenders, and planning consents.

10. The total value of the allowed expenditure available to fund pre-construction activities is fixed.

Developments since 1 April 2013

Wylfa-Pembroke HVDC link

11. The Wylfa-Pembroke HVDC link was originally driven by a limitation on power transfer through the north Wales and Midlands area of the licensee's transmission network. The key drivers for this transmission solution included the development of a new nuclear generator (Wylfa Newydd), a large-scale offshore windfarm located in Irish waters (Celtic Array) and a number of new renewable generation projects.

12. As part of RIIO-ET1, the licensee is required to have a Network Development Policy (NDP) setting out how it will determine the scope and timing of wider network reinforcement works. The licensee must apply its NDP over the price control period to determine which network reinforcements are value for money for existing and

[5] An estimate of total expenditure (totex) based on a central scenario of the generation and demand background changes as well as connection activity.
[6] There are currently three owners of onshore electricity transmission networks, each known as a "TO": National Grid Electricity Transmission (NGET), which owns the England and Wales transmission system; Scottish Power Transmission (SPT), which owns the network in the South of Scotland; and Scottish Hydro Electric Transmission (SHE Transmission), which owns the network in the North of Scotland.

future consumers, and to take these forward. The licensee annually updates its analysis of network requirements and its investment outlook (Network Options Assessment, "NOA").

13. The licensee has confirmed that there is no longer a signal to deliver this project under the generation scenarios considered in the licensee's analysis of future network requirements. The OS request confirms that the original drivers that existed at the time of the RIIO-ET1 submission have significantly altered; the connection date of Wylfa Newydd has been delayed with a reduced capacity and the Celtic Array project has terminated. As a result, the proposed investment and associated PE Outputs, as described in Table 1 of SC 3L are not currently forecast to be required in RIIO-ET1.

14. The licensee has confirmed that the reduced need for the Wylfa-Pembroke project is not expected to have a significant implication for other PE Outputs specified in Table 1.

Eastern HVDC link

15. In 2011, in response to a connection application received from an offshore windfarm development to be located in the Firth of Forth, the licensee (in its role as System Operator for Great Britain) issued a connection offer that was based on the development of a submarine HVDC link between eastern Scotland and the north east of England.

16. Generation scenario modelling also suggests that a general increase in generation capacity is expected in Scotland in the period up to 2020 and the current transmission capacity will not be sufficient to facilitate the associated levels of power transfer.

17. The transmission owners (TOs) have continued to work together to develop a coordinated HVDC link design to reinforce the transmission system between Scotland and England, whilst also facilitating the connection of the Firth of Forth offshore wind generation.

18. The licensee has confirmed its intention to proceed with the delivery of this project and no change has been proposed to the relevant PE Output specified in Table 1.

Hinkley-Seabank project

19. Hinkley-Seabank is a proposed new transmission project to allow for the safe connection of the planned Hinkley Point C nuclear power station. The project will also provide additional capability and relieve transmission constraints in the south west of England.

20. On 19th January 2016, the licensee's Development Consent Order (DCO) for the new 400kV double circuit route between Hinkley Point and Seabank was granted by the Secretary of State. In undertaking this development work, the licensee has undertaken pre-construction activities and incurred costs.[7]

21. The licensee has confirmed that pre-construction spend on the Hinkley-Seabank (HSB) project ceased on 31 March 2016, following the grant of the DCO and subsequent close-out activities. From 1 April 2016, the licensee's business activity focus shifted from scoping activities (pre-construction) to discharging the planning conditions and delivery of the project (construction). The pre-construction cost total

[7] The licensee is contracted to connect the first reactor by late 2024 ahead of the expected commercial operation of the power station in 2025.

of £22.765m requested by the licensee reflects its view of construction spend incurred from 1 April 2016.[8]

Further discussion

22. The licensee's request to reallocate allowed expenditure is comprised of two main elements:

    i. to provide funding for a new PE Output to recover the costs of pre-construction activity undertaken during RIIO-ET1 to develop the scope of the HSB project.

    ii. to create a new generic PE Output category that is not directly associated with a specific prospective SWW output and to allocate a residual amount of the fixed total of allowed expenditure (made available as a result of step i above) to this output.

23. Each point is briefly discussed in turn below.

24. In relation to point i, pre-construction activities associated with the development of the HSB project were not included within the initial funding for the current price control period RIIO-ET1. This is because there was uncertainty about the project's economic need, scope, and final costs. There was an expectation that the scale of investment would be considered suitable for future consideration under the SWW arrangements for delivery during the RIIO-ET1 period.

25. In January 2018, we published our decision to approve the Final Needs Case for the HSB project.[9] Overall, we concluded that the proposed solution is likely to be in the interests of existing and future consumers. It is appropriate, therefore, for the licensee to undertake activities in preparation of the construction of the HSB project and for such activities to form the basis of a new PE Output.[10]

26. In relation to point ii, the licensee is seeking to introduce a generic PE Output category that is not associated with the development of any specific prospective SWW project. The licensee's rationale for the introduction of the generic PE Output category is that there are schemes within the current NOA process that are at a very early stage but may reach sufficient maturity in the RIIO-ET1 period to require pre-construction activities for a prospective SWW project.

27. The licensee proposes to allocate the residual allowed expenditure value (£4.129m) to the delivery of a generic PE Output. The value is produced by the substitution of the original value of the WP PE Output and the proposed value of the HSB PE Output.

28. For the avoidance of doubt, we expect the licensee to raise future OS request(s) in the remainder of the RIIO-ET1 period as and when there is sufficient clarity on new prospective SWW projects to enable the licensee to allocate the residual value of allowed expenditure to deliver specific projects.

29. In response to our queries, the licensee has confirmed that there are no ongoing or immediate activities that necessitate the use of the residual value of allowed expenditure. We note also that paragraph 17 of SC 3L sets out the ability to adjust baseline expenditure in the event that the licensee does not deliver or only partially

[8] Appendix 3 sets out further background information on the methodology applied by the licensee in relation to the HSB project. We note that the costs incurred by the licensee will be the subject of a separate assessment process by Ofgem.
[9] https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-decision-needs-case
[10] https://www.ofgem.gov.uk/sites/default/files/docs/2013/10/guidance_on_the_stategic_wider_works_arrangements_in_riio_t1.pdf

delivers a PE Output. This means that potential non-delivery of the prescribed PE Outputs, including the generic output, and the associated level of allowed expenditure, will be further considered as part of the RIIO-ET1 'close out' process.

30. We will continue discussions with the licensee on how to ensure transparency in the reporting and monitoring of relevant pre-construction expenditure against the PE Outputs.

31. It is our current understanding that if no further OS request is received from the licensee to reallocate the allowed expenditure associated with the PE Output entitled "*Prospective future Strategic Wider Works Pre-construction Engineering Outputs*" an adjustment to baseline expenditure will be made to reflect the full value of the funding provision.

General

32. As set out in our January 2018 update on competition in electricity transmission[11], SWW projects in RIIO-ET1 will be assessed against the criteria for competition. Where they meet these criteria we will assess the suitability of alternative regulatory models to SWW that seek to introduce, or replicate the benefits of, additional competition to the delivery of these projects. Projects included in this OS will still be subject to this assessment.

Our review of the licensee's OS request

33. To assess the licensee's OS request we have reviewed the main submission and supporting material, as well as supplementary responses provided by the licensee to our follow up queries.

34. We have examined the information provided in the OS request to verify that the scope and quality of the information meets the requirements set out in part B and part C of SC 3L. We then looked at the costs of the main activities and/or deliverables involved in each project to get a break down of total pre-construction costs to ensure these are economical and efficient.

35. We used supporting information provided by the licensee about the scope of tasks included in each activity to determine the specific costs incurred in relation to progressing only pre-construction works. We sought additional information in instances where the breakdown of common activity was not sufficiently explained.

36. We have concluded our cost assessment. Based on the information provided we are satisfied that the estimated pre-construction costs are economic and efficient.

Our determination

37. Having completed our review of the licensee's submission, we have determined that it is consistent with the OS notice requirements under SC 3L. We are also satisfied, based on the supporting evidence provided, that the estimate of the efficient costs of the alternative PE Outputs are reasonable.

[11] https://www.ofgem.gov.uk/system/files/docs/2018/01/nti_january_2018_publications_1.pdf

Appendix 3: *Background to the Strategic Wider Works arrangements*

Transmission projects to strengthen or extend the electricity transmission system are known as 'wider works' outputs in RIIO-ET1. In general, these works are triggered by a combination of different generation connections and are required to increase the capacity or extend the network.[12] As part of RIIO-ET1 we specified the amount of money that each TO can spend and recover from consumers for the delivery of wider works outputs.[13]

In business plans developed for the price control review, the TOs identified some very large projects that may be needed during the RIIO-ET1 price control period. However, there was some uncertainty as to whether the prospective projects would actually be required as the reinforcements were dependent on factors outside the direct control of the TOs, including generation market developments and the impact on customer-driven requirements.

To help manage this uncertainty we included Strategic Wider Works (SWW) arrangements as part of the price control settlement to allow the TOs to propose very large network developments and additional funding during RIIO-ET1.

The SWW arrangements help ensure decisions are made when sufficient information is available about the drivers, timing and efficient costs of delivering transmission projects. They enable us to apply proportionate scrutiny, on a case-by-case basis, to our assessment of wider reinforcements proposed by the TOs. This helps to manage uncertainty and helps to ensure value for money for consumers by ensuring that the scope of projects are justified and can be progressed at the most appropriate time.[14]

Construction and pre-construction activities for prospective SWW projects

In RIIO-ET1 Final Proposals we set out that the scope of allowed expenditure for new outputs determined under the SWW framework would only cover the total costs of the construction works associated with the completed asset. Costs associated with pre-construction activities were excluded from this assessment.

A separate licence provision (SC 3L) was developed to complement the SWW arrangements with the aim of providing relatively small levels of funding for pre-construction activity. This approach was intended to address a potential problem that a lack of up-front funding for pre-construction activities could have a disproportionate impact and delay the development of new large reinforcement options needed to facilitate the expected growth in renewable connections.

The funding approach for pre-construction activity was therefore developed to provide certainty on a level of ex-ante funding to progress preparatory work deemed necessary to develop the scope of the proposed reinforcement, without requiring approval from us.

At a high level, the delivery of pre-construction activities is considered necessary to the preparation of large-scale construction activities – it is expected to contribute to defining the required scale and timing of construction work. The deliverables are therefore expected to support the achievement of high quality submissions for a prospective SWW projects for regulatory approval.

[12] Works will increase electricity transfer capability across system boundaries, or within system boundaries, in accordance with the Security and Quality of Supply Standard (SQSS).
[13] Electricity transmission licence special conditions 6I and 6J.
[14] The transmission licensees have a duty to develop and maintain an efficient, co-ordinated and economical transmission network. Therefore it is for a licensee to decide when it is the right time to initiate a new project.

Approach applied by the licensee in identifying pre-construction activities

Due to the separate funding mechanisms for construction and pre-construction activities, it is necessary for TOs to separately identify pre-construction and construction costs associated with a prospective SWW project.

It is difficult to characterise the specific pre-construction activity required for each prospective SWW project and the exact level of detail necessary for the licensees to achieve high-quality SWW submissions. In reality the type of pre-construction works needed will vary across prospective SWW projects depending on the specific issues involved.

To address this issue, the following high level principles were agreed with the licensee to identify the appropriate split of pre-construction activities and construction activities applicable to the HSB project (and to apply to other prospective SWW projects).

Pre-construction

- Contributes to defining scope
- Provides information on which to identify and develop the proposed transmission reinforcement (optioneering, technology selection, routing, cost estimating, feasibility etc.)
- The output is required for the environmental assessment
- The output is required for planning and consents
- Programme scheduling
- Preparation of technical specifications for cost tenders

Construction

- Relates to constructability of the solution to be delivered
- Land and property purchase including legal costs
- Wayleaves, easements and surveys for construction land access, including legal costs
- Continuing surveys beyond the requirement for planning and consents
- Procurement of assets and materials
- Detailed construction information
- Temporary works

It is recognised that a number of activities support the achievement of both pre-construction deliverables and construction project deliverables. In these circumstances a cost allocation was applied by the licensee, based on its knowledge of activities.