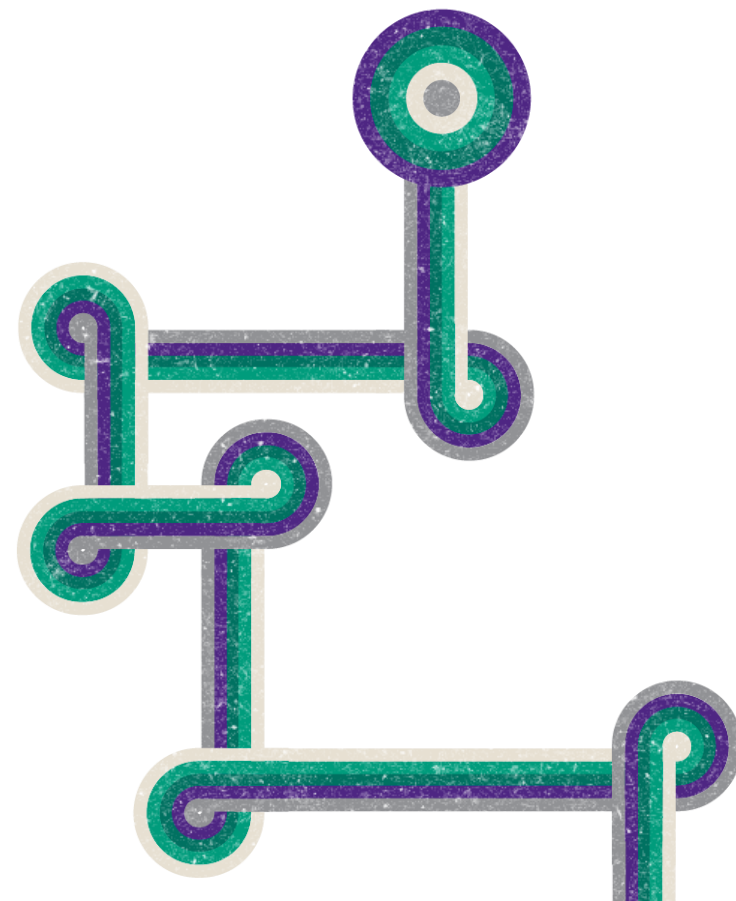




Seagreen Offshore Wind Farm Transmission Assets

Ex-Post Cost Review

10 May 2024





Office of Gas and Electricity Markets
10 South Colonnade
Canary Wharf
London
E14 4PU

10 May 2024

Dear Sirs

Seagreen Offshore Wind Farm Transmission Assets

In accordance with the Call Off Order Form Reference CON/SPEC/2022-010 dated 8 March 2022 between Smith Square Partners LLP and Ofgem, associated task order and Subcontractor agreement dated 8 March 2022 between Grant Thornton UK LLP and Smith Square Partners LLP, we enclose for your attention our report detailing our findings arising from the Ex-Post Cost Review of the Seagreen Offshore Wind Farm Transmission Assets.

Our conclusions and recommendations are included within the Executive Summary set out in Section one, however for a full understanding it is necessary to read this in conjunction with our detailed commentary set out in Sections 2 to 3 and Appendices A to D.

This report is confidential and has been prepared exclusively for Ofgem. Whilst other parties may be interested in receiving a copy of this report, we stress that, to the fullest extent permitted by law, we cannot accept any responsibility whatsoever in respect of any reliance that these parties may place on our report in any decision that they may make in relation to the Seagreen Offshore Wind Farm.

Yours faithfully

Grant Thornton UK LLP

Grant Thornton UK LLP

Chartered Accountants

Member firm within Grant Thornton International Ltd

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Glossary

CAT	Cost assessment template	Ofgem	The Office of Gas and Electricity Markets
CMA	Construction Management Agreement	OFTO	Offshore transmission owner
CR	Cost reporting	OSS	Offshore substation
Developer	SSER as lead developer with support from Total Energies	OSP	Offshore Substation Platform
EEZ	Exclusive Economic Zone	ONSS	Onshore Substation
EPCI	Engineering, procurement, construction and installation	Petrofac/ PFML	Petrofac Facilities Management Limited
EUR	Euro	PO	Purchase order
FLO	Fisherman Liaison Officer	SAT	Site Acceptance Test
FTV	Final transfer value	Seagreen/ the Wind Farm	Seagreen Offshore Windfarm
GBP	Great British Pound	SSER	SSE Renewables Services (UK) Limited (formerly, SSE RENEWABLES DEVELOPMENTS (UK) LIMITED)
Generation Assets	The generation assets of Seagreen	SWEL	Seagreen Wind Energy Limited
Grant Thornton	Grant Thornton UK LLP	TotalEnergies	TotalEnergies SE
HSE	Health, Safety & Environment	Transmission Assets	The transmission assets of Seagreen
IDC	Interest during construction	USD	United States Dollar
ITV	Indicative transfer value	VO	Variation order
km	Kilometre	WTG	Wind turbine generator
kV	Kilovolt		
Nexans	Nexans Norway AS		
NETS	National Electricity Transmission System		
NOK	Norwegian Krone		

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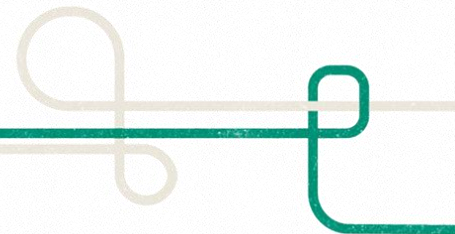


Section 1: Executive summary

01. Executive summary

02. Introduction and background

03. The Seagreen Ex-Post Cost Review



Executive summary

Introduction

- This report relates to the Seagreen Offshore Wind Farm which is owned by SWEL, a joint venture owned by SSER (49%) and TotalEnergies (51%). SSER is managing the development and construction of the joint venture project, supported by TotalEnergies, and will operate Seagreen on completion
- Seagreen is a 1,075MW offshore wind farm, located in the North Sea approximately 27km off the coast of Angus, Scotland, at its nearest point
- The Transmission Assets include one offshore substation, three 220kV offshore export cables (each approximately 64k long), three 220kV onshore export cables (each 20k long) connecting to the onshore substation at Tealing, three 220kV AC onshore cable circuits (approximately 20km long) and three 275kV AC circuits approximately between 180m and 740m long connecting the new onshore Tealing Substation to existing SSER Tealing Substation
- The construction of the Transmission Assets is complete and the Wind Farm is fully operational, with full export capacity due to be achieved in October 2023

Grant Thornton review

- Grant Thornton has been instructed by Ofgem to review the ex-post cost assessments prepared by the Developer for the Transmission Assets of the Wind Farm (Ex-Post Cost Review)
- The Ex-Post Cost Review has sought to determine whether the Developer has procedures in place for managing directly and indirectly incurred costs, and to carry out certain testing on whether the Developer's latest assessment of the costs of the Transmission Assets have been incurred as stated. The purpose of this review is to:
 - establish the processes and policies undertaken by the Wind Farm for making payments for directly and indirectly incurred costs

- in relation to directly incurred costs, for selected contracts, trace expenditure through the purchasing and payments system and reconcile to the costs included on the invoice schedule to the 12 May 2023 CAT
- in relation to indirectly incurred costs, for a sample of transactions, trace expenditure through the accounting system, and confirm the amount allocated has been correctly applied in accordance with the stated allocation methodology, using appropriate metrics in respect of the costs between transmission and generation
- compare the costs included in the 12 May 2023 CAT to the ITV at January 2023, and obtain explanations for significant variances arising between the costs at the two dates
- Our review and this report is based upon the cost template submitted to Ofgem dated 12 May 2023 and incorporates information and explanations provided regarding the costs in this version of the cost template, both from an initial online meeting with SWEL on 22 June 2023 and further online meetings and correspondence with the Developer, up to 21 March 2024
- The Developer has prepared costs templates setting out their assessment of the costs of the Transmission Assets throughout the development of the Wind Farm. We reviewed an earlier version of the cost template dated 17 May 2022 (the Ex-Ante Cost Review) which culminated in the submission of our report dated 13 January 2023 (the Ex-Ante Report). Our draft report was considered by Ofgem in establishing the project's ITV (set out in a draft letter to the Developer dated 30 January 2023)

Executive summary (continued)

Transmission Assets cost summary

- The 12 May 2023 CAT is summarised below:

Breakdown of Transmission Assets costs

	CAT Reference	January 2023 ITV £	12 May 2023 CAT £	Movement £
Project common costs	CR8			
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Land cable supply and installation	CR4			
Onshore substation	CR5			
Reactive substation	CR6			
Connection costs	CR7			
Transaction costs	CR9			
Total capital costs				
Interest during construction				
Total		588,035,720	668,637,848	80,602,128

- The 12 May 2023 CAT reflects a net increase in the cost of the Transmission Assets of £80.60 million from the January 2023 ITV. Capital costs increased by £ and interest during construction increased by £. The principal movements which result in the net increase in capital costs are:
 - £ of Petrofac and Nexans claims included at FTV (we note that these are estimated costs as still undergoing commercial negotiations)
 - £ of generator costs, which were disallowed by Ofgem at ITV, have been resubmitted by the Developer in the 12 May 2023 CAT
 - £ increase in land agreement and land services costs
 - £ increase in staff costs

- £ of claims across both Petrofac and Nexans contracts settled between ITV and FTV
- the release of £ contingency provisions no longer required at FTV
- The full analysis of the variances summarised in the table opposite is presented at Appendix D

Summary of findings

The Wind Farm’s payment processes

- Ofgem has instructed us to establish the Wind Farm’s processes for making payments to suppliers for directly and indirectly incurred costs
- The Developer has confirmed that all large value contracts for the Wind Farm have been subject to a competitive tendering process. Based upon our review it appears the Developer has suitable systems in place for the approval and payment of invoices to contractors, including contract variations, and has further systems in place to ensure that, where appropriate, the allocation of costs between the Transmission and Generation Assets is properly recorded

Directly incurred costs

- Ofgem has instructed us to carry out certain procedures on the costs payable by the Wind Farm to:
 - Petrofac
 - Nexans
- The procedures have been carried out as required and our testing has included the main contract costs and variation orders for both contracts
- The OFTO allocation of the costs tested in relation to the two contracts totalled £ and represent 82.4% of the total capital costs. A summary of findings is set out on the next page

Executive summary (continued)

Summary of findings (continued)

Directly incurred costs (continued)

Summary of direct costs testing

	Invoices paid EUR	Invoices paid USD	Invoices paid NOK	Invoices paid £	Total invoices paid £	Accued amounts £	Non-OFTO costs not included in the CAT	Unexplained difference (amounts invoiced or accrued but not included in the CAT) £	Total per 12 May 2023 CAT £
Petrofac									
Nexans									
Total									

- We have verified that all costs tested, totalling £[REDACTED], have been invoiced and paid. The 12 May 2023 CAT also includes £[REDACTED] for Petrofac amounts that have been invoiced and paid since June 2023, i.e. not included in our invoice testing, and £[REDACTED] of outstanding payments against the Nexans contract
- As set out in the table above, there is an unexplained difference of £[REDACTED] in relation to the Petrofac contract. This relates to amounts that have been invoiced or accrued but are not included in the Petrofac main contract costs of £[REDACTED] in the 12 May 2023 CAT. We have not been provided with an explanation for this difference
- We note that, in addition to the £[REDACTED] of main contract costs as set out in the table above, the 12 May 2023 CAT includes £[REDACTED] for estimated claims in relation to the Petrofac and Nexans contracts. This amount is included in unsubstantiated costs as no supporting documentation has been provided as the Developer has explained that they are still undergoing commercial negotiation

Indirectly incurred costs

- Ofgem has instructed us to carry out certain procedures in relation to a sample of indirect costs payable by the Wind Farm
- We have been provided with a breakdown of [REDACTED] staffing for January 2022. The breakdown contains details of job role, total days worked, OFTO specific days worked and a daily charge out rate
- The Developer has informed us that the days worked included in the breakdown provided are input directly by the individual staff members. Each month they are provided a link, via email, for them to input their days worked. The time input is reviewed and approved by a Senior Project Manager and the Finance Director
- We have agreed to the total amount charged (days x day rates) for January 2022 to an invoice generated by [REDACTED] and have confirmed this invoice being paid via observation of it within a March 2022 Oracle payment register

Executive summary (continued)

Conclusion

- Our review of the Wind Farm's processes and procedures has indicated that the Developer has suitable policies for the approval and payment of goods and services received, including for the allocation of costs where appropriate between the Transmission Assets and Generation Assets
- On the basis of our review of the information and the explanations received to date in relation to the sample of directly and indirectly incurred costs that we have been asked to review, we can confirm:
 - that they are supported by invoices, ledgers and bank statements that indicate that costs have been incurred or are due; and
 - that the relevant cost is included within the 12 May 2023 CAT
- This is subject to the unsubstantiated costs totalling £[REDACTED] as set out in the table on the next page

Recommendations for follow up

- We recommend that Ofgem should follow up on the below with the Developer:
 - the table on the following page sets out £[REDACTED] of costs in relation to which we have not been provided with sufficient supporting documentation. £[REDACTED] relate to estimated claims which are not yet finalised and a further £[REDACTED] relates to estimated spares costs. We recommend that Ofgem should obtain an update from the Developer prior to setting the FTV
 - several costs disallowed by Ofgem at ITV (as detailed in Appendix D) have been resubmitted by the Developer in the 12 May 2023 CAT. We recommend that Ofgem should review these previously disallowed costs (and explanations provided by the Developer as noted in Appendix D) to consider whether the grounds for exclusion at ITV are still applicable

- the CAT includes £[REDACTED] in relation to land agreement costs (in CR4 and CR5). The Developer has provided a detailed breakdown of costs (by land owner) totalling £[REDACTED], of which we have agreed £[REDACTED] to supporting documentation and £[REDACTED] in relation to forecast costs. We recommend that Ofgem should obtain an update from the Developer prior to setting the FTV

Executive summary (continued)

The below unsubstantiated costs, are costs that are included in the 12 May 2023 CAT which have not been verified by Grant Thornton due to the level of supporting documentation provided by the Developer being insufficient to form a view as to whether the costs are reasonable:

Unsubstantiated costs

	Supplier	CAT Reference	January 2023 ITV £	12 May 2023 CAT £	Movement £
Spares	-	CR2			
Petrofac Offshore Claims	Petrofac	CR2			4
Offshore Claim from Nexans	Nexans	CR3			
Intertidal Claim from Nexans	Nexans	CR3		1	
Manufacturing Claim from Nexans	Nexans	CR3			
Onshore Claim from Nexans	Nexans	CR4			
Manufacturing Claim from Nexans	Nexans	CR4			
Spares	-	CR5			
Petrofac Onshore Claims	Petrofac	CR5			
Total					

Section 2: Introduction and background

01. Executive summary

02. Introduction and background

03. The Seagreen Ex-Post Cost Review

Introduction

Introduction

Instructions

- Grant Thornton has been instructed by Ofgem to prepare a report on our review of the cost information and 12 May 2023 CAT for the Transmission Assets of the Wind Farm, prepared for Ofgem by the Developer (the Ex-Post Cost Review). This review is limited to the procedures set out below, and in particular to a sample of costs which have been selected by Ofgem
- This report reflects the 12 May 2023 CAT together with information and explanations received by Grant Thornton up to and including 21 March 2024. Our report does not therefore reflect any information, or the outcome of discussions held after that date

- Throughout the development of the Wind Farm, Ofgem has required the Developer to submit cost templates which set out both the estimated and actual costs that will be or have been incurred in relation to the Transmission Assets
- During the second half of 2022, we conducted reviews of the cost template for the Transmission Assets, based upon the cost template submitted to Ofgem dated 17 May 2022 (the Ex-Ante Cost Review). At this stage, although construction of the Transmission Assets was well under way, as there remained a degree of uncertainty over a number of costs, a contingency provision of £[REDACTED] (which equated to 2.25% of the pre-contingency capital costs) was included in the Grant Thornton ex-ante report, along with a further £[REDACTED] for open claims and variations. However, all £[REDACTED] was disallowed at ITV
- Further to the Ex-Ante Cost Review, Ofgem set the ITV in January 2023. This was based upon the Transmission Assets costs included in our draft report and adjusted for particular issues that had been highlighted in our report and through Ofgem’s review as follows:

Breakdown of Transmission Assets costs

	CAT Reference	13 January 2023 Grant Thornton ex-ante report £	Adjustments per Grant Thornton ex-ante report £	Unsubstantiated per Grant Thornton ex-ante report £	Ofgem ex-ante adjustments £	January 2023 ITV £	12 May 2023 CAT £	Movement £
Project common costs	CR8	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Offshore substation	CR2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Submarine cable supply and installation	CR3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Land cable supply and installation	CR4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Onshore substation	CR5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Reactive substation	CR6	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Connection costs	CR7	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Other costs	CR9	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total capital costs		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Interest during construction		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total		677,433,443	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Introduction (continued) and background

Introduction (continued)

- The main purpose of the Ex-Post Cost Review of the Wind Farm's Transmission Assets is to determine whether a sample of costs, selected by Ofgem, which have been included within the 12 May 2023 CAT prepared by the Developer for the Transmission Assets, are appropriately stated, and whether selected costs not directly attributable to either the generation or transmission businesses have been allocated to the Transmission Assets on a reasonable basis. In particular we have been asked to:
 - establish the processes and policies undertaken by the Wind Farm for making payments to suppliers for directly and indirectly incurred costs
 - in relation to directly incurred costs, for four selected contracts, trace expenditure from the cash flow schedule to the contract, the invoice and the accounting ledgers of the Wind Farm, and to bank statements, and reconcile the costs included on the invoice schedule to the 12 May 2023 CAT
 - in relation to indirectly incurred costs, for a sample of transactions, trace from the 12 May 2023 CAT to journal entries made on the accounting system, and confirm the amount allocated has been determined as prescribed in the stated allocation methodology, using appropriate metrics in respect of the allocation of costs between transmission and generation
 - compare the costs at 12 May 2023 CAT to the ITV, and obtain explanations for variances between the costs at the two dates
- If further information is produced and brought to our attention after service of this report, we reserve the right to revise our opinions as appropriate
- This work does not constitute an audit performed in accordance with Auditing Standards
- Except to the extent set out in this report, we have relied upon the documents and information provided to us as being accurate and genuine. To the extent that any statements we have relied upon are not established as accurate, it may be necessary to review our conclusions

- The figures and tables in this report have been prepared using Microsoft Excel. The report may therefore contain minor rounding adjustments due to the use of computers for preparing certain calculations

Background

- SWEL is a joint venture owned by SSER (49%) and TotalEnergies (51%). SSER is providing the services for the development and construction of the joint venture project under the CMA, supported by TotalEnergies, and will operate Seagreen as a Joint Venture on completion
- Seagreen is located approximately 27 km (at its closest point) from the Angus coastline in the EEZ adjacent to Scotland
- Seagreen will have a maximum export capacity of 1,075 MW, with an installed capacity of 1,140 MW, comprising 114 Vestas 10MW turbines on three-legged suction caisson jacket substructures. The power is collected via one OSP, via 66kV array cables and associated equipment. Power is transformed to 220kV on the OSP and will be exported to the onshore substation at Tealing, close to Dundee via circa 84km of offshore and onshore export cables using three circuits. At the Onshore Substation, the power is stepped up to 275kV and connected to the adjacent SSEN Substation where it joins the NETS
- The Transmission Assets consist of an OSP supported by a six-legged jacket substructure. The OSP will collect all the power produced by the WTGs and step-up the voltage from 66kV to 220kV before transmitting it via three 220kV export cables. The offshore export cables are each 64km long and the onshore export cables are each approximately 20km long. The Onshore Substation is located in the immediate vicinity of the Tealing 275 kV Substation and steps the voltage up to 275 kV for connection to the transmission network at Tealing Substation
- The construction of the Transmission Assets is complete, with offshore works being completed in September 2023. The Wind Farm is fully operational and full export capacity is due to be achieved in October 2023

Section 3: The Seagreen Ex-Post Cost Review

01. Executive summary

02. Introduction and background

03. The Seagreen Ex Post Cost Review

The Wind Farm’s financial processes

Ex-Post Cost Review

- The main purpose of the Ex-Post Cost Review is set out in Section 2
- The 12 May 2023 CAT for the Transmission Assets of the Wind Farm is summarised below:

Breakdown of Transmission Assets costs

	CAT Reference	January 2023 ITV £	12 May 2023 CAT £	Movement £
Project common costs	CR8			
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Land cable supply and installation	CR4			
Onshore substation	CR5			
Reactive substation	CR6			
Connection costs	CR7			
Transaction costs	CR9			
Total capital costs				
Interest during construction				
Total		588,035,720	668,637,848	80,602,128

Accounting systems

- The Developer has confirmed that there have been no changes in the accounting system since our Ex-Ante Cost Review
- The CAT has been prepared by populating costs (and forecasts) that relate to the transmission works from the payment plans from the two EPCI suppliers, the project invoice log and the project’s cost system, with cost allocation to Transmission Assets or Generation Assets, or to the Wind Farm as a whole (shared costs) being maintained (for the majority of costs) in the SSER accounting systems

Cost allocations

- Where project costs are not fully attributable to the Transmission Assets, ie they relate to the Wind Farm as a whole (shared costs), estimates have been made of the proportion of the costs that should be attributed to the Transmission Assets based on the nature of the indirect costs
- Shared costs are typically indirect costs which are for the general benefit of the overall project and include:
 - general project management and administration
 - project support functions eg procurement, cost control, health and safety
 - general consultants eg legal/environment and consent
- Where costs are not directly attributable to either the transmission or generation business (shared/indirect costs), the Developer has allocated these costs depending on the cost type as either 15% OFTO and 85% Non-OFTO, based on the funding structure of the project, or 50% OFTO allocation (where it is considered that the cost should be split equally between the Transmission Assets and Generation Assets)
- The Developer has confirmed that the allocation rates remain the same as those used at ITV and therefore we have not performed any further work in this regard

Process for making payments

- The main process used by the Developer for making payments for both directly and indirectly incurred costs (including contract variations) is detailed in the Ex-Ante Report
- The Developer has explained that invoices are recorded in the accounting system at the month end rate and then an adjustment is put through to record at the hedged rate. Any variations greater than £250,000 (GBP equivalent) are also separately hedged

Review of directly incurred costs

Review of directly incurred costs

- Ofgem has selected the following contracts of directly incurred costs for review:

Summary of directly incurred costs selected for testing

	CAT Reference	12 May 2023 CAT £	% of total Transmission Asset capital costs
Petrofac	CR2		
	CR5		
	CR6		
Nexans	CR3		
	CR4		
Total			

- Ofgem has directed that our work in relation to the above two contracts covers the following:
 - trace expenditure from the cash flow schedule to the relevant contract or other source record, and from the contract trace to an invoice(s) or journal;
 - trace the invoice through the purchasing system;
 - trace the invoice through to the payment system; and
 - trace the payments through to the bank account
- Our testing in relation to these contracts is further detailed opposite, and our findings are summarised in the table below

Summary of direct costs testing

	Invoices paid EUR	Invoices paid USD	Invoices paid NOK	Invoices paid £	Total invoices paid £	Accued amounts £	Non-OFTO costs not included in the CAT £	Unexplained difference (amounts invoiced or accrued but not included in the CAT) £	Total per 12 May 2023 CAT £
Petrofac									
Nexans									
Total									

Review of directly incurred costs (continued) and review of indirectly incurred costs

Direct costs testing - Invoices paid

- For each of the two contracts selected by Ofgem, we obtained a schedule of all invoices paid under the contract and agreed the invoices recorded on the schedules to the underlying invoice. In addition, we agreed all amounts to the purchase ledger and the payment of each to bank statements
- The detailed testing of invoices paid for each of the two contracts is set out in Appendices B and C
- Our review of invoices paid by the Developer, relating to the two contracts selected by Ofgem raised no areas of concern

Direct costs testing – Accrued amounts

- Accrued amounts totalling £[REDACTED] in relation to the Petrofac contract comprise amounts that have been invoice and paid since June 2023 (when the invoice listing for provided by the Developer for our direct cost testing
- Accrued amounts totalling £[REDACTED] in relation to the Nexans contract comprise £[REDACTED] of outstanding payment milestones reduced by £[REDACTED] of invoices which are offset against LDs (as set out in Appendix C, page 31)

Direct costs testing – Non-OFTO amounts

- Amounts not related to the Transmission Assets totalling £[REDACTED] represent amounts paid to contractors which related to the Generation Assets

Direct costs testing – Unexplained difference

- Unexplained differences of £[REDACTED] in relation to the Petrofac contract and £[REDACTED] in relation to the Nexans contract relate to amounts that have been invoiced or accrued but are not included in the main contract costs in the 12 May 2023 CAT. We have not been provided with any further explanations for these differences

Review of indirectly incurred costs

Project management costs

- Ofgem has instructed us to carry out certain procedures in relation to a sample of indirect costs payable by the Wind Farm
- We have been provided with a breakdown of [REDACTED] staffing for the selected month of January 2022. The breakdown contains details of job role, total days worked, OFTO specific days worked and a daily charge out rate
- The Developer has informed us that the days worked input into the breakdown are done so by the individual staff members. Each month they are provided a link, via email, for them to input their days worked. The time input is reviewed and approved by a Senior Project Manager and the Finance Director
- We have agreed the total amount charged [days x day rates] for January 2022 to an invoice generated by [REDACTED] and have confirmed this invoice being paid via observation of it within a March 2022 Oracle payment register
- Our testing of project management support services costs demonstrated that costs have been paid as stated
- For the avoidance of doubt, we have not verified the suitability of the hourly rates charged to the project

Movements in the cost assessment and Impact of Cost Assessment Review

Movements in the cost assessment

- The movements between the ITV set in January 2023 and the most recent cost assessment of 12 May 2023 are summarised in the following table:

Breakdown of Transmission Assets costs

	CAT Reference	January 2023 ITV £	12 May 2023 CAT £	Movement £
Project common costs	CR8			
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Land cable supply and installation	CR4			
Onshore substation	CR5			
Reactive substation	CR6			
Connection costs	CR7			
Transaction costs	CR9			
Total capital costs				
Interest during construction				
Total		588,035,720	668,637,848	80,602,128

- The 12 May 2023 CAT reflects a net increase in the cost of the Transmission Assets of £80.60 million from the January 2023 ITV, £ of which relates to IDC. The principal reasons for the £ net increase in capital costs are detailed below:
 - £ of Petrofac and Nexans claims included at FTV (we note that these are estimated costs as still undergoing commercial negotiations)
 - £ of generator costs, which were disallowed by Ofgem at ITV, have been resubmitted by the Developer in the 12 May 2023 CAT

- £ increase in land agreement and land services costs
- £ increase in staff costs
- £ of claims across both Petrofac and Nexans contracts settled between ITV and FTV
- £ release of contingency provisions no longer required at FTV
- The full analysis of the variances is presented at Appendix D

Impact of Cost Assessment Review

- Following our review of the 12 May 2023 CAT, we have identified unsubstantiated costs totalling £ as set out in the executive summary on page 10. As detailed below, we recommend Ofgem obtain an update from the Developer in relation to these costs

Recommendations for follow up

- As detailed in the executive summary and Appendix D, the 12 May 2023 CAT contains £ of costs in relation to which we have not been provided with sufficient supporting documentation. £ relates to Land Agreements costs where the requested supporting documentation is outstanding, whilst £ relates to estimated claims which are not yet finalised and a further £ relates to estimated spares costs.. Therefore, we recommend that Ofgem obtain an update from the Developer prior to setting the FTV
- Several costs disallowed by Ofgem at ITV (as detailed in Appendix D) have been resubmitted by the Developer in the 12 May 2023 CAT. We recommend that Ofgem review these previously disallowed costs (and explanations provided by the Developer as noted in Appendix D) to consider whether the grounds for exclusion at ITV are still applicable
- The CAT includes £ in relation to land agreement costs (in CR4 and CR5). The Developer has provided a detailed breakdown of costs (by land owner) which include £ in relation to forecast costs. We recommend that Ofgem should obtain an update from the Developer prior to setting the FTV

Appendices

A. Restrictions on circulation, disclosures of interest, forms of report and information relied on

B. Petrofac invoice review

C. Nexans invoice review

D. Movements between the cost templates

A. Restrictions on circulation, disclosures of interest, forms of report and information relied on

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- In the preparation of our report, Grant Thornton has been provided with material by Ofgem (and by third parties at Ofgem's request) relating to third parties. We have relied upon warranties and representations provided by Ofgem that it is fully entitled to disclose such information to us for inclusion within our report, free of any third party rights or obligations, and that Ofgem will only permit circulation of this report in accordance with any rights to confidentiality on the part of any third party. Any objections to the inclusion of material should be addressed to Ofgem. Accordingly, Grant Thornton acknowledges no duty or obligation to any party in connection to the inclusion in the report of any content referring to any third party material or the accuracy of such material

Disclosures of interest

- To the best of our knowledge, we have no connections with any of the parties or advisors involved in this matter, beyond normal commercial relationships, which would influence our report in any way

Forms of report

- For your convenience, this report may have been made available to recipients in electronic as well as hard copy format. Multiple copies and versions of this report may therefore exist in different media and in the case of any discrepancy, the final signed electronic copy should be regarded as definitive

Information relied on

- Grant Thornton has relied upon the following information in reviewing the cost assessment for the Wind Farm's Transmission Assets:
 - the 12 May 2023 CAT, which includes actual costs incurred up 31 March 2023 and accrued costs that will be incurred from that date up to the closing out of all contracts
 - schedules of invoices prepared for the contracts selected for review by Ofgem, together with copies of invoices, bank statements and ledgers showing payments of the invoices recorded
 - breakdown for the internal project management costs for the selected month with copies of applicable invoice and bank statement showing payments of the related invoice
 - information and explanations provided to us by the Developer. This included an online meeting with the Developer on 22 June 2023 to discuss the Transmission Assets, and subsequent online meetings and email correspondence, up to 21 March 2024, with staff responsible for the preparation of the 12 May 2023 CAT

B. Petrofac invoice review

[illegible]

[illegible]

B. Petrofac invoice review (continued)

[illegible]

[illegible]

[illegible]

[illegible]

B. Petrofac invoice review (continued)

Invoice no.	Supplier	Invoice date	Invoice Currency	Net invoice value	Exchange rate X/£	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank/ credit note
Invoiced and paid to date										

C. Nexans invoice review

[illegible]

C. Nexans invoice review (continued)

[illegible]

[illegible]

[illegible]

C. Nexans invoice review (continued)

Invoice no.	Supplier	Invoice date	Invoice Currency	Net invoice value	Exchange rate X/£	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank/ credit note
Paid to date										

D. Movements between the cost templates

- We have been instructed to compare the total Transmission Asset costs as set out in the 12 May 2023 CAT with the total Transmission Asset costs included within the ITV at January 2023, and to obtain explanations for cost variances between the two dates. The movement is summarised in the table below:

Breakdown of Transmission Assets costs

	CAT Reference	January 2023 ITV £	12 May 2023 CAT £	Movement £
Project common costs	CR8			
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Land cable supply and installation	CR4			
Onshore substation	CR5			
Reactive substation	CR6			
Connection costs	CR7			
Transaction costs	CR9			
Total capital costs				
Interest during construction				
Total		588,035,720	668,637,848	80,602,128

- We have sought explanations from the Developer for the reasons for the significant movements in each of the cost categories and these are summarised below

Project common costs

- Project common costs have increased by a net amount of £[REDACTED], primarily as a result of
 - £[REDACTED] increase in [REDACTED] staff costs (for actuals to April 2023 and forecast costs to June 2024)
 - £[REDACTED] increase in insurance costs
- Further explanations for all of the significant movements are set out in the table on page 36

Offshore substation

- Offshore substation costs have increased by a net amount of £[REDACTED], primarily as a result of:
 - £[REDACTED] of Petrofac claims – we note that these are still undergoing commercial negotiations and are included as unsubstantiated costs in the executive summary
 - £[REDACTED] increase due to costs disallowed at ITV for generator weight contribution on the OSP being resubmitted at FTV
 - the release of £[REDACTED] contingency provision no longer required at FTV
- Further explanations for all of the significant movements are set out in the table on page 37

Submarine cable supply and installation

- Submarine cable supply and installation costs have increased by a net amount of £[REDACTED], primarily as a result of:
 - £[REDACTED] Nexans claims – we note that these are still undergoing commercial negotiations and are included as unsubstantiated costs in the executive summary
 - £[REDACTED] settled claims (Nexans) between ITV and FTV
 - £[REDACTED] increase due to costs disallowed at ITV for fibre optic cables used by the generator for generation purposes being resubmitted at FTV
 - £[REDACTED] of land costs being moved from CR3 to CR4 and CR5
 - Further explanations for all of the significant movements are set out in the table on page 38

D. Movements between the cost templates (continued)

Land cable supply and installation

- Land cable supply and installation costs have increased by a net amount of £[REDACTED], primarily as a result of:
 - £[REDACTED] increase in land agreement and land services costs, including £[REDACTED] of land devex costs omitted in error at ITV
 - £[REDACTED] increase due to costs disallowed at ITV for fibre optic cables used by the generator for generation purposes being resubmitted at FTV
 - £[REDACTED] Nexans claims – we note that these are still undergoing commercial negotiations and are included as unsubstantiated costs in the executive summary
 - £[REDACTED] settled claims (Nexans) between ITV and FTV
- Further explanations for all of the significant movements are set out in the table on page 39

Onshore substation

- Onshore substation costs have increased by a net amount of £[REDACTED], primarily as a result of:
 - £[REDACTED] increase in land agreement and land services costs, including £[REDACTED] of land devex costs omitted in error at ITV
 - £[REDACTED] increase due to costs disallowed at ITV for the area of the onshore substation occupied by generation equipment for generation use being resubmitted at FTV
 - £[REDACTED] of Petrofac claims – we note that these are still undergoing commercial negotiations and are included as unsubstantiated costs in the executive summary
 - £[REDACTED] of spares costs – we note that these costs are not final and are included as unsubstantiated costs in the executive summary
- Further explanations for all of the significant movements are set out in the table on page 40

Transaction costs

- Transaction costs have increased by a net amount of £[REDACTED], with no significant movements in costs

Interest during construction

- Interest during construction has increased by £[REDACTED]. As this is outside the scope of this review, no further work has been performed in this area

D. Movements between the cost templates (continued)

Project common costs

	January 2023 ITV £	12 May 2023 CAT £	Movement £	Explanation provided
Insurance				Insurance costs have increased as a result of the extension to July 2023. We have agreed the costs to invoice - 15% of which has been allocated to the OFTO
Staff				At ITV, the invoiced costs were for the period July 2020 to Novemeber 2021. At FTV, the Developer has provided a breakdown of monthly invoiced costs up to April 2023 totalling £ and we have agreed these costs to invoices. The total in the FTV CAT also includes forecast costs of £ for costs up to June 2024, being the end of the GCC period.
Advisory				The Developer has explained that these are tax and financial advisory costs related to the OFTO Asset and the Transaction. KPMG are the appointed tax advisors and EY are the statutory auditors.
Other variations (individually <£250,000)				
Total				

D. Movements between the cost templates (continued)

Offshore Substation

	Supplier	January 2023 ITV £	12 May 2023 CAT £	Movement £	Adjustment made at ITV £	Explanation provided
OSP Topside Variations	Petrofac					Costs disallowed at ITV have been removed from these costs - 50% PSCAD Variation and WFO Array Cable Configuration Variation We have agreed all variations, total £[REDACTED] to supporting SUB-VO documents
Contingency	-					Contingency costs have been removed at FTV
Generator Weight on the OSP	-					At ITV, Ofgem reduced the costs included in the CAT by £[REDACTED] for generator weight contribution on the OSP. It was noted that this was a holding value, derived from the Ofgem model and that further justification would be submitted by the Developer at FTV. The Developer has since engaged Atkins to assess the impact of the Generator assets on the design and loadings of the OSP Jacket and Topside and provided a memo and the technical note. As such, £[REDACTED] has been resubmitted in the FTV CAT. We recommend that Ofgem review these previously disallowed costs
Spares	-					The Developer has explained that they are awaiting finalisation of the spares list from the contractor. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Settled Claims	Petrofac					The Developer has explained that a number of claims have been settled between ITV and FTV and has provided a breakdown of approved Covid-19 claims totalling £[REDACTED] (with no individual amounts greater than £250,000). We note that the Covid-19 claims were disallowed at ITV and we recommend that Ofgem review these previously disallowed costs
Petrofac Offshore Claims	Petrofac					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Other variations (individually <£250,000)						
Total						

D. Movements between the cost templates (continued)

Submarine cable supply and installation

	Supplier	January 2023 ITV £	12 May 2023 CAT £	Movement £	Adjustment made at ITV £	Explanation provided
Settled Claims	Nexans					The Developer has explained that a number of claims have been settled between ITV and FTV and has provided a breakdown of settled claims. We have agreed claims (individually over £250,000) settled in this period to supporting documentation
Fishermen Co-operation						Duplicated FLO costs have been removed from the 12 May 2023 CAT. We have agreed the costs of £ to a breakdown provided by the Developer
Land (including land advisory/services)	-					These costs have been moved from CR3 into CR4 and CR5
Generator Fibre on Offshore Cable	-					At ITV, Ofgem reduced the costs included in the CAT by £ for fibre optic cables used by the generator for generation purposes determined by the Ofgem model. It was noted that the Developer would provide a technical response to this in their FTV submission. The Developer has since provided a memo in relation to the generator allocation and updated calculations (allowing a 49.1% utilisation apportionment). As such, £ has been resubmitted in the FTV CAT. We recommend that Ofgem review these previously disallowed costs
Offshore Claim from Nexans	Nexans					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Intertidal Claim from Nexans	Nexans					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Manufacturing Claim from Nexans	Nexans					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Other variations (individually <£250,000)						
Total						

D. Movements between the cost templates (continued)

Land cable supply and installation

	Supplier	January 2023 ITV £	12 May 2023 CAT £	Movement £	Adjustment made at ITV £	Explanation provided
Land Agreement						The Developer has explained that land devex costs (i.e. costs prior to June 2020) of c.£[REDACTED] were omitted in error at ITV (which we understand Ofgem are aware of). During our review, the Developer provided a detailed breakdown of the FTV costs in relation to Land Agreement costs for CR4 and CR5 totalling £[REDACTED], including £[REDACTED] of forecast costs. The Developer has provided an updated schedule with costs totalling £[REDACTED]. We have agreed costs of £[REDACTED] to supporting documentation and the remaining £[REDACTED] relates to forecasts costs. Our observations in relation to the Land Agreement costs are further detailed in the executive summary
Land Services						These costs have been moved from CR3 into CR4 and CR5 The Developer has provided a detailed breakdown of the Land Services costs for CR4 and CR5. Invoiced costs total £[REDACTED] with a further £[REDACTED] of forecast costs. The Developer has provided supporting calculations for the forecast costs from the land agent based on their forecasted monthly costs
Generator Fibre on Onshore Cable	-					At ITV, Ofgem reduced the costs included in the CAT by £[REDACTED] for fibre optic cables used by the generator for generation purposes determined by the Ofgem model. It was noted that the Developer would provide a technical response to this in their FTV submission. The Developer has since provided a memo in relation to the generator allocation and updated calculations (allowing a 49.1% utilisation apportionment). As such, £[REDACTED] has been resubmitted in the FTV CAT. We recommend that Ofgem review these previously disallowed costs
Approved Claim from Nexans	Nexans					The Developer has explained that a number of claims have been settled between ITV and FTV and has provided a breakdown of settled claims, with no amounts individually over £250,000
Onshore Claim from Nexans	Nexans					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Manufacturing Claim from Nexans	Nexans					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Other variations (individually <£250,000)						
Total						

D. Movements between the cost templates (continued)

Onshore substation

	Supplier	January 2023 ITV £	12 May 2023 CAT £	Movement £	Adjustment made at ITV £	Explanation provided
OSS Variations	Petrofac					We have agreed variations totalling £[REDACTED] to supporting documentation in the form of SUB-VOs.
Land Agreements						The Developer has explained that land devex costs (i.e. costs prior to June 2020) of c.£[REDACTED] were omitted in error at ITV (which we understand Ofgem are aware of). During our review, the Developer provided a detailed breakdown of the FTV costs in relation to Land Agreement costs for CR4 and CR5 totalling £[REDACTED], including £[REDACTED] of forecast costs. The Developer has provided an updated schedule with costs totalling £[REDACTED]. We have agreed costs of £[REDACTED] to supporting documentation and the remaining £[REDACTED] relates to forecasts costs. Our observations in relation to the Land Agreement costs are further detailed in the executive summary
Land Services						These costs have been moved from CR3 into CR4 and CR5 The Developer has provided a detailed breakdown of the Land Services costs for CR4 and CR5. Invoiced costs total £[REDACTED] with a further £[REDACTED] of forecast costs. The Developer has provided supporting calculations for the forecast costs from the land agent based on their forecasted monthly costs
Generator Items on ONSS	-					At ITV, Ofgem reduced the costs included in the CAT by £[REDACTED] for the area of the onshore substation occupied by generation equipment for generation use. It was noted that this reduction was determined by the Ofgem model and that the Developer would provide a technical response in their FTV submission. The Developer has provided a memo and calculations in support of the ONSS generator space and OFTO and generator allocation. As such, £[REDACTED] has been resubmitted in the FTV CAT. We recommend that Ofgem review these previously disallowed costs
Spares						The Developer has explained that they are awaiting finalisation of the spares list from the contractor. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Petrofac Onshore Claims	Petrofac					The Developer has explained that these claims are still undergoing commercial negotiation and the supporting information will be provided upon final settlement. As we have not been provided with supporting documentation, this cost is included within the list of unsubstantiated costs set out in the executive summary
Other variations (individually <£250,000)						
Total						

