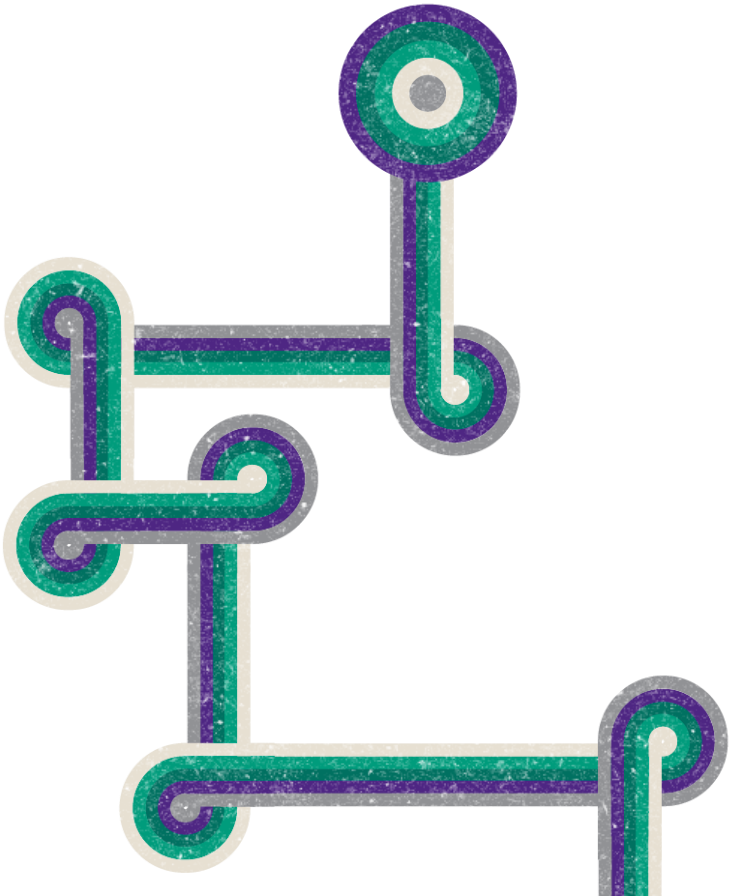
Moray East Offshore Wind Farm Transmission Assets

Ex-Ante Cost Review

12 July 2023



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12 July 2023

Dear Sirs

Moray East Wind Farm Transmission Assets

In accordance with the Call Off Order Form Reference CON/SPEC/2020-15 dated 9 November 2020 between Smith Square Partners LLP and Ofgem, associated Task Order and Sub-contractor Agreement dated 9 November 2020 between Grant Thornton UK LLP and Smith Square Partners LLP, we enclose for your attention our report detailing our findings arising from the Ex-Ante Cost Review of the Moray East 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 12 and appendices A to J.

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 Moray East Offshore Wind Farm.

Yours faithfully

Grant Thornton UK LLP

Glossary

ABB	ABB Karlskrona
AC	Alternating current
BAFO	Best and final offer
CAT	Cost assessment template
Capex	Capital expenditure
CR	Cost reporting
DC	Direct current
Developer	MOWEL
Devex	Development expenditure
DNO	Distributed Network Operator
EDPR	EDP Renovaveis S.A.
ERM	Enterprise Resource Management
EPCI	Engineering, procurement, construction and installation
EUR	Euro
FID	Final investment decision
GBP	Great British Pound
GE	UK Grid Solutions Limited (subsidiary of General Electric)
Generation Assets	The generation assets of Moray East
Grant Thornton	Grant Thornton UK LLP
GSMEC	GeoSea N.V.
HDD	Horizontal directional drill
HV	High voltage
IDC	Interest during construction
ION A	Interim operational notification (A)
ITT	Invitation to tender
ITV	Indicative transfer value
kV	Kilovolt
LCoE	Levelised cost of energy
LV	Low voltage
MHI Vestas	MHI Vestas Offshore Wind A/S
Moray East/ the Wind Farm	Moray East Offshore Wind Farm
MOWEL	Moray Offshore Windfarm (East) Limited
MW	Megawatt
NGESO	National Grid Electricity System Operator
NKT	NKT Cables GmbH & Co KG
OEM	Original Equipment Manufacturers
Ofgem	The Office of Gas and Electricity Markets

Glossary (continued)

OFTO	Offshore transmission owner
OSP	Offshore substation platform
PBA	Preferred Bidder Agreement
PD	Project director
PM	Project management
PO	Purchase order
PQQ	Pre-qualification questionnaire
PR	Purchase requisition
RFP	Request for Proposal
SCADA	Supervisory control and data acquisition system
SHET	Scottish Hydro Electric Transmission PLC
TEC	Transmission entry capacity
TP	Transition piece
Transmission Assets	The transmission assets of Moray East
USD	United States Dollar
VBMS	VBMS (UK) Limited
WBS	Work breakdown structure
WTG	Wind turbine generator

Contents

Section 1: Executive summary

Executive summary

Introduction

- This report relates to the Moray East Offshore Wind Farm which is owned by Delphis Holdings Limited, Moray Offshore Renewable Power Limited, Diamond Green Limited and China Three Gorges (UK) Limited
- Moray East is a 950MW offshore wind farm, occupying approximately 296km^2, located off the Caithness Coast in the far north of Scotland
- The Transmission Assets are currently under construction and due to be fully operational and commissioned by Q2 2022
- The Transmission Assets will include three offshore substations, three 220kV AC offshore export cables (between approximately 56km and 63km in length), and three onshore export cables (approximately 34.5km in length). These connect to the MOWEL onshore substation in New Deer, Aberdeenshire, where the project will connect to the network of SHET. The Transmission Assets will also include the OFTO SCADA system

Grant Thornton review

- Our review and this report is based upon the cost template submitted to Ofgem on 19 March 2021 and incorporates information and explanations provided regarding the costs in this version of the cost template, both from a virtual meeting and in correspondence with the Developer, up to 13 May 2021
- Grant Thornton has been instructed by Ofgem to review the ex-ante cost assessments prepared by the Developer for the Transmission Assets of the Wind Farm (Ex-Ante Cost Review)
- The Ex-Ante Cost Review has considered the accuracy, completeness and allocation of costs against the cost template prepared by the Developer for the Wind Farm Transmission Assets, based on supporting information and methodology provided by the Developer
- The purpose of this review is to:
  - determine if the Developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information
- The Developer's estimate of the cost of the Wind Farm Transmission Assets, included in the CAT dated 19 March 2021, amounts to £776.50 million. This represents a £56.54 million increase on the initial cost assessment by the Developer that projected the original cost to be £719.96 million. The Developer's estimated costs of the Transmission Assets, as set out in the CAT, are summarised in the table below

Transmission Assets cost summary

	CAT Reference	Direct costs £	Contingency £	Total £	%
Project common costs	CR8	[redacted]			
Offshore substation	CR2	[redacted]			
Submarine cable supply and installation	CR3	[redacted]			
Land cable supply and installation	CR4	[redacted]			
Onshore substation	CR5	[redacted]			
Reactive substation	CR6	[redacted]			
Connection costs	CR7	[redacted]			
Transaction costs	CR9	[redacted]			
Total capital costs		[redacted]			
Interest during construction		[redacted]			
Total		**750,172,254**	**26,329,412**	**776,501,666**	**100%**

Executive summary (continued)

Summary of findings

- The Developer has provided us with supporting documentation and/or explanations for the majority of items included within the CAT. Our review found that all major items of capital expenditure for Transmission Assets have either been procured under contracts specific to the transmission business, or have been procured under contracts specific to the Wind Farm as a whole and have been allocated between the Transmission and Generation Assets using a mix of allocation methodologies that will be considered further in this report
- As part of our line-by-line review of the CAT, as instructed, we have sought to agree the costs of the transmission business above £100,000 to supporting documentation, representing £681,714,635 (98%) (excluding IDC) of the total costs of the CAT. This included:
  - confirming costs in the CAT to contracts between the Developer and subcontractors, contract variations orders and to working schedules prepared by the Developer that set how estimated costs within the CAT have been calculated
  - gaining an understanding from the Developer about the determination of costs in the CAT, such as the approach to procurement of main items of expenditure, the allocation of shared costs between the transmission and generation businesses, and the treatment of costs incurred in foreign currencies
- In most cases, we were able to confirm that the costs included in the CAT appear to be appropriately stated. However, we identified that some costs were incorrectly stated, and as such, we propose adjustments for these costs within the 'Impact of cost assessment' table at the end of this executive summary
- A summary of our testing and cost coverage is set out in the 'Summary of testing' approach table at the end of this executive summary
- Furthermore, there are some areas which we draw to Ofgem's attention, and these are detailed in the table on the following pages

Conclusion

- Based upon our review, subject to the items included in the "Impact of cost assessment" table, the "unsubstantiated costs" table and the matters highlighted in the "Matters requiring further consideration by Ofgem" tables, we consider that the costs of the Transmission Assets included in the CAT dated 19 March 2021 appear to be appropriately stated

Executive summary (continued)

Matters requiring further consideration by Ofgem

Area	Further information	Grant Thornton observations
Transaction costs – CR9 • Supporting information for an amount in the CAT	• [redacted]	• Whilst we consider the inclusion of transaction costs in the ITV to be reasonable, absent further information, we are unable to say whether these costs are reasonable • We understand that these costs relate to Ofgem costs and accordingly, highlight these costs for Ofgem to consider if they are reasonable
Project financing costs – CR8 • Supporting information for an amount in the CAT	• We have not been provided with any supporting information for project financing costs and project finance advisory costs totalling £[redacted] million included within CR8	• Project financing costs are not usually included in the ITV (as such costs are usually covered by IDC). As such, we have included these costs as unsubstantiated and we recommend that Ofgem should obtain further information from the Developer before accepting these costs
Contingency • Validation of contingency provision	• The CAT includes a contingency of [redacted] which the Developer has calculated based upon its assessment of risks associated with the construction of the Transmission Assets, the likelihood of such risks being realised and an estimate of the costs involved in these circumstances • The Developer has used Monte-Carlo simulation to generate a probability distribution of contingency values	• We have reviewed the summary of risks and consider that the types of risks and the amounts allocated to each risk look reasonable • Based upon our experience of similar projects, the Monte-Carlo approach taken for the calculation of contingencies is in line with what we have seen on previous projects • Likewise, in light of the level of completion of the Transmission Assets, the percentage of contingencies as a proportion of total capital costs is in line with what we have seen on similar projects • However, we consider that the assessment of the expected value of risks and of the likelihood of each event occurring fall within the scope of a technical assessment, rather than the Ex-Ante Review • We note that by the time of the ex-post cost assessment (the Ex-Post Review), the value of the contingencies is expected to fall to zero, as at this stage all costs will be known • Accordingly, we recommend that Ofgem should obtain an update of the contingency provision from the Developer prior to finalising the ITV
Reallocations/ corrections • Verification of reallocations with the CAT	• The CAT includes £10.92 million in relation to 'reallocations/ corrections' stated in the CAT to be as a result of accounting mis-postings. We have reviewed the supporting documentation provided by the Developer and our findings are set out in Appendices C, F and I	• Our review of the documentation provided identified errors in three of costs. We have therefore proposed three adjustments which result in a net decrease to the total costs included in the CAT of £591,912 • Further, sufficient documentation has not been provided in support of some of these costs. As such, we have included £2.94 million as unsubstantiated and we recommend that Ofgem should obtain further information from the Developer before accepting these costs

Executive summary (continued)

Matters requiring further consideration by Ofgem (continued)

Area	Further information	Grant Thornton observations
Areas requiring technical input • Time spent by internal staff	• In order to substantiate resources costs totalling £[redacted], the Developer has provided detailed schedules of the forecasted time for personnel to spend on the Transmission Assets, which includes forecast costs together with schedules of salaries by role	• We have performed a high level review of the schedule of project management costs provided to assess the accuracy of the costs, however, it is not within our area of expertise to establish whether the time spent by the internal staff and the salaries used are reasonable • We recommend that Ofgem should consider instructing technical advisors to review the resources time and rates in order to determine whether these costs are being efficiently incurred
Cost allocation	• The majority of costs relating to the Transmission Assets are fully attributable to the Transmission Assets • However, where costs are not directly attributable to the Transmission Assets, the Developer has allocated costs using the following methods: – most allocated costs have used the rate of [redacted]%. This general allocation metric is used where the other specific allocation methods are not considered appropriate. The Developer has provided a high level calculation of this rate being the total Transmission budget as a percentage of the total Construction budget as per the MOWEL board minutes dated 8 November 2018 – various allocation rates based on cost drivers specific to those costs – an allocation rate for Devex phase project management of [redacted]%, calculated as the total project management cost for the OFTO assets (as per the available data and Ofgem cost assessment guidelines) as a percentage of the total project management cost for the Capex phase of the project	• Whilst the general allocation rate of [redacted]% is consistent with that seen on previous projects, the Developer has only provided us with a high level calculation of the allocation rate, such that we are unable to establish whether the amount of the Transmission Assets capital costs accords with the Transmission Asset capital costs included in the CAT • As such, we recommend that Ofgem should consider this further and see whether it is able to obtain a more detailed calculation from the Developer • [redacted] • At 50%, the derived project management allocation rate is higher than we have seen on previous projects. Further, the Developer has only provided us with a high level calculation of the allocation rate • Accordingly, we recommend that Ofgem should discuss cost allocation further with the Developer and instruct technical advisors to assess the reasonableness of the allocation rates applied
Spares	• We note that the CAT includes costs (CR2, CR3 and CR5) in relation to strategic spares totalling £[redacted] (see Appendices D, E and G) • To reflect the Developer's updated estimates, we have proposed two adjustments in relation to these costs which result in a net decrease of £[redacted] (see Appendices D and G)	• We recommend that Ofgem should take a view regarding the level of spare parts included in the ITV

Executive summary (continued)

Matters requiring further consideration by Ofgem (continued)

Area	Further information	Grant Thornton observations
Foreign exchange differences	• Whilst the majority of the costs included in the CAT are denominated in GBP, Moray East has also contracted with vendors in EUR and USD • The Developer has entered into foreign currency hedges in order to mitigate its exposure to foreign currency fluctuations and the CAT uses a single exchange rate of [redacted] and [redacted] for EUR and USD respectively, calculated as the weighted average of the hedged rates • The exceptions to the above are foreign currency payments that were not forecasted in the payment profile (e.g. variations, claims, Devex contracts) which are paid on spot rate and hence exposed to foreign exchange variances	• We consider that the principles of the approach taken by the Developer in relation to costs incurred in foreign currencies, with a focus on mitigating the impact of foreign currency movements, to be reasonable • However, in relation to the amounts paid at spot rate, we have agreed the amounts per invoices to the amounts in SAP in the original currency and we have reviewed the rates used for reasonableness. We recommend that Ofgem should consider the impact of applying the spot rates further and confirm it accords to Ofgem's policies for foreign currencies

Executive summary (continued)

Summary of testing approach

	Substantiated £	Costs to be removed from the CAT £	Unsubstantiated £	Under £100,000 £	**Total costs in 19 March 2021 CAT £**	Additional costs to be included in the CAT £	Total adjustments proposed £
Project common costs	[redacted]						
Offshore substation	[redacted]						
Submarine cable supply and installation	[redacted]						
Land cable supply and installation	[redacted]						
Onshore substation	[redacted]						
Reactive substation	[redacted]						
Connection costs	[redacted]						
Transaction costs	[redacted]						
Total	**611,302,464**	**25,087,779**	**45,324,392**	**13,907,779**	**695,622,414**	**3,843,856**	**(21,243,923)**
% of total costs	[redacted]						

Impact of cost assessment

	CAT reference	Section	£
Cost of Transmission Assets per CAT dated 19 March 2021 (excluding IDC)			695,622,414
Removal of Brown & May Marine Ltd Base Scope OFTO costs due to the item not being applicable to the OFTO assets	CR8	5	[redacted]
Decrease in costs due to difference in amount verified per the contract for ECoW	CR8	5	[redacted]
Decrease in costs due to OFTO HV commissioning services not being included in the supporting schedule for PM costs	CR8	5	[redacted]
Decrease in costs due to OFSS Client Rep costs not being included in the supporting schedule for PM costs	CR8	5	[redacted]
Decrease in costs due to OSEC Client Rep costs not being included in the supporting schedule for PM costs	CR8	5	[redacted]
Decrease in costs due to ONSW Client Rep costs not being included in the supporting schedule for PM costs	CR8	5	[redacted]
Decrease in costs due to CMS Staff costs not being included in the supporting schedule for PM costs	CR8	5	[redacted]
Removal of Servitude cost due to item being a duplicate of item included elsewhere in the cost assessment	CR8	5	[redacted]
Removal of Construction Compounds cost due to item being a duplicate of item included elsewhere in the cost assessment	CR8	5	[redacted]
Removal of OFTO Final one off work GIS bays cost due to item being a duplicate of item included elsewhere in the cost assessment	CR8	5	[redacted]
Decrease in costs due to difference in amount verified per the contract for Offshore Metmast Decommissioning	CR8	5	[redacted]
Decrease in costs due to difference in amount verified per the supporting documentation for Boskalis EOD services	CR8	5	[redacted]

Executive summary (continued)

Impact of cost assessment (continued)

	CAT reference	Section	£
Decrease in costs due to difference in amount verified per the supporting documentation for Natural Power costs	CR8	5	[redacted]
Increase in costs for crop compensation due to difference in amount verified per the calculations provided	CR8	5	[redacted]
Increase in costs due to difference in amount verified per the purchase order for Supply/Fabrication works	CR8	5	[redacted]
Increase in office costs due to updated calculations and allocations	CR8	5	[redacted]
Increase in IT fixed costs due to updated calculations and allocations	CR8	5	[redacted]
Increase in IT variable costs due to updated calculations and allocations	CR8	5	[redacted]
Decrease in OFTO Vessel Rates costs as the contract was terminated early and a lower amount was therefore paid	CR8	5	[redacted]
Increase in costs for Natural Power due to difference in amount verified per the supporting documentation	CR8	5	[redacted]
Increase in various costs due to updated allocation rates (see page 29)	CR8	5	[redacted]
Decrease in costs due to items within the re-allocations breakdown identified by the Developer as not being applicable to the OFTO assets	CR8	5	[redacted]
Increase in costs due to negative items within the re-allocations breakdown identified by the Developer as not being applicable to the OFTO assets	CR8	5	[redacted]
Decrease in costs due to updated allocation rate applied to contingencies	CR8	5	[redacted]
Decrease in Spares costs due to difference in amount verified per updated estimate breakdown	CR2	6	[redacted]
Increase in GSMEC costs due to difference in amount verified per the consolidated claims package	CR2	6	[redacted]
Decrease in NKT main contract costs due to difference in amount verified per the contract	CR3	7	[redacted]
Decrease in planned/forecast spend costs due to item being not applicable to the OFTO assets	CR3	7	[redacted]
Increase in WoW Remedial Rock C3 costs due to difference in amount verified per the variation orders	CR3	7	[redacted]
Decrease in OEC Site 6 PC Role April costs due to difference in amount verified per the supporting documentation	CR3	7	[redacted]
Increase in Boulder Grabbing Works - MMT - OSEC - GBP costs due to difference in amount verified per the contract	CR3	7	[redacted]
Decrease in contingency costs due to item no longer required in the risk register for contingencies	CR3	7	[redacted]
Decrease in Cost for landrights for onshore export cable due to difference in amount verified per the updated estimate calculations	CR4	8	[redacted]
Decrease in costs due to errors identified in re-allocations	CR4	8	[redacted]
Increase in Spares costs due to difference in amount verified per updated estimate breakdown	CR5	9	[redacted]
Increase in Construction Compounds costs due to difference in amount verified per the updated estimate calculations	CR5	9	[redacted]
Increase in Devex contract - Siemens Transmission & Distribution costs due to difference in amount verified per the invoices	CR5	9	[redacted]
Decrease in landscaping for onshore substation costs due to differe in the amount verifed per the estimate provided	CR5	9	[redacted]
Decrease in Estimate cost to complete for SHETL 6 week delay due to difference in amount verified per the updated estimate calculations	CR7	11	[redacted]
Total adjustments			[redacted]
Revised cost of Transmission Assets			**674,378,491**

Executive summary (continued)

The below unsubstantiated costs, are costs that are included in the 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 cost estimates have been calculated on a reasoned basis:

Unsubstantiated costs

	CAT reference	£
MFOWDG-CFWG	CR8	[redacted]
Fisheries compensation	CR8	[redacted]
Licences and administrative costs	CR8	[redacted]
Consultancy Services	CR8	[redacted]
Marine Equipment	CR8	[redacted]
Marine Coordination	CR8	[redacted]
Project Financing Cost - CAPEX	CR8	[redacted]
Project Finance advisory cost - CAPEX	CR8	[redacted]
Project Fianancing Cost - DEVEX	CR8	[redacted]
Project Finance advisory cost - DEVEX	CR8	[redacted]
Re-allocation/corrections - partially substantiated	CR8	[redacted]
Re-allocation/corrections - partially substantiated	CR8	[redacted]
Re-allocation/corrections - partially substantiated	CR8	[redacted]
EDPR UK - partially substantiated	CR8	[redacted]
Re-allocation/corrections	CR8	[redacted]
Fugro Geoconsulting Ltd	CR8	[redacted]
Shepherd & Wedderburn	CR8	[redacted]
Crown Estate Scotland	CR8	[redacted]
Reallocation/corrections	CR7	[redacted]
Ofgem Future Spend as indicated by Ofgem	CR9	[redacted]
Total		**45,324,392**

Section 2: Introduction and background

Instructions and background

Instructions

- Grant Thornton has been instructed by Ofgem to prepare an Ex-Ante Cost Review of the cost information and cost templates prepared for Ofgem by the Developer in relation to the Transmission Assets
- In this review we established whether the costs greater than £100,000 provided in the Developer's cost template can be matched to specific contracts or other supporting information, and whether appropriate metrics exist for cost allocation between transmission and generation assets
- Our work involved tracing the amounts stated in the CAT dated 19 March 2021 to supporting contracts, schedules and other supporting information that shows how costs have been derived. The review also involved a virtual meeting with the Developer in order to discuss the information provided, together with the basis for the cost allocation metrics used
- The purpose of a review at this stage is to:
  - determine if a developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information
- The Ex-Ante Cost Review is based upon the Developer's current estimates of the costs to be incurred in developing and constructing the Transmission Assets. Following construction of the Wind Farm, we expect to carry out a forensic review of the actual expenditure incurred by the transmission business (the Ex-Post Review)
- Grant Thornton's review of the Ex-Ante cost information prepared by the Developer is limited to the scope as set out above and does not include detailed cost verification or any review of technical or legal issues
- Our review and this report is based upon the cost template submitted to Ofgem on 19 March 2021 and incorporates information and explanations provided regarding the costs in this version of the cost template, both during our meeting with and correspondence with the Developer up to 13 May 2021
- If further information is produced and brought to our attention after service of this report, we reserve the right to revise our conclusions 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 information we have relied upon are not established as accurate, it may be necessary to review our conclusions
- The report has been prepared using Microsoft Excel. The report may contain minor rounding adjustments due to the use of computers for preparing certain calculations

Background

- Moray East is owned by is owned by Delphis Holdings Limited (23.3%), Moray Offshore Renewable Power Limited (33.3%), Diamond Green Limited (33.4%) and China Three Gorges (UK) Limited (10%)
- Moray Offshore Renewable Power Limited is 100% owned by EDPR UK Limited which in turn is owned by EDPR who manages its offshore projects through Oceans Winds, a 50:50 joint venture with ENGIE
- Diamond Green Limited is a joint venture between subsidiaries of Mitsubishi Corporation (50%), The Kansai Electric Power Co., Inc. (30%), and Mitsubishi UFJ Lease and Finance (20%.). Its sole activity is the management of its investment in Moray East
- As the Developer, MOWEL has responsibility for managing construction of the Wind Farm and will also continue to manage the operations on behalf of the shareholders when the Wind Farm is operational

Background (continued) and purpose and method of the review

Background (continued)

- The Moray East site covers approximately 296km^2, located approximately 22km from the Caithness Coast in the far north of Scotland. Once constructed, offshore and onshore electrical infrastructure will connect the Wind Farm to the electricity network. Sub-sea export cables from the offshore wind farm will make landfall at Inverboyndie Bay with the power entering the electricity network at the new SHET substation at New Deer, Aberdeenshire
- The 950MW wind farm will be Scotland's largest offshore wind farm comprising 100 MHI Vestas V164-9.5 MW WTGs, which are supported by three-legged jacket foundations with pre-installed piles located in water depths of between 39 metres and 53 metres. The WTGs are connected to the three 66kV/ 200kV OSPs by 66kV array cables in strings of maximum 7 WTGs. These OSPs are connected to each other via 66kV interlinks (to be retained by the Developer), and are linked to shore by three 220kV AC offshore export cables which connect to three onshore export cables at Inverboyndie Beach
- The Transmission Assets will include three offshore substations, three 220kV AC offshore export cables (between approximately 56km and 63km in length), and three onshore export cables (approximately 34.5km in length). These then connect to the MOWEL onshore substation in New Deer, Aberdeenshire, where the project will connect to the network of SHET. The Transmission Assets will also include the OFTO SCADA system
- The Transmission Assets are currently under construction and due to be fully operational and commissioned by Q2 2022
- The Transmission Assets are expected to deliver an availability of 97.58%, taking into account both planned and unplanned maintenance

Purpose and method of the review

- The main purpose of the Ex-Ante Cost Review of the Wind Farm's Transmission Assets is to:
  - determine if a developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information. In particular:
    - whether the costs as set out in the Developer's cost template for the Transmission Assets are appropriately stated to use in the cost assessment
    - whether costs not directly attributable to either the Generation or Transmission Assets have been allocated to each on a reasonable basis
- The starting point in our review of the cost information provided was the CAT dated 19 March 2021, and was based upon actual costs up to this date and the Developer's estimates of the costs of the Transmission Assets up to August 2021
- Our review has considered confirmation that costs included in the CAT relate to contracts that are either for the Transmission Assets or are for the Wind Farm in a broader sense but have a reasonable basis for allocation between Transmission Assets and other elements of the Wind Farm. The basis of allocation is different in some cases depending upon:
  - whether the costs can be directly attributed to either the transmission or generation businesses (as in the case of the main capital contracts)
  - what is considered the main driver behind the relevant development or project management cost (this is usually capital cost or the degree of time/activity required in relation to different components of the Wind Farm development)
- In each case where an allocation is involved we have considered if the proposed method and rate of allocation are appropriate for that particular cost. We have not at this stage sought to verify that any expenditure has actually been incurred by tracing the costs included in the CAT to actual payments, as that will be done for selected contracts as part of the Ex-Post Cost Review

Section 3: Moray East processes

Introduction, decision making process and procurement process

Introduction

- In this section, we set out the processes that have been used by the Developer in relation to the procurement of, and the accounting for, the Wind Farm, and in particular, the Transmission Assets
- From our discussions with the Developer and our review of the cost information prepared by them in respect of the Transmission Assets, it is evident that there are systems in place which will help to ensure that the cost of the Wind Farm Transmission Assets represents value for money including:
  - competitive tendering
  - specific planning and budgeting tools, including building on experience obtained from similar projects
  - controls over variation orders and large expenditure items

Decision making process

- The decision governance in the Moray East project is set out in the procurement policy
- All PRs will follow the same path, with the Department Manager (Level 1 on the Organisational Chart – reporting to PD) or Technical Package Manager (Level 2 in the Organisational Chart – reporting to Head of Construction) providing first approval. This is followed by review and approval by the Head of Governance Planning and Control and the PD
- To agree and execute a contract or contract agreement, or for change requests, the Delegation of Authority tiers are:
  - up to £50,000 – Tier 3 and Head of Commercial or Head of Finance or PD (Tier 1)
  - £50,001 to £100,000 – Tier 2 and Head of Commercial or Head of Finance or Head of Construction (Tier 1)
  - £100,001 to £500,000 – PD (Tier 1) and Head of Commercial or Head of Finance or Head of Construction
  - £500,001 to £1,000,000 – PD (Tier 1) and one Director of the Company
  - >£1,000,001 – Moray East Board of Directors
- Where invoices relate to contract milestones they are pre-approved for payment, such that if the milestone is achieved then the amount is approved for payment. All other invoices follow the above process

Procurement process

- The Developer has explained that the Moray East tender and procurement process comprised the following stages:
  - PQQ – to increase market knowledge, inform the contracting strategy, and determine what suppliers would be invited to tender under RFP1
  - RFP1 – to obtain preliminary technical designs, obtain preliminary commercial offers, inform the contracting strategy, and determine what suppliers would be invited to tender under RFP2
  - RFP2 – to obtain detailed technical designs with associated commercial offers, inform the contracting strategy, and determine what suppliers would be requested to offer a BAFO
  - BAFO – to obtain final commercial offers based on the technical design and scope agreed during RFP2 negotiations, and finalise contracting strategy
  - PBA – appointment of preferred suppliers under PBAs, leading to EPCI contracts. [redacted]
- The Developer has explained that at the time of the tender and procurement process the Moray East project had a [redacted] and the high-level electrical system design assumed an offshore transmission system with two export circuits. MOWEL intended to undertake a project optimisation exercise with the appointed preferred bidders. The Developer has explained that the project TEC was subsequently increased to 900MW with three export circuits as they considered this would further improve the project's cost efficiency by exploiting the economies of scale

Procurement process (continued)

Procurement process (continued)

Procurement strategy

- The procurement strategy of the Moray East project was formulated considering the following strategic objectives:
  - reducing LCoE that includes cost of construction, operation, maintenance and decommissioning of both the Generation and Transmission Assets
  - maximise engagement with the supply chain to ensure sufficient competition among the bidders
  - optimise technical risks relevant to the electrical design for compliance with the Grid Code and Security and Quality of Supply Standards
  - optimise interfaces between packages to manage cost, completion time and quality of assets built

Competitive tendering

- One of the main tools used by the Developer in achieving value for money and highest compliance to requirements is the use of a competitive tendering process for the main elements of construction of the Wind Farm
- The contracting strategy for the OSP, cabling supply and installation and onshore substation was developed during the tender and procurement process. The strategy evolved as outlined below:
  - PQQ – Moray East to undertake scope of electrical system design and to outsource three work packages i.e. HV/LV OSP, Offshore Export Cables, and Onshore Works including onshore export cables and onshore substation
  - RFP1 – Based on acquired techno-commercial proposals the procurement and technical teams recommended to employ a common electrical designer and to procure OEM for delivering both the OSP and Onshore Works packages. This allowed for the transfer of design risk to the contractor and supported a competition-by-design approach for the assessment of the tenders
  - RFP2 and BAFO – two work packages; OSP and Onshore Works as a combined scope; Offshore Export Cables
  - PBA leading to EPCI contract – during the PBA phase, negotiations with the preferred bidder (Siemens) for the OSP and Onshore Works identified cost savings and other efficiencies through modifying the scope to provide the OSP topside platforms only. It was therefore decided that Moray East would provide the OSP jackets including transport and installation of the jackets and the OSP topside platforms by bundling these works with WTG jackets. This project optimisation work modified the capacity of the project from TEC 504MW and two circuits to TEC 900MW and three circuits
  - Further details of the contracting strategy for the OSP and Onshore Works and the onshore substation contracts including the use of a competitive tendering process are set out in Appendix B
- The final selection of preferred bidders was made using an evaluation model, which typically focuses on price, compliance with the RFP and contractual terms and condition, technical solutions, risk and opportunity based-review, and completion time schedule
- The procurement and technical teams assess the received tenders, obtain clarifications from the suppliers as required, complete the evaluation against the defined criteria before providing a final evaluation
- As part of our work we have reviewed the tender evaluation documentation in relation to these contracts, including the reason behind the award for each contract and ensured the processes are in line with the overall procurement strategy
- We note that the scope for the OSP jackets, and the transport and installation of the OSP jackets and topside platforms, was awarded to the appointed WTG jacket contractor, DEME Offshore BE N.V. and Smulders Projects Belgium N.V., acting jointly and severally, as GSMEC

Procurement process (continued) and accounting and budgeting process

Procurement process (continued)

Competitive tendering (continued)

- While the scope of OSP jacket and the transport and installation of the OSP jacket and topside platform was included in the work package of OSP in RFP1, RFP2 and BAFO stages, the option to bundle these scopes with the [redacted]

Contracting

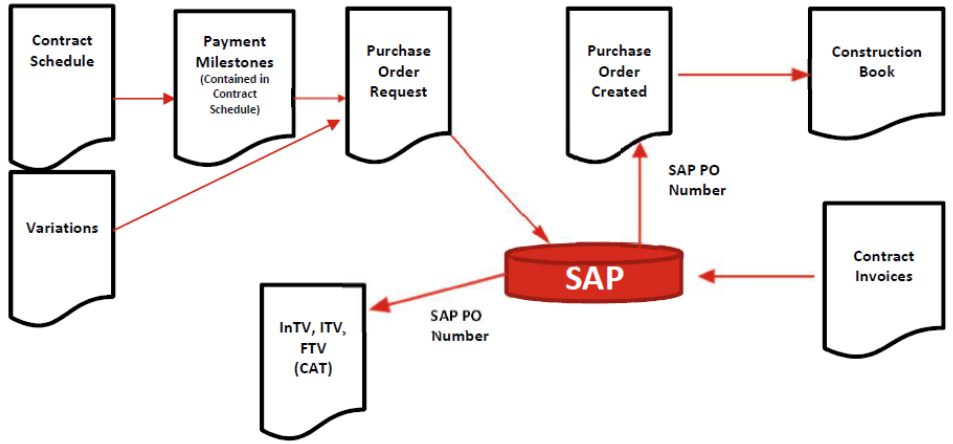
- All construction contracts for the Moray East project are entered into by MOWEL

Accounting and budgeting process

- As project manager of the Wind Farm, MOWEL provides the accounting team that supports the Wind Farm project and undertakes the budgeting process
- Moray East operates a SAP system for the Wind Farm, with a WBS coding system to assign costs of the Wind Farm and allocate responsibilities to packages

Process to record incurred cost

- The process to record incurred cost is set out in the diagram opposite and detailed further below
- All costs are related to contracts and their payment milestones within each of the cost category tabs in the CAT showing all costs in respect of currency
- The contract value is split into milestones within the contract schedule, these milestones drive creation of the PO's within the ERM system. Any variations to the contract or scope follow the same process
- The CAT is prepared based on the PO's that are created from the milestone schedules
- These are agreed back to the contracts to validate
- The PO's are created for recording, monitoring and controlling all the internal and external costs of the project



- The Construction Book is a cost tracker which holds the projects budget and cost details, milestone details including amounts, due dates and paid dates, POs raised, amount paid against POs and forecasted spend of open POs. It also records all changes in budget and the movements from package to package and/or contingency drawdown
- As such, the Construction Book provides the information that is reported to the Board along with the projects sponsors and lenders

Invoice and approval process

- The Developer operates a rigid invoice and purchase order approval process to ensure that payments are made in accordance with the payment process
- Prior to a PR being released and turned into a PO an independent check is carried out on the procurement process and approvals by the EDPR Corporate Procurement department
- In order to release a PR and turn it into a PO, the Moray East Planning & Control team (along with the requesting departments and procurement) must provide evidence to show all the necessary approvals are in place

Accounting and budgeting process (continued) and cost accounting and allocation methodology

Accounting and budgeting process (continued)

Invoice and approval process (continued)

- Where invoices relate to contract milestones, all invoices are pre-approved as part of the contract approval process
- Any invoices which are not related to contract milestones, or where a change in cost is expected, are approved in line with the process outlined on page 19
- Board approval is evidenced via signed Authorisations for Reserve Matters documents

Cost controlling

- Each month, the project costs are reviewed by the Cost Controller, Project Controls Manager and the relevant Package Managers. There is also a second review with the Cost Controller, Project Controls Manager, Package Managers and the Senior Management Team
- In the initial review the costs for each package are discussed to review the budget, costs, milestones, variations, change in scope, budget movements, contingency drawdowns, best utilisation of budget and forecasting of spend not covered in the Milestones
- The second review covers a summary of the package budget by the Cost Controller followed by a Q&A by the Senior Management Team to the package managers
- The project's planned spend is baselined on the Milestones of the EPCI contracts and known assumptions of non EPCI packages at Financial Close. All costs are tracked against this baseline profile
- The overall project budget cannot be changed unless approved by the Board. The individual package budgets can only be increased by a budget movement from one package to another due to change of scope or to/from contingency drawdown
- The changes in package budget/contingency go through the Change Management process of the project and is approved by the relevant level according to the Delegation of Authority, as detailed on page 19. Once approved the change is then reflected in the Construction Book on a monthly basis in line with the reviews

Cost accounting and allocation methodology

- As detailed on the previous page, the CAT has been prepared by populating costs (and forecasts) based on the SAP data that is generated as per the awarded contract and the invoices submitted by the contractor
- Each cost line in the CAT has been assessed by the Developer as to whether the package relates entirely to Transmission or Generation Assets, or to the Wind Farm as a whole (shared costs)
- Whilst the majority of costs are direct OFTO costs (and have therefore been allocated at 100%), the CAT also includes costs that are not directly attributable to the Transmission Assets. For these shared costs, an OFTO allocation percentage is applied to the total costs based upon the below cost allocation methodology

Cost allocation methodology

- Where project costs are not fully attributable to the Transmission Assets, i.e. 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 shared costs
- Shared (or indirect) costs are typically indirect costs which are for the general benefit of the overall project and include:
  - general project management and administration
  - office costs
  - project support functions e.g. procurement, cost control, health and safety
  - general consultants e.g. legal/environment and consent
- Cost allocation of shared costs has been performed using various allocation rates depending on the cost driver. Further detail on our review of cost allocation is set out in the next section

Section 4: Costs common to the Transmission Assets as a whole

Introduction, resourcing costs and interest during construction

Introduction

- Whilst the CAT breaks down the costs of the Transmission Assets into distinct areas, largely based upon the separate components that make up the Transmission Assets, there are certain costs and cost principles which are common to the Transmission Assets as a whole
- As such, we have summarised the work that we have undertaken in relation to these costs and cost principles in this section and cross refer to our findings in relation to such costs and cost principles in the later sections of this report

Resourcing costs

- The CAT includes approximately £17.49 million relating to the time costs of project management resource on the project, including time spent by both MOWEL employees and contractors on the Transmission Assets, as summarised in the table below

Resource costs

	£
Project common costs	[redacted]
Offshore substation	[redacted]
Submarine cable supply and installation	[redacted]
Onshore substation	[redacted]
Transaction costs	[redacted]
Total	**17,493,736**

- The Developer has provided a schedule of project management costs, an Excel spreadsheet which lists all project roles, durations, and salaries to calculate a forecast total cost across the relevant personnel categories
- Each role in the schedule of project management costs is assigned an estimated OFTO percentage allocation based upon their role. Following our review of the spreadsheet and discussion with the Developer, it was ascertained that the roles are allocated at one of three rates, either [redacted]% (the general allocation rate), [redacted]% (for project management costs) or [redacted]%. These allocation rates are in line with our understanding of cost allocation rates used for the project as a whole. Further details in relation to the cost allocation percentages are set out on pages 27 to 29
- Subject to the proposed adjustments set out in Section 5 to remove costs included in the CAT but not included in the schedule of project management costs, we have agreed the calculations of total resources costs to the CAT
- The Developer confirmed that no profit element is included within internal staff costs
- We note that we have only performed a high level review of the schedule of project management costs in order to confirm the process described by the Developer
- Furthermore, we do not have the technical expertise to determine whether the time spent or salaries used are economically or efficiently incurred, and therefore we recommend Ofgem's technical advisers should review the spreadsheets in order to assess whether the amount of time spent and salaries are efficiently incurred and that the percentages allocated to the Transmission Assets are reasonable

Interest during construction

- Interest should be included within the Transmission Assets costs up to the end of construction (after which, the project is expected to be generating power)
- The Developer's current interest cost for the construction period of the Transmission Assets totals approximately £[redacted]. For the avoidance of doubt, we have not verified the Developer's assessment of interest during development or construction, as this is outside the scope of our review

Boundaries and contingencies

Boundaries used for the purposes of cost allocation

- The Moray East Information Memorandum confirms the boundary points of the Transmission Assets as follows:
  - Onshore (Transmission Interface Point) – Cable sealing end of the 400 kV cable in the SHET New Deer substation
  - Offshore (Grid Entry Point) – 66 kV bus duct connection to the 66 kV bus bar

Contingencies

- The CAT includes a contingency provision of £[redacted] ([redacted]% of pre contingency capital costs excluding IDC), as summarised in the table below:

Contingencies

	£
Project common costs	[redacted]
Offshore substation	[redacted]
Submarine cable supply and installation	[redacted]
Land cable supply and installation	[redacted]
Onshore substation	[redacted]
Total	**26,329,412**

- The Developer has calculated the contingency provision based upon its assessment of risks in relation to the Transmission Assets with the contingency amounts being calculated by multiplying the expected amount which would be incurred if the risk materialised, by the probability that the risk will materialise
- The package managers are responsible for identifying all potential risks in connection with their specific packages, based upon issues that have arisen from previous projects, and then with support from the project risk manager, they estimate the probability of the risk materialising and the cost

Calculation and OFTO allocation

- Each risk is assessed using a three-point estimate of cost and/or programme impact, referred to as the low, central and high cases and considered as a minimum, most likely and maximum values should the risk materialise
- The initial contingency amount is derived via Quantitative Risk Assessment which uses Monte Carlo simulations to provide a distribution of added cost and added days delay to the project. [redacted]
- The risk model is comprised of two major parts – direct cost risk and schedule risk – which are then combined to form an overall contingency distribution from which a percentile contingency can be selected
- [redacted]
- In practice contingencies relating to project common costs and development costs have been allocated at [redacted]% whilst all other contingencies have been allocated at [redacted]%. In line with our review of allocation rates (see pages 27 to 29) we consider the allocation rate of [redacted]% should be amended to the general allocation rate of [redacted]%. We therefore propose an adjustment to reduce contingency costs [redacted]
- The Risk Management Plan is reviewed and updated quarterly by the Risk Manager. The contingency provision included in the CAT (and set out in the table opposite) is based on the risk register at February 2021
- The Developer has provided a copy of the risk register as at February 2021. The total contingency provision per the February 2021 risk register has a net difference of [redacted] compared to the total contingency costs included in the CAT (with differences noted between contingencies for individual cost categories). However, the overall difference is not considered significant to investigate further and no adjustment is proposed to the costs included in the CAT

Contingencies (continued)

Contingencies (continued)

- The risk register provided shows a breakdown of the contingency amounts between the different aspects of the Transmission Assets as summarised below

Project common costs and development costs

- Contingencies of £[redacted] in relation to the project common costs and development costs have been made to cover risks related to:
  - [redacted]

Offshore substation platforms

- Contingencies of £[redacted] in relation to the offshore substation platforms have been made to cover risks related to:
  - [redacted]

Offshore export cables

- Contingencies of £[redacted] in relation to the offshore export cables have been made to cover risks related to:
  - OEC wrap up deal contingency of £[redacted]. Note this item has been identified by the Developer as no longer required therefore an adjustment has been proposed for this amount, see section 7
  - delays resulting from issues with onshore cable testing

Onshore export cables

- Contingencies of £[redacted] in relation to the onshore export cables have been made to cover risks related to:
  - [redacted]s

Contingencies (continued), global discounts, related party transactions and cost allocation

Contingencies (continued)

Onshore substation

- Contingencies of £[redacted] in relation to the onshore substation have been made to cover risks related to:
  - [redacted]
  - increase in costs due to requirement to dispose of excavated material off-site
- By the time of the Ex-Post Review, the value of the contingencies will fall to zero, as all costs will be known by this stage
- We have reviewed the risk provisions included within the list of contingencies in relation to the Transmission Assets, which appear reasonable provisions concerning the Transmission Assets at the time of the CAT submission, and the percentage of contingencies is not out of line with what we have seen on other projects. However, we consider that the assessment of the expected value of risks and of the likelihood of each event occurring fall within the scope of a technical assessment, rather than the Ex-Ante Review. On that basis, we cannot say whether these amounts which form the basis for the contingency provision are correct

Application of overriding global discounts

- [redacted]

Related party transactions

- The Developer has confirmed that the only related party transactions in the course of the project have been secondees and IT equipment/support

Cost allocation

- Where costs are not directly attributable to either the transmission or generation business (shared/indirect costs), the Developer has allocated costs to the Transmission Assets using various allocation rates depending on the cost driver
- The majority of costs are considered to be direct costs and are therefore allocated at [redacted]%. Where costs are not considered to be direct they are allocated using the allocation percentages set out against each cost element in the CAT. These are detailed below and on the following two pages

General allocation metric

- Where there is no other suitable allocation metric, the Developer has allocated costs using a general allocation metric. This has been calculated based upon the cost split between the generation and transmission assets. The transmission budget as per the Board Minutes of 8 November 2018 was £6[redacted] ([redacted]%) of the total construction budget of £[redacted]. Hence the rate of [redacted]% has been adopted as the general allocation metric throughout the CAT

Cost allocation (continued)

Cost allocation (continued)

General allocation metric (continued)

- We have verified the high level calculation of the allocation provided by the Developer for OFTO expenditure as a proportion of total construction expenditure at FID
- This methodology and resulting allocation rate is in line with the cost based allocation rate seen on previous projects

Cost driver specific allocation

OSP costs

- [redacted]. Whilst, the contract price schedule states the cost for the Transmission Assets separately, some of these costs were recorded jointly, as such these items have been allocated based on specific cost drivers within the contract and variations, as set out in the table below

SAP PO No.	Cost Description	% allocated to OFTO	Basis of allocation
[redacted]	EPCI Total - Early Spend Payment - EUR	[redacted]	[redacted]
[redacted]	EPCI Total - Early Spend Payment - GBP	[redacted]	[redacted]
[redacted]	EPCI Total - Early Spend Payment - USD	[redacted]	[redacted]
[redacted]	00130 MWE-GES-03-VAR-0000021 - Containerised Shipment of Jacket Tubulars	[redacted]	[redacted]
[redacted]	Remeasurement Tranche 2 Piles (Advance partial-payment against anticipated value of CPAA 1 once agreed) 8460001-04-P-08-CHG-000051	[redacted]	[redacted]

- Package specific Devex cost – the MOWEL project has two jacket designs, one for the WTG's jacket and one for the OSP's jacket. Therefore these costs have been allocated at 50% to the Transmission Assets
- Site investigation Devex cost – a geophysical survey of the whole site including the offshore export cable corridors was undertaken for unexploded ordinance and boulder clearances for. This cost has been allocated to the Transmission Assets at [redacted]% on the basis that no specific cost drivers are applicable

Submarine cables costs

- The only cost element above £[redacted] that is shared is for the boulder and debris displacement and relocation services. The technical specifications from this work show that [redacted] ([redacted]%) of the total [redacted] boulder locations were for the offshore export cable corridor. An allocation rate of [redacted]% has been used in the CAT. However, as the impact of the difference in allocation rate is not considered significant (£[redacted]), we have not proposed an adjustment proposed

Other costs

- Interface management Capex contracts have been allocated using the following rates

SAP PO No.	Cost Description	% allocated to OFTO	Basis of allocation
51027748/R1027748	Marine coordination	[redacted]	The construction schedule for transmission assets is considered to have a longer timeline, therefore a higher rate than the general allocation metric has been used
NA as ETC	CMS Staff	[redacted]	General allocation metric
NA as ETC	Marine base	[redacted]	General allocation metric
NA as ETC	Project procedures	[redacted]	General allocation metric
NA as ETC	Marine equipment	[redacted]	Based on historic cost data
NA as ETC	Marine coordination	[redacted]	Based on historic cost data

- No further methodology or supporting calculations were available for the allocation rates of [redacted]% and [redacted]%. As such, the Developer agreed that the general allocation rate of [redacted]% and we have proposed an adjustment to reflect this (see Appendix C)

Cost allocation (continued) and foreign exchange

Cost allocation (continued)

Cost driver specific allocation (continued)

- We note that the marine equipment and marine coordination costs allocated at [redacted]% are included in unsubstantiated costs and therefore no adjustment has been proposed in relation to the allocation rates applied to these costs
- Data buoys and met mast are used for the construction of both the generation and transmission assets. These costs have been allocated to the Transmission Assets at [redacted]% on the basis that no specific cost drivers are applicable
- Internal project management – costs included in the schedule of project management costs have been allocated at either [redacted]% where no other cost drivers are available or at [redacted]% where costs are considered to be shared equally
- We have verified the cost driver specific allocation rates included in the CAT have been calculated in line with the stated methodology (subject to those for which no supporting calculations were available which we have proposed an adjustment for as detailed in Appendix C)

Devex phase project management

- The allocation rate for Devex phase project management costs is [redacted]%, calculated as the total project management cost for the OFTO assets (as per the available data and Ofgem cost assessment guidelines) as a percentage of the total project management cost for the Capex phase of the project
- The Developer has provided us with high level workings of this [redacted]% rate. However, the level of detail is such that we are unable to verify the inputs to the calculation
- Further, the rate of [redacted]% is higher than we have seen on previous projects, therefore we recommend that Ofgem should discuss this cost allocation further with the Developer and instruct technical advisors to assess the reasonableness of the allocation rate applied
- Our review highlighted Devex phase project management costs in the CAT that had not been allocated at [redacted]%. As no supporting calculations were available for the rates used, we have proposed an adjustment to apply the [redacted]% rate as detailed in Appendix C

Proposed adjustment for allocation rates

- During our review we discussed the allocation rates with the Developer and as noted opposite, we agreed to propose an adjustment to apply the general allocation rate of [redacted]% where there were no supporting calculations for the rate used, or to apply the project management rate of [redacted]% to project management costs.
- For CR8 costs an adjustment for a total increase of £[redacted] has been proposed, as set out in Section 5 (and detailed in Appendix C). The difference relating to the remaining costs is £[redacted]. As this is not considered significant no adjustment has been proposed for the other CR categories

Foreign exchange

- Moray East has contracted with vendors in GBP, EUR and USD for both the Transmission Assets and the Generation Assets. The CAT includes the following costs which are payable in EUR and USD

Currency	Amount in original currency	Amount in GBP
EUR		[redacted]
USD		[redacted]

- On and from the financial close on 6 December 2018 MOWEL entered into forward contracts with [redacted] hedging banks for EUR and [redacted] for USD. The notional amounts were set to ensure that prior to the date upon which MOWEL were projected to make a payment under any contract listed below, MOWEL could exchange an amount in GBP for the amounts due to be paid in accordance with the forecasted payment profile
- The following contracts were hedged:

[redacted]

Foreign exchange (continued)

Foreign exchange (continued)

- The CAT uses a single exchange rate for EUR and USD of [redacted] and [redacted] respectively (as per the CAT exchange rates should be to 2 decimal places). These rates have been calculated as a weighted average of the hedged rates as per the below table

Foreign exchange costs

Hedging Service Provider	Currency	OFTO Notional	Hedged Rate
Santander	EUR	[redacted]	0.90682
SMBC	EUR	[redacted]	0.90730
NAB	EUR	[redacted]	0.90752
CA-CIB	EUR	[redacted]	0.90752
SocGen	EUR	[redacted]	0.90802
Total - EUR	**EUR**	[redacted]	**0.90739**
Natixis	USD	[redacted]	1.33150
NAB	USD	[redacted]	1.33140
CA-CIB	USD	[redacted]	1.33130
Santander	USD	[redacted]	1.33124
Total - USD	**USD**	[redacted]	**1.33135**

- Any foreign currency payments not forecasted in the payment profile, e.g. variations, claims, payments under contracts not listed on the previous page (including Devex contracts), are paid on spot rates and exposed to foreign exchange variances. Our verification work in relation to these costs has involved us agreeing the invoice amounts to the SAP amounts in the original currency and reviewing the spot rates used for reasonableness
- Subject to our observations included in the executive summary, we consider the approach taken by the Developer in relation to the costs incurred in foreign currencies, with a focus on mitigating the impact of foreign currency movements, to be reasonable

Section 5: Project common costs and development costs

Project common costs and development costs

CR8 – project common costs

Costs overview	£
Construction	[redacted]
Anticipated Future Claims	[redacted]
HV Commissioning contracts	[redacted]
Quality Contracts	[redacted]
Site Investigations Contracts	[redacted]
OPCO Contracts	[redacted]
Interface Management Contracts	[redacted]
O&M During Construction contracts	[redacted]
Data Bouys	[redacted]
Estimated Costs to complete	[redacted]
Internal Project Management	[redacted]
Devex contracts	[redacted]
Insurances	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs that are common to the project as a whole, which have been allocated to the Transmission Assets, together with the early development costs related to the Transmission Assets

Verification work

- Our verification work in relation to the project common costs is set out in Appendix C
- Based upon our review, subject to our observations in relation to the allocation rates and resources costs as further detailed in section 4, we have been able to agree project common costs and development costs totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of £[redacted] (6.87%) to be removed from the CAT, which have been included in the table of adjustments on the following two pages
- The Developer has been unable to provide supporting documentation for [redacted] costs and development costs of £[redacted] ([redacted]%), and these are included within the list of unsubstantiated costs set out in the executive summary
- The remaining £[redacted] ([redacted]%) of project common costs and development costs comprises costs below £100,000 which fall outside the scope of our review
- Our review has identified additional costs to be included in the CAT of £[redacted], which have been included in the table of adjustments on the next page

Conclusion

- Based upon our review, subject to the amendments highlighted in the table on the next page, our comments in relation to allocation rates and the unsubstantiated costs, as detailed in the executive summary, the project common costs and development included in the CAT appear to be appropriately stated

Project common costs and development costs (continued)

CR8 adjustments

Project common costs and development costs (continued)

CR8 adjustments (continued)

£	£ adjustment	Reasons for adjustment	Revised CAT amount £
[redacted]			

Section 6: Offshore substation

Offshore substation costs

CR2 – Offshore substation costs

Costs overview	£
OSP Substructure - [redacted]	[redacted]
OSP Substructure - [redacted]	[redacted]
OSP Substructure - [redacted]	[redacted]
OSP Substructure - [redacted]	[redacted]
OSP Substructure - [redacted]	[redacted]
OSP Topside & Electrical System - [redacted]	[redacted]
OSP Topside & Electrical System - [redacted]	[redacted]
OSP Topside & Electrical System - [redacted]	[redacted]
Internal Project Management	[redacted]
Devex Contracts	[redacted]
Contingency	[redacted]
Total	[redacted]

CR2 adjustments

£	£ adjustment	Reasons for adjustment	Revised CAT amount £
[redacted]			[redacted]
		[redacted]	
		[redacted]	
		[redacted]y	
[redacted]		[redacted]	[redacted]
[redacted]		[redacted]	
		[redacted]	
Total	[redacted]		

Overview

- The table above summarises the costs of construction of the offshore substation and associated works

Verification work

- Our verification work in relation to the offshore substation costs is set out in Appendix D
- Based upon our review, subject to our observations in relation to resources costs as further detailed in section 4, we have been able to agree offshore substation costs totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of £[redacted] ([redacted]%) to be removed from the CAT, which has been included in the table of adjustments opposite
- The remaining £[redacted] ([redacted]%) of offshore substation costs comprise costs below £100,000 which fall outside the scope of our review
- Our review has identified additional costs to be included in the CAT of £[redacted], which has been included in the table of adjustments above

Conclusion

- Based upon our review, subject to the amendments highlighted in the table above, the offshore substation costs included in the CAT appear to be appropriately stated
- Whilst most offshore substation costs appear to be appropriately stated, the table above has highlighted two items where the amount included in the CAT requires amendment

Section 7: Submarine cable supply and installation

Submarine cable supply and installation costs

CR3 – Submarine cable supply and installation costs

Costs overview	£
Main Contract - [redacted]	[redacted]
Variations - [redacted]	[redacted]
Other Contracts & Variations	[redacted]
Estimated Costs to complete	[redacted]
Internal Project Management	[redacted]
Devex contracts	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs associated with the supply and installation of the submarine cable

Verification work

- Our verification work in relation to the submarine cable supply and installation costs is set out in Appendix E
- Based upon our review, subject to our observations in relation to the resources costs as further detailed in section 4, we have been able to agree submarine cable supply and installation costs totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of £[redacted] ([redacted]%) to be removed from the CAT. These have been included in the table of adjustments opposite
- The remaining £[redacted] ([redacted]%) of submarine cable supply and installation costs comprises costs below £100,000 which fall outside the scope of our review
- Our review has identified additional costs to be included in the CAT of £[redacted]. These have been included in the table of adjustments opposite

CR3 adjustments

£	£ adjustment	Reasons for adjustment	Revised CAT amount £
[redacted]			[redacted]
	[redacted]	[redacted]	
	[redacted]	[redacted]	
	[redacted]	[redacted]	
	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	
	[redacted]	[redacted]	
Total	[redacted]		

Conclusion

- Based upon our review, subject to the amendments highlighted in the table above, the submarine cable supply and installation costs included in the CAT appear to be appropriately stated

Section 8: Land cable supply and installation costs

Land cable supply and installation costs

CR4 – Land cable su i allation costs

Costs overview	£
Main Contract - [redacted]	[redacted]
Variations	[redacted]
Minor contract - Ove Arup & Partners	[redacted]
Estimate Costs to complete	[redacted]
Dev ex contracts	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs associated with the supply and installation of the land cable

Verification work

- Our verification work in relation to the land cable supply and installation costs is set out in Appendix F
- Based upon our review, we have been able to agree land cable supply and installation costs totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of £[redacted] ([redacted]%) to be removed from the CAT. These have been included in the table of adjustments opposite
- The remaining £[redacted] ([redacted]%) of land cable supply and installation costs comprises costs below £100,000 which fall outside the scope of our review

CR4 adjustments

	£	£ adjustment	Reasons for adjustment	Revised CAT amount £
[redacted]				
Total				

Conclusion

- Based upon our review, subject to the amendments highlighted in the table above, the land cable supply and installation costs included in the CAT appear to be appropriately stated

Section 9: Onshore substation costs

Onshore substation costs

CR5 – Onshore substation costs

Costs overview	£
Main Contract - [redacted]	[redacted]
Variations	[redacted]
Estimated Costs to complete	[redacted]
Internal Project Management	[redacted]
Devex contracts	[redacted]
Contingency	[redacted]
Total	[redacted]

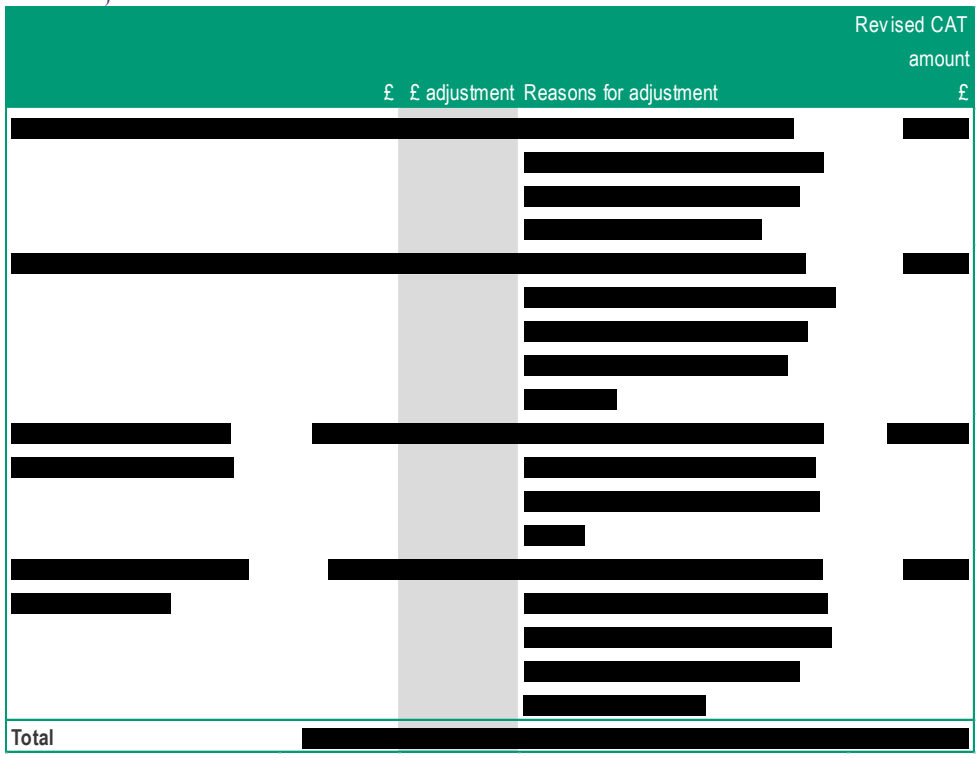
Overview

- The table above summarises the costs of construction of the onshore substation and associated works

Verification work

- Our verification work in relation to the onshore substation costs is set out in Appendix G
- Based upon our review, subject to our observations in relation to resources costs as further detailed in section 4, we have been able to agree onshore substation costs totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of £[redacted] ([redacted]%) to be removed from the CAT. These have been included in the table of adjustments opposite
- The remaining £[redacted] ([redacted]%) of onshore substation costs comprises costs below £100,000 which fall outside the scope of our review
- Our review has identified additional costs to be included in the CAT of £[redacted]. These have been included in the table of adjustments opposite

CR5 adjustments



Conclusion

- Based upon our review, subject to the amendments highlighted in the table above and the unsubstantiated costs, as detailed in the executive summary, the onshore substation costs and development included in the CAT appear to be appropriately stated

Section 10: Reactive substation costs

Reactive substation costs

CR6 – Reactive substation costs

Costs overview	£
Main Contract - [redacted]	
	[redacted]

Overview

- The table above summarises the costs incurred for the reactive substation

Verification work

- Our verification work in relation to the reactive substation costs is set out in Appendix H
- Based upon our review, we have been able to agree all reactive substation costs totalling £[redacted] ([redacted]%) to supporting documentation, with no issues arising

Conclusion

- Based upon our review the reactive substation costs included in the CAT appear to be appropriately stated

Section 11: Connection costs

Connection costs

CR7 – Connection costs

Costs overview	£
Main Contract - [redacted]	[redacted]
Estimated Costs to complete	[redacted]
Devex contracts	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs incurred connecting the Transmission Assets to the National Grid

Verification work

- Our verification work in relation to the connection costs is set out in Appendix I
- Based upon our review, we have been able to agree connection costs, totalling £[redacted] ([redacted]%) to supporting documentation
- We have identified costs of [redacted] ([redacted]%) to be removed from the CAT. This has been included in the table of adjustments opposite
- The Developer has been unable to provide supporting documentation for connection costs of £[redacted] ([redacted]%), and this is included within the list of unsubstantiated costs set out in the executive summary
- The remaining £[redacted] ([redacted]%) of connection costs comprises costs below £100,000 which fall outside the scope of our review

CR7 adjustments

	£	£ adjustment	Reasons for adjustment	Revised CAT amount £
[redacted]	[redacted]			[redacted]
[redacted]			[redacted]	
[redacted]			[redacted]	
Total	[redacted]			[redacted]

Conclusion

- Based upon our review, subject to the amendment highlighted in the table above and the unsubstantiated costs, as detailed in the executive summary, the onshore substation costs and development included in the CAT appear to be appropriately stated

Section 12: Transaction costs

Transaction costs

CR9 – Transaction costs

Costs overview	£
[redacted]	
Total	[redacted]

Overview

- The table above summarises the transaction costs incurred in connection with the Transmission Assets

Verification work

- Our verification work in relation to the transaction costs is set out in Appendix J
- Based upon our review, subject to our observations in relation to the resources costs as further detailed in section 4, we have been able to agree transaction costs totalling £[redacted] ([redacted]%) to supporting documentation
- However the Developer has been unable to provide supporting documentation for t[redacted] of £[redacted] ([redacted]%). This relates to one item, '[redacted] as indicated by Ofgem' and this cost is included within the list of unsubstantiated costs set out in the executive summary
- The remaining £[redacted] ([redacted]%) of transaction costs comprises costs below £100,000 which fall outside the scope of our review

Conclusion

- Based upon our review, subject to our observations above regarding the unsubstantiated costs, the transaction costs included in the CAT appear to be appropriately stated

Appendices

A.	Restrictions on circulation, disclosures of interest, forms of report and information relied on
B.	Summary of key contracts tender process and award
C.	Project common costs and development costs verification work
D.	Offshore substation costs verification work
E.	Submarine cable supply and installation costs verification work
F.	Land cable supply and installation costs verification work
G.	Onshore substation costs verification work
H.	Reactive substation costs verification work
I.	Connection costs verification work
J.	Transaction costs verification work

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

Restriction on circulation

- Grant Thornton does not accept or assume responsibility, duty of care, liability or other obligation to any third party other than Ofgem who, as a result, either directly or indirectly, of disclosure of the whole or any part of this report by Ofgem, receives, reads or otherwise obtains access to this document. Any party relying on this report does so entirely at their own risk
- 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:
  - Moray East Information Memorandum 2020
  - information contained in the Ofgem developer data room for the Moray East project
  - information and explanations provided to us by the Developer. This includes a virtual meeting with the Developer on 23 April 2021 to discuss the Transmission Assets and email correspondence with the Developer

B. Summary of key contracts tender process and award

Introduction

- As set out in section 3, one of the main tools used by the Developer in achieving value for money and highest compliance to requirements is the use of a competitive tendering process for the main elements of construction of the Wind Farm
- In this section, we summarise the tender award process for the key capital components of the Transmission Assets

Contract award for OSP (topside platforms) and Onshore Works

- The following suppliers participated in the RFP1:
  - joint working agre[redacted]
  - Siemens
- The cost comparison (for a project with TEC of 504MW and two export circuits), is shown in the below table

Package	[redacted]	[redacted]	Siemens	[redacted]	[redacted]
	[redacted]	[redacted] £		[redacted]	[redacted]
		[redacted] £		[redacted]	£
		£			
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

- As per the table opposite, the [redacted] were unable to offer the overall electrical design and the OSP, as such their bid was non-compliant and they were removed from the process for RFP2. [redacted] were included on the supplier list for RFP2, however they withdrew from the process as [redacted]. Therefore for the RFP2 stage, the remaining suppliers were the [redacted] and Siemens
- At this stage significant Capex differences were noted between Siemens and the other bidders. As such, [redacted] were asked to propose cost reductions

Package	Siemens	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted] £	[redacted]	[redacted]
				£	
Onshore works	[redacted]				
OSP including jackets and transport & installation	[redacted]				
Total	[redacted]				

- As per the above table, [redacted]. They were therefore removed from the process and [redacted] and Siemens were asked to submit BAFOs. These were evaluated as follows:

	[redacted]	Siemens
	£	£
[redacted]		
[redacted]		
[redacted]		
[redacted]		
Total Capex	[redacted]	0

B. Summary of key contracts tender process and award (continued)

Contract award for OSP (topside platforms) and Onshore Works (continued)

- The technical normalisation of the offers, as per the table on the previous page, was applied to ensure that the offers could be compared on a like-for-like basis, for example in relation to the scope offered. The main aspects of this were:
  - inclusion of weather downtime for the transport and installation of the OSP in the [redacted]
  - [redacted] onshore cable route offer was adjusted to include missing scope
  - [redacted] was adjusted to allow for crew transfer vessels and jacket pile sleeves
- Subsequently, Siemens were recommended as the preferred bidder for the following reasons:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- As noted on page 19, the bids were based on a project with a TEC of 504MW with two export circuits. This was optimised to TEC of 900MW with three export circuits which allowed for further reduction of the LCoE in collaboration with the preferred bidder. The EPCI contracts were signed on the basis of the final project capacity
- The PBA entered into with Siemens included contractual mechanisms to control the update of the EPCI contract price based on the final project capacity. These mechanisms were exercised, and further negotiations completed, prior to signing the EPCI contract

Contract award for Offshore Export Cables

- The following suppliers participated in the RFP1:
  - ABB Karlskrona (now acquired by NKT)
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- [redacted] were not taken forward to RFP2. The [redacted] proposal was considered unacceptable from a logistical and installation risk perspective, however they were asked to reconsider their proposed vessels and methodologies and invited to tender for RFP2 to maximise competition

B. Summary of key contracts tender process and award (continued)

Contract award for Offshore Export Cables (continued)

- The cost comparison for the three compliant bidders at RFP1 (for a project with TEC of 504MW and two export circuits) are shown in the below table (note the below table does not include technical normalisation):

Scope	[redacted] £	[redacted] £	ABB Karlskrona £
[redacted]			
Total	[redacted]		

- As noted previously, these suppliers were retained in the process for RFP2 and submitted the following bids (for a project with TEC of 504MW and two export circuits):

Scope	[redacted] £	[redacted] £	ABB Karlskrona £
[redacted]			
Total	[redacted]		

- The installation solution presented by [redacted]
- Based on the evaluation of RFP2 bids, ABB [redacted] were asked to submit BAFOs. A summary of these offers is shown below:

Scope	[redacted] £	ABB Karlskrona £
[redacted]		
Total	[redacted]	6

- Following evaluation of the BAFOs, ABB were recommended as the preferred bidder for the following reasons:
  - [redacted]

B. Summary of key contracts tender process and award (continued)

Contract award for Offshore Export Cables (continued)

- the installation solution presented by [redacted] did not address the concerns raised by Moray East following the RFP1 evaluation

- The PBA and EPCI contract for offshore export cables were signed on the basis of the final project capacity (TEC of 900MW and three export circuits). The preferred bidder submitted an updated offer for the final project capacity and further negotiations completed prior to signing the PBA

C. Project common costs and development costs verification work

Construction

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Construction (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost v
[redacted]					

C. Project common costs and development costs verification work (continued)

Construction (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Construction (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Construction (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Construction (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

Anticipated Future Claims

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

HV Commissioning contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

HV Commissioning contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Quality Contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	[redacted]
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

Site Investigations Contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

OPCO Contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

OPCO Contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

Interface Management Contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Interface Management Contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Interface Management Contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

O&M During Construction contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Data Bouys

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
[redacted]				[redacted]	[redacted]
Total	[redacted]				

Estimated Costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					[redacted]
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

Internal Project Management

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Internal Project Management (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

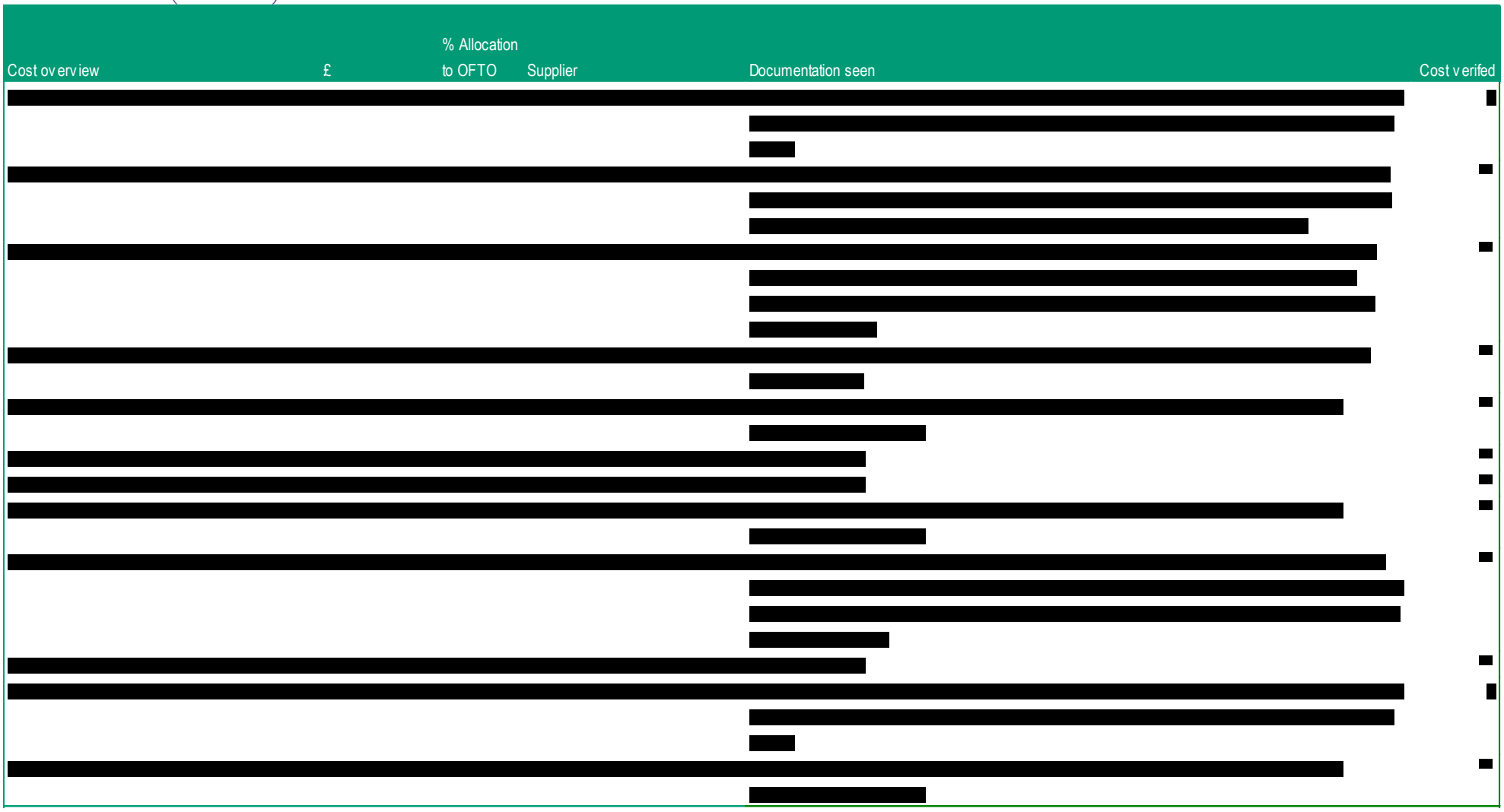
C. Project common costs and development costs verification work (continued)

Devex contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

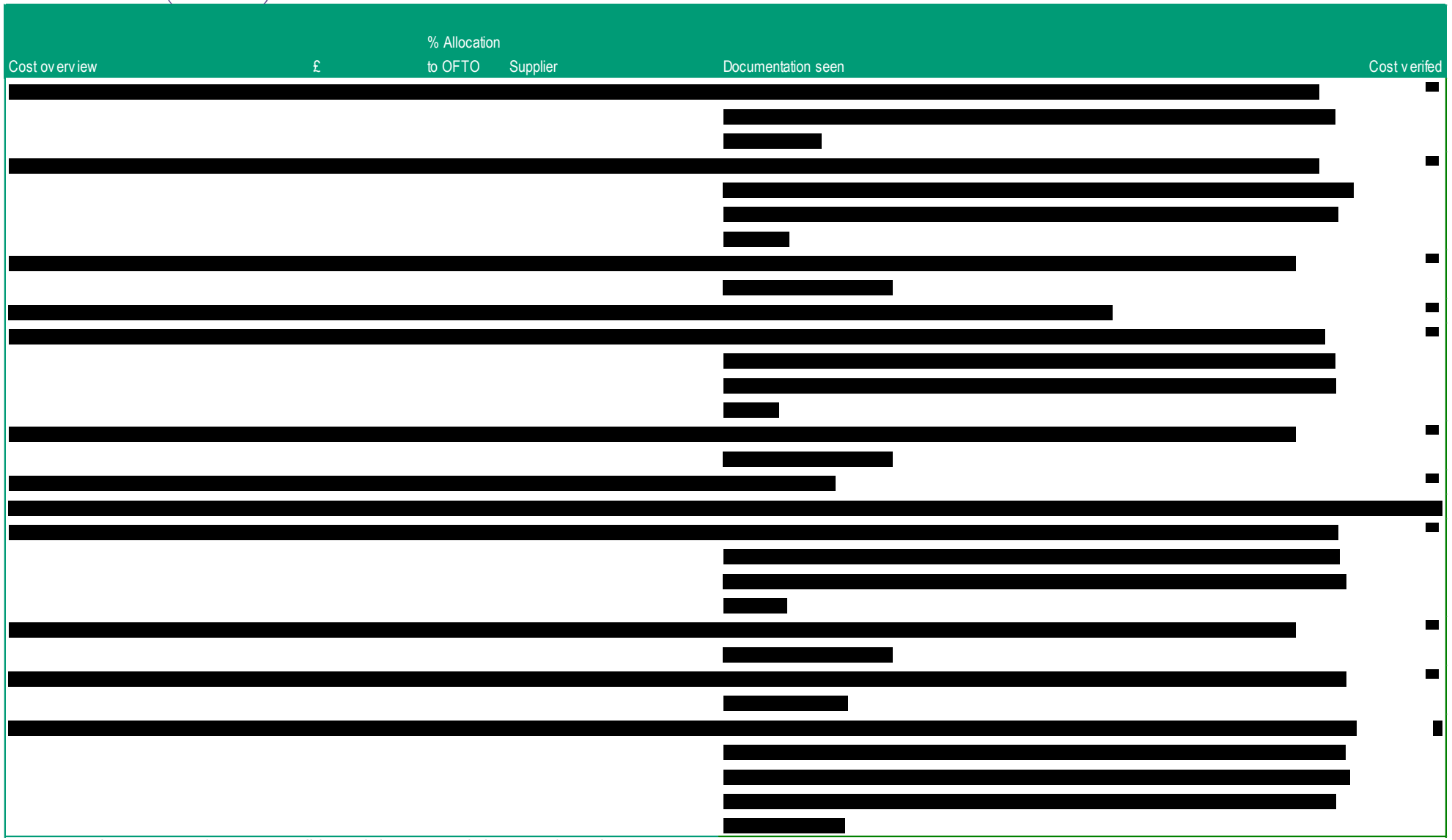
C. Project common costs and development costs verification work (continued)

Devex contracts (continued)



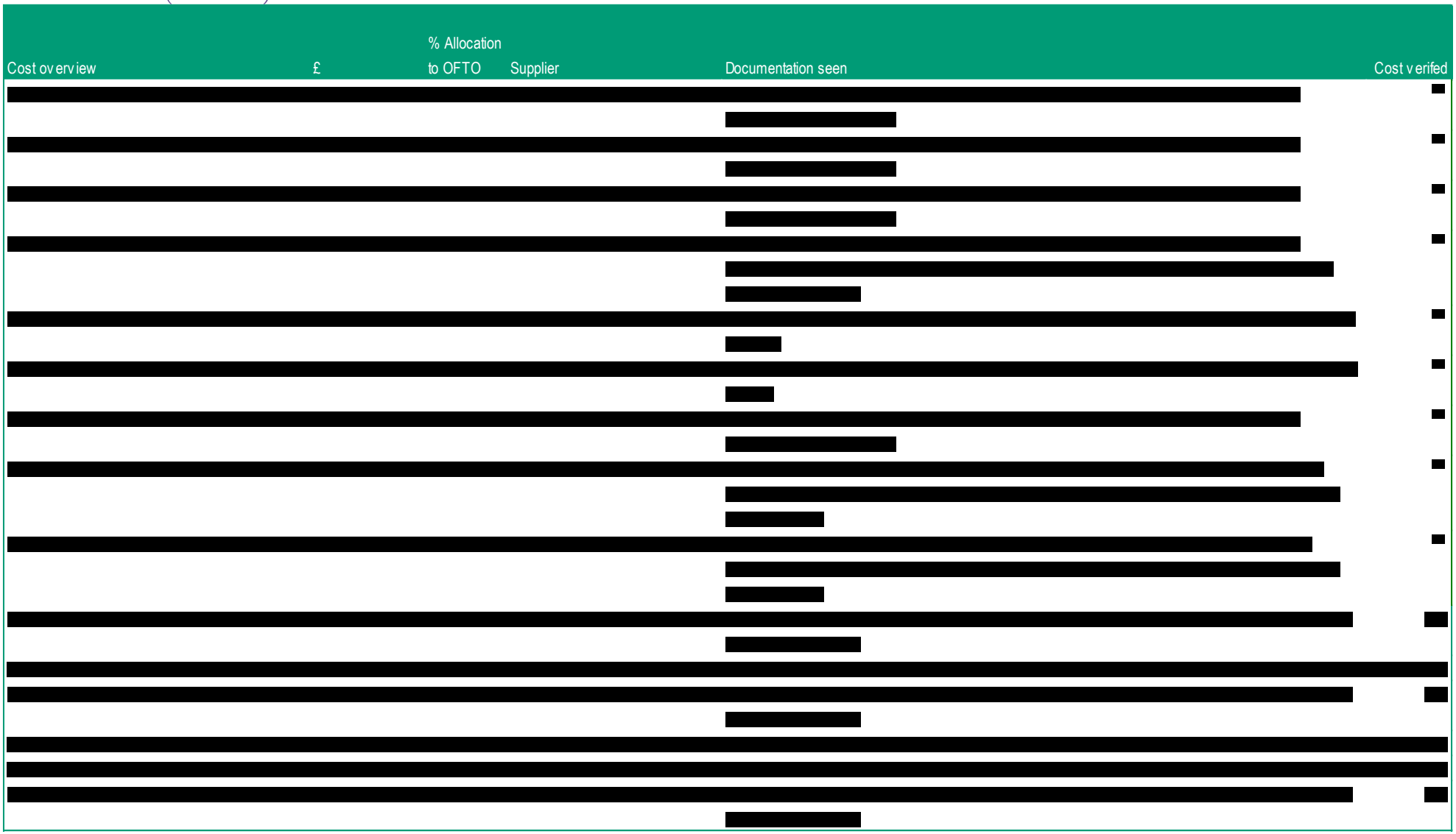
C. Project common costs and development costs verification work (continued)

Devex contracts (continued)



C. Project common costs and development costs verification work (continued)

Devex contracts (continued)



C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

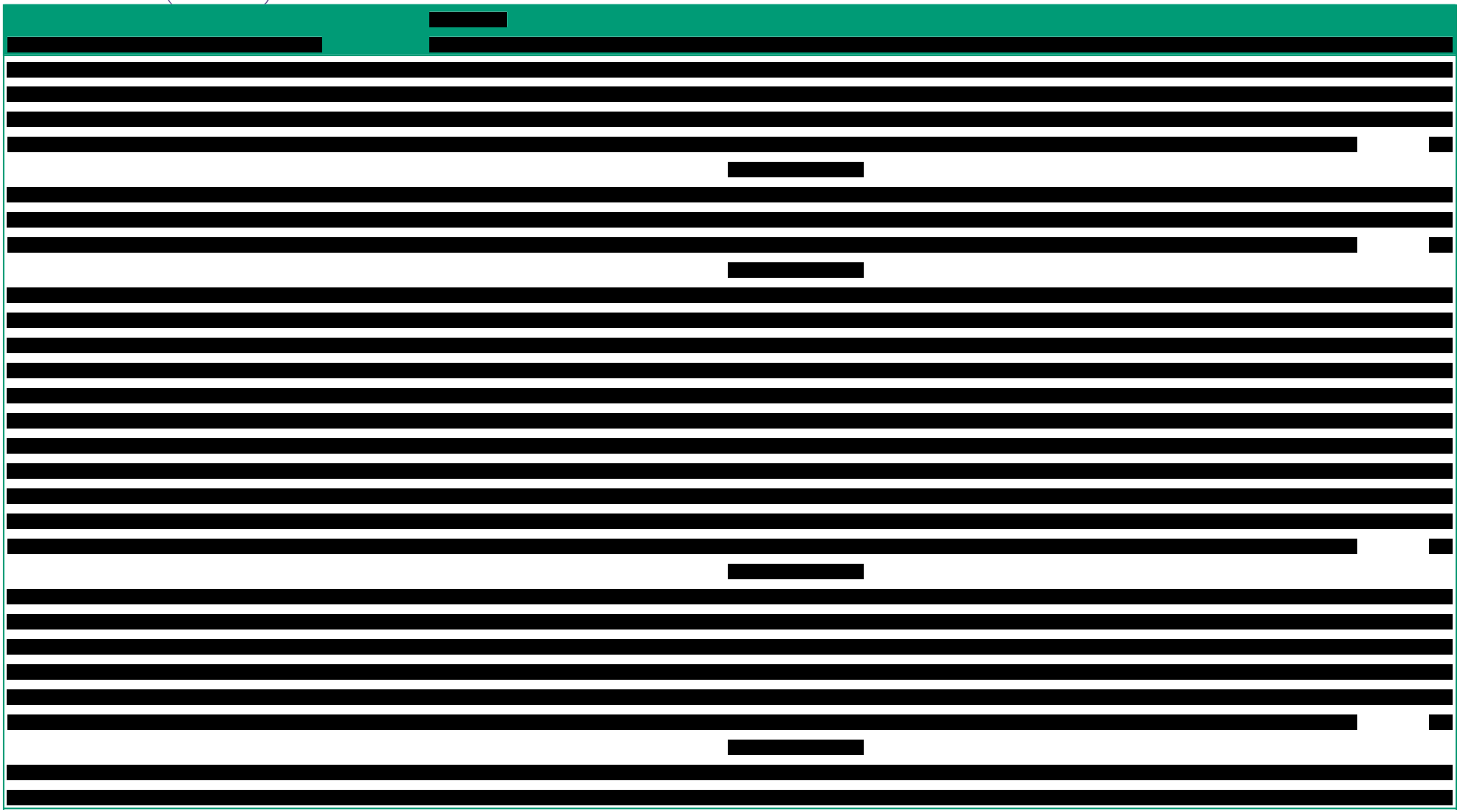
C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)



C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

C. Project common costs and development costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

C. Project common costs and development costs verification work (continued)

Insurances

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Contingency

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

D. Offshore substation costs verification work

OSP Substructure - Main Contract -GSMEC

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

OSP Substructure - Variations

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

D. Offshore substation costs verification work (continued)

OSP Substructure - Variations (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

OSP Substructure - Minor contract - Global Maritime

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

OSP Substructure - Minor Contract - DNV-GL

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

D. Offshore substation costs verification work (continued)

OSP Substructure - Estimated costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

OSP Topside & Electrical System - Main Contract - Siemens

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

D. Offshore substation costs verification work (continued)

OSP Topside & Electrical System - Variations

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

D. Offshore substation costs verification work (continued)

OSP Topside & Electrical System - Variations (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total					

D. Offshore substation costs verification work (continued)

OSP Topside & Electrical System - Estimated Costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Internal Project Management

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

D. Offshore substation costs verification work (continued)

Devex Contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

D. Offshore substation costs verification work (continued)

Devex Contracts (continued)

Cost overview	£	% Allocation to OFTO	% Allocation to Supplier	Documentation seen	Cost verifed
[redacted]	[redacted]				
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

Contingency

Cost overview	£	% Allocation to OFTO	% Allocation to Supplier	Documentation seen	Cost verifed
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

E. Submarine cable supply and installation costs verification work

Main Contract -NKT

[redacted]

Variations - NKT

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total					

E. Submarine cable supply and installation costs verification work (continued)

Other Contracts & Variations

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total					

E. Submarine cable supply and installation costs verification work (continued)

Estimated Costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total					

Internal Project Management

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total					

E. Submarine cable supply and installation costs verification work (continued)

Devex contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Contingency

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

F. Land cable supply and installation costs verification work

Main Contract - Siemens Transmission

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]	[redacted]			[redacted]	[redacted]
[redacted]				[redacted]	
[redacted]				[redacted]	[redacted]
				[redacted]	
Total	[redacted]				

Variations

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]				[redacted]	[redacted]
				[redacted]	
				[redacted]	
[redacted]					
[redacted]					
[redacted]				[redacted]	[redacted]
				[redacted]	
Total	[redacted]				

Minor contract - Ove Arup & Partners

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Estimate Costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]				[redacted]	[redacted]
Total	[redacted]				

F. Land cable supply and installation costs verification work (continued)

Devex contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

F. Land cable supply and installation costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

F. Land cable supply and installation costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

F. Land cable supply and installation costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					

F. Land cable supply and installation costs verification work (continued)

Devex contracts (continued)

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Contingency

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

G. Onshore substation costs verification work

Main Contract - Siemens Transmission

Cost overview	£	% Allocation to OFTO	% Allocation to Supplier	Documentation seen	Cost verifed
[redacted]	[redacted]			[redacted]	[redacted]
[redacted]				[redacted]	
[redacted]				[redacted]	[redacted]
[redacted]				[redacted]	
[redacted]				[redacted]	[redacted]
[redacted]				[redacted]	
[redacted]				[redacted]	[redacted]
[redacted]				[redacted]	
[redacted]				[redacted]	[redacted]
[redacted]				[redacted]	[redacted]
[redacted]				[redacted]	[redacted]
Total	[redacted]				

Variations

Contract Overview	£	% Allocation to OFTO	% Allocation to Supplier	Documentation seen	Cost verifed
[redacted]					[redacted]
[redacted]					[redacted]
[redacted]					
[redacted]	[redacted]				[redacted]
[redacted]					
[redacted]					[redacted]
[redacted]					[redacted]
[redacted]					[redacted]
[redacted]					[redacted]
[redacted]				[redacted]	

G. Onshore substation costs verification work (continued)

Variations (continued)

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	
[redacted]	[redacted]
[redacted]	
Total	[redacted]

G. Onshore substation costs verification work (continued)

Estimated Costs to complete

Contract Overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Internal Project Management

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

G. Onshore substation costs verification work (continued)

Devex contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

Contingency

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

H. Reactive substation costs verification work

Main Contract - Siemens Transmission

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
[redacted]					
[redacted]					
[redacted]	[redacted]				
[redacted]					
[redacted]					
[redacted]					
[redacted]					
[redacted]					
Total	[redacted]				

I. Connection costs verification work

Main Contract - National Grid Electricity Transmission

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
[redacted]					
[redacted]					
[redacted]	[redacted]				
[redacted]					
Total	[redacted]				

Estimated Costs to complete

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]	[redacted]				
[redacted]				[redacted]	
				[redacted]	
Total	[redacted]				

I. Connection costs verification work (continued)

Devex contracts

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]				

J. Transaction costs verification work

Transaction costs

Cost overview	£	% Allocation to OFTO	Supplier	Documentation seen	Cost verifed
[redacted]					
Total	[redacted]