



**Ex-Post Cost Review of Rampion Offshore Wind Farm  
Transmission Assets**

**Report of Grant Thornton UK LLP  
dated 21 July 2021**

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# 1 EXECUTIVE SUMMARY

- 1.1 Grant Thornton UK LLP (Grant Thornton) has been instructed by the Office of Gas and Electricity Markets (Ofgem) to carry out a review of the ex-post cost information, prepared by the Developers, for the transmission assets (the Transmission Assets) of the Rampion Offshore Wind Farm (ROWF/ the Wind Farm), in accordance with our instructions set out in paragraph 1.3 below.
- 1.2 The Wind Farm is owned by E.ON (50.1%), Enbridge (24.9%) and UK Green Investment Rampion Limited (25%) (collectively the Developers). The Wind Farm is owned through the subsidiary Rampion Offshore Wind Limited (ROW) and its development is being managed by E.ON Climate & Renewables (EC&R) on behalf of ROW.
- 1.3 The review has sought to determine whether the Developers have procedures in place for managing directly and indirectly incurred costs, and to carry out certain testing on whether the Developers latest assessment of the costs of the Transmission Assets have been incurred as stated. Our review and this report is based upon the costs recorded the cost assessment template (CAT) provided to Ofgem on 8 July 2019 (the 8 July 2019 CAT). Further detail of our work is set out in **Section 3**, supplemented with **Appendices 1 to 11**, and is summarised as follows:
- establish the processes and policies undertaken by the Wind Farm for making payments for directly and indirectly incurred costs;
  - in relation to directly incurred costs, for selected contracts, trace expenditure through the purchasing and payments system and reconcile to the costs included on the invoice schedule to the 8 July 2019 CAT;
  - in relation to indirectly incurred costs, for a sample of transactions, trace expenditure through the accounting system, and confirm the amount allocated has been correctly applied in accordance with the stated allocation methodology, using appropriate metrics in respect of the costs between transmission and generation; and
  - compare the costs at 8 July 2019 to the Indicative Transfer Value (ITV) at 9 April 2018 and obtain explanations for significant variances arising between the costs at the two dates.
- 1.4 This report reflects the 8 July 2019 CAT together with information and explanations received by Grant Thornton up to and including 10 December 2019. Our report does not therefore reflect any information or the outcome of discussions held after that date.
- 1.5 The Developers have prepared cost templates setting out their assessment of the costs of the Transmission Assets throughout the development of the Wind Farm. We reviewed an earlier version of the cost template dated 9 April 2018 (the ex-ante review) which culminated in the submission of our draft report dated 11 December 2018. Our report was considered by Ofgem in establishing the project's ITV.

1.6 The 8 July 2019 CAT is summarised below:

#### Breakdown of Transmission Assets costs

	CAT Reference	9 April 2018 ITV £	8 July 2019 CAT £	Movement £
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Onshore cable supply and installation	CR4			
Onshore substation	CR5			
Connection contract costs	CR7			
General development (contingency, development costs)	CR8			
Total capital costs		284,726,189	305,644,320	20,918,132
Interest during construction		18,182,038	19,052,643	870,605
		<b>302,908,227</b>	<b>324,696,963</b>	<b>21,788,736</b>

1.7 The 8 July 2019 CAT reflects a net increase in the cost of the Transmission Assets of £21.8 million from the 9 April 2018 ITV. In relation to the overall increase of £21.8 million to the CAT, the principal increases and reasons are detailed below:

- an increase in costs of £17.75 million of costs that had been excluded in part or entirely by Ofgem at the ITV stage, but which were included in the FTV CAT. We recommend that Ofgem should review these previously disallowed costs to consider whether the grounds for their exclusion at the ITV stage are still applicable
- an increase in land agent costs of £2.29 million as a result of difficulties in the land cable reinstatement works
- an increase in project management costs of £2.7 million due to the duration of the project having increased.
- a decrease in contingency provision of £5.00 million
- a reduction in Hellenic cable installation costs of £4.74 million.

1.8 The full analysis of the above variances is presented at **Appendix 11**.

## SUMMARY OF FINDINGS

### The Wind Farm's payment processes

1.9 Ofgem has instructed us to establish the Wind Farm's processes for making payments to suppliers for directly and indirectly incurred costs.

- 1.10 The Developers have confirmed that most large value contracts for the Wind Farm were subject to a competitive tendering process, save for the Hellenic Cables and VBMS contracts which were procured directly due to time constraints. Based upon our review it appears the Developers have suitable systems in place for the approval and payment of invoices to contractors, including contract variations, and has further systems in place to ensure that, where appropriate, the allocation of costs between the Transmission and Generation Assets is properly recorded.

### **Directly incurred costs**

- 1.11 Ofgem has instructed us to carry out certain procedures (as detailed at paragraph 3.18) on the costs payable by the Wind Farm to:
- ABB
  - Babcock Marine Rosyth Limited (Babcock)
  - Assodivers Limited (ASSO)
  - Carillion Utility Services Limited (Carillion)
  - Scaldis Salvage & Marine Contractors NV (Scaldis)
  - VBMS
  - Hellenic Cables S.A. Hellenic Cable Industry S.A. (Hellenic)

- 1.12 The OFTO allocation of these contracts totalled £[REDACTED] million and represent [REDACTED]%<sup>1</sup> of the total capital costs. These procedures have been carried out as required and a summary of findings is set out below:

#### Summary of direct costs testing

Contract	Invoices paid £	Accrued costs £	Non-OFTO amount £	Immaterial difference £	Total per 8 July 2019 CAT £
ABB (RO-1051)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
Babcock (RO-1061)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
ASSO (RO-1533)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
Carillion (RO-1053)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
Scaldis (RO-1098)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
VBMS (RO-1532)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
Hellenic (RO-1395)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
Hellenic (RO-1519)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	100.0%
<b>Total</b>	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	<b>100.0%</b>

- 1.13 We have verified that invoices totalling £[REDACTED] million have been paid, representing 98.0%<sup>2</sup> of the selected contracted costs included in the 8 July 2019 CAT.

- 1.14 The accrued costs totalling £[REDACTED], representing 5.0% of the selected contract costs.

- 1.14.1 Whilst we have agreed the accrued costs for the ABB and Babcock contracts to supporting documentation, we understand that the amounts are subject to ongoing negotiation with the contractors, and therefore we recommend that Ofgem obtains an update from the Developers on amounts payable prior to setting the FTV

<sup>1</sup> [REDACTED]

<sup>2</sup> [REDACTED]

1.14.2 The Developers have confirmed that, for the Carillion contract an error was discovered in the VAT reported on the bank reconciliation which meant the costs in the CAT are over reported and accordingly a decrease in the Transmission Costs of £0.3 million is required.

1.15 Amounts not related to the Transmission Assets of £[REDACTED] million represent amounts paid to contractors which relate to the Generation Assets of the Wind Farm which are retained by the Developers.

### Indirectly incurred costs

1.16 Ofgem has instructed us to carry out certain procedures (as detailed in paragraph 3.24) in relation to a sample of indirect costs payable by the Wind Farm.

#### *Project management support services costs*

1.17 We have been provided with a list of internal E.ON employees who have a contract with ROW to manage the construction of the Wind Farm and a list of external contractors who have formed the project management team on behalf of ROW.

1.18 We selected a sample of five individuals for us to verify costs to underlying records. The Developers have provided details from these five employees' actual timesheet records. We have traced these to the invoices being raised, posted on the system and paid.

1.19 Costs have been allocated to the Transmission Assets based upon the time spent between the transmission and generation businesses by the Developers' staff and the external contractors who worked on the Wind Farm development. Resource costs have been allocated to the Transmission Assets based upon the amount of time that each employee has estimated they have spent on the Transmission Assets. Of total resource costs, 47% were allocated to the Transmission Assets. This is an increase from the ITV stage, where 35% of resources costs were allocated to the Transmission Assets.

1.20 Our testing in relation to indirect costs (on a random sample of five employees) is summarised below:

#### Summary of indirect costs testing

	Function [internal/external]	December 2018 Net cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
[REDACTED]	Internal	[REDACTED]	✓	✓	✓
	Internal		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓
		[REDACTED]			

## CONCLUSIONS

- 1.21 Our review of the Wind Farm's processes and procedures has indicated that the Developers have suitable policies for the approval and payment of goods and services received, including for the allocation of costs where appropriate between the Transmission and Generation Assets.
- 1.22 On the basis of our review of the information and the explanations received to date in relation to the sample of directly and indirectly incurred costs that we have been asked to review, we can confirm that they are:
- supported by invoices, ledgers and bank statements that indicate that they have been incurred or are due; and
  - that the relevant cost is included within the 9 July 2019 CAT.
- 1.23 This is subject to the cost of the Transmission Assets being adjusted as per the table below:

### Impact of cost assessment

	CAT reference	Ref	£
Cost of Transmission Assets per CAT (excluding IDC)			305,644,320
Carillion contract value overclaimed due to bank reconciliation error	CR4	App 1; 1.26	■
Swire Blue Ocean costs double counted	CR2	App 11; 11.11	■
AXA CAR insurance costs incorrectly including business interruption costs	CR8	App 11; 11.49	■
Total adjustments			(1,606,656)
<b>Revised cost of Transmission Assets</b>			<b>304,037,664</b>

- 1.24 In addition, we recommend that Ofgem should:
- review the costs that it had previously disallowed at the ITV stage, but which were included in the FTV CAT, to consider whether the grounds for their exclusion at the ITV stage are still applicable
  - obtain an update from the Developers regarding the unpaid amounts of the ABB and Babcock contracts to assess whether an adjustment is required to reflect the final agreed position.

*Grant Thornton UK LLP*

**Grant Thornton UK LLP**

**London**

**21 July 2021**



## 2 INTRODUCTION

### INSTRUCTIONS

- 2.1 Grant Thornton has been instructed by Ofgem to prepare a report on our review of the cost information and 8 July 2019 CAT for the Transmission Assets of the Wind Farm, prepared for Ofgem by the Developers (the ex-post review). This review is limited to the procedures set out in more detail in **Section 3**, and in particular to a sample of costs which have been selected by Ofgem.
- 2.2 Throughout the development of the Wind Farm, Ofgem has required the Developers to submit cost templates which set out both the estimated and actual costs that will be or have been incurred in relation to the Transmission Assets.
- 2.3 In Summer 2018, we conducted reviews of the cost template for the Transmission Assets, based upon the cost template submitted to Ofgem dated 9 April 2018 (the ex-ante review). At this stage, although construction of the Transmission Assets was well under way, as there remained a degree of uncertainty over a number of costs, a contingency provision of £ [REDACTED] (which equated to [REDACTED]%<sup>3</sup> of the pre-contingency capital costs) was included in the Grant Thornton ex-ante report.
- 2.4 Further to the ex-ante review, Ofgem set the ITV in February 2019. This was based upon the Transmission Assets costs included in our draft report (dated 11 December 2018), and adjusted for particular issues that had been highlighted in our draft report and through Ofgem's review as follows:

#### Breakdown of Transmission Assets costs

		11 December 2018 Grant Thornton ex-ante report £	Ofgem reallocations £	Adjustments per Grant Thornton ex-ante report £	Ofgem ex-ante adjustments £	9 April 2018 ITV £
Offshore substation	CR2	[REDACTED]				
Submarine cable supply and installation	CR3	[REDACTED]				
Onshore cable supply and installation	CR4	[REDACTED]				
Onshore substation	CR5	[REDACTED]				
Connection contract costs	CR7	[REDACTED]				
General development (contingency, development costs)	CR8	[REDACTED]				
Total capital costs		362,726,188	-	(1,600,000)	(76,400,000)	284,726,189
Interest during construction		25,304,664	-	-	(7,122,626)	18,182,038
		<b>388,030,852</b>	-	<b>(1,600,000)</b>	<b>(83,522,626)</b>	<b>302,908,227</b>

<sup>3</sup> [REDACTED]

- 2.5 This report reflects the 8 July 2019 CAT together with information and explanations received by Grant Thornton up to and including 10 December 2019. Our report does not therefore reflect any information, or the outcome of discussions held after that date.
- 2.6 The construction of the Transmission Assets is complete and the Wind Farm became fully operational in late 2018.
- 2.7 The main purpose of the ex-post review of the Wind Farm's Transmission Assets is to determine whether a sample of costs, selected by Ofgem, which have been included within the 8 July 2019 CAT prepared by the Developers for the Transmission Assets, are appropriately stated, and whether selected costs not directly attributable to either the generation or transmission businesses have been allocated to the Transmission Assets on a reasonable basis. In particular we have been asked to:
- establish the processes and policies undertaken by the Wind Farm for making payments to suppliers for directly and indirectly incurred costs;
  - in relation to directly incurred costs, for selected contracts, trace expenditure from the cash flow schedule to the contract, the invoice, the accounting ledgers of the Wind Farm, and to the bank statements, and reconcile the costs included on the invoice schedule to the 8 July 2019 CAT;
  - in relation to indirectly incurred costs, for a sample of transactions, trace from the 8 July 2019 CAT to journal entries made on the accounting system, and confirm the amount allocated has been determined as prescribed in the cost allocation methodology that the Developers have indicated, using appropriate metrics in respect of the allocation of costs between transmission and generation; and
  - compare the costs at 8 July 2019 to the ITV and obtain explanations for variances between the costs at the two dates.
- 2.8 If further information is produced and brought to our attention after service of this report, we reserve the right to revise our opinions as appropriate.
- 2.9 This work does not constitute an audit performed in accordance with Auditing Standards.
- 2.10 Except to the extent set out in this report, we have relied upon the documents and information provided to us as being accurate and genuine. To the extent that any statements we have relied upon are not established as accurate, it may be necessary to review our conclusions.
- 2.11 The report has been prepared using Microsoft Word and Microsoft Excel. The report may contain minor rounding adjustments due to the use of computers for preparing certain calculations.

## **RESTRICTION ON CIRCULATION**

- 2.12 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.
- 2.13 In the preparation of this 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 (i) Ofgem is fully entitled to disclose such information to us for inclusion within our report, free of any third party rights or obligations and (ii) 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 the material should be addressed to Ofgem. Accordingly, Grant Thornton acknowledge no duty or obligation whatsoever to any party in connection to the inclusion in the report of any material referring to any third party material or the accuracy of such material.

## **DISCLOSURES OF INTEREST**

- 2.14 To the best of our knowledge, we have no connection with any of the parties or advisors involved in the Wind Farm development that would in any way impact upon our independence in preparing this report.

## **FORMS OF REPORT**

- 2.15 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.

### 3 THE ROWF EX-POST REVIEW

#### INTRODUCTION

- 3.1 The Wind Farm is owned by E.ON (50.1%), Enbridge (24.9%) and UK Green Investment Rampion Limited (25%) (collectively the Developers). The Wind Farm is owned through the subsidiary Rampion Offshore Wind Limited (ROW) and its development is being managed by E.ON Climate & Renewables (EC&R) on behalf of ROW.
- 3.2 The Wind Farm is situated approximately 13km from the Sussex coast in England and covers an area of approximately 72Km<sup>2</sup>, in water depths of 19-40m. It has been in development since 2008 and was awarded a Development Consent Order in July 2014 under the Planning Act.
- 3.3 The Wind Farm consists of an OSP, two 150kV undersea offshore export cables of approximately 17km, two sets of 150kV onshore underground cables of approximately 27km, a new ONSS at Twineham and two 400kV cables connecting the ONSS to the existing 400kV NGET substation at Bolney.
- 3.4 The Developers have confirmed that the ownership structure of the Wind Farm has not changed from our ex-ante report, albeit we understand that EC&R has recently been acquired by RWE.

#### INFORMATION PROVIDED

- 3.5 Grant Thornton has relied upon the following information in reviewing the cost assessment for the Wind Farm's Transmission Assets:
  - the 8 July 2019 CAT, which includes actual costs incurred up to July 2019 and accrued costs that will be incurred from that date up to the closing out of all contracts, together with a list of variances between the April 2018 ITV (as detailed at paragraph 2.4 above) and the 8 July 2019 CAT;
  - schedules of invoices prepared for the contracts selected for review by Ofgem, together with copies of contract documentation, invoices, bank statements and ledgers showing payments of the invoices recorded;
  - schedules providing supporting information for the internal project management costs with copies of invoices and bank statements showing payments of the related invoices; and
  - information and explanations provided to us by the Developers. This included discussions and email correspondence with staff responsible for the preparation of the 8 July 2019 CAT.

#### EX-POST REVIEW

- 3.6 The main purpose of the ex-post review is as set out in **Section 2**.

3.7 The 8 July 2019 CAT for the Transmission Assets of the Wind Farm is summarised below:

#### Breakdown of Transmission Assets costs

	CAT Reference	9 April 2018 ITV £	8 July 2019 CAT £	Movement £
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Onshore cable supply and installation	CR4			
Onshore substation	CR5			
Connection contract costs	CR7			
General development (contingency, development costs)	CR8			
Total capital costs		284,726,189	305,644,320	20,918,132
Interest during construction		18,182,038	19,052,643	870,605
		<b>302,908,227</b>	<b>324,696,963</b>	<b>21,788,736</b>

## THE WIND FARM'S FINANCIAL PROCESSES

### Accounting systems

- 3.8 The Developers have confirmed that there have been no changes in their accounting systems since our ex-ante cost review.
- 3.9 All the costs for the Wind Farm are posted to the SAP accounting system. Costs are allocated primarily to a work break down structure (WBS) containing both generation and Transmission Assets. Transmission Asset costs, including those that have been shared, are moved to a mirror WBS, thus resulting in two separate WBS containing the asset costs, one for the generation assets and one for the Transmission Assets.
- 3.10 Shared costs are typically indirect costs which are for the general benefit of the overall project and include:
- general project management and administration;
  - project support functions eg procurement, cost control, health and safety;
  - general consultants eg legal/environmental and consent;
  - equipment benefiting both the Transmission and Generating Assets.

### Cost allocations

- 3.11 The Developers do not have direct employees for constructing and operating the wind farm. Instead they have contracted out the services required to manage both construction and operation to EC&R. The project management of both the construction and OFTO transaction is carried out via the Construction Management Agreement (CMA), with EC&R performing the role of the Construction Service Provider (CSP). Under the CMA, individuals provided by the CSP to work on the Rampion project fill out a timesheet and are charged based upon the days they work on the project, based upon the agreed rates contained within the CMA. The timesheets are also used to record the percentage of time they spend working on the Transmission Assets. The rates agreed within the CMA were designed to cover costs.

- 3.12 In addition to the individuals working on the project through the CMA, the Wind Farm has also employed a number of contractors to form the overall construction project management team. They are typically sourced through an agency arrangement and their services paid for on a day rate basis for which they are required to fill out a time sheet and provide the percentage of time they are working on the Transmission Assets.
- 3.13 When determining the costs included in the 8 July 2019 CAT, project management costs under both the CMA and through contractors were based on actual costs recorded within SAP, with the exception of the OFTO transaction costs which are still to be made through the CMA.
- 3.14 Where a contract has been used to provide goods and services for both the generation and Transmission Assets, a detailed analysis of invoices has been used as the first method for determining the cost split. Where not possible to determine the split via this route, judgement was requested from the individuals managing the work, including any advice on calculations that could be use. Where there was no other method for splitting the shared costs, they have been split 75% to 25% between the generation assets and Transmission Assets, representing the overall approximate split between the overall capex.

### **Process for making payments**

- 3.15 The main process used by the Developers for making payments for both directly and indirectly incurred costs is set out below:
- the project team completes a requisition form containing details of the goods and services required, along with the estimation of the cost, and is signed off by the project team according to the approval thresholds;
  - a competitive tender is undertaken for each contract, with a minimum of 3 suppliers involved for any contract with a value greater than £40,000;
  - a contract, which will contain the details of agreed milestone payments and any amounts to be paid in advance, will be signed in accordance with the approval thresholds;
  - the approval thresholds for decisions made by the CSP are set out in the CMA;
  - approvals above the threshold of the CSP are made by the ROW board;
  - once the contract is signed, a purchase order is created in SAP with the associated contract value;
  - for the large contracts, when a contract milestone has been met, a payment application is made by the contractor. The engineer completes a certificate confirming the amount that the contractor issues an invoice based on the completion of milestones and variations, and any outstanding work to be performed;
  - upon receipt of the certificate, the contractor submits an invoice;
  - for small contracts which do not contain provision for payment certificates, the contractor invoices ROW in accordance with its contract conditions;

- the invoice is scanned by the Accounts Payable (AP) team onto the SAP system and a copy is sent to the package team for review. The invoice is stamped by the package team and signed by two people; the individual who is responsible for the contract and one other with sign off authority for the invoice value;
- once approved, goods received number (GRN) is raised for the invoice in SAP. The invoice and the GRN are matched in SAP, which allows for the invoice to be paid according to the payment terms;
- regular payment reports are run by the AP payment clerks, who do not have access to input invoices onto the system. The report contains a suggested payment run based on the due dates and payment terms set within SAP as well as any flagged items for example blocked accounts, debit balances or invoices exceeding the total amount outstanding on the individual account;
- after the flagged items have been reviewed and amended where necessary, a detailed manual check is performed on the proposed payment run by the preparer who signs it off;
- the proposed payment run is reviewed and signed off by a second AP payment clerk;
- the payment run is uploaded to the banking system and approved by a banking team member and a banking team leader to confirm that it matches the payment run proposed by AP;
- the subsequent payment of the invoices contained within the file is automated once the relevant approvals have been received.

### **Contract variations**

- 3.16 The Developers have confirmed that the process for payment of contract variations is the same as the general invoice system set out above, with the exceptions that a contract value change form is drawn up instead of requisition form and a variation order is agreed with the contractor which is used to amend the purchase order number already generated within SAP.

**REVIEW OF DIRECTLY INCURRED COSTS**

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

**Summary of directly incurred costs selected for testing**

Contract	CAT Reference	8 July 2019 CAT £	% of total Transmission Asset capital costs
ABB (RO-1051)	CR2		%
ABB (RO-1051)	CR3		%
ABB (RO-1051)	CR4		%
ABB (RO-1051)	CR5		%
ABB (RO-1051)	CR7		%
			%
Babcock (RO-1061)	CR2		%
ASSO (RO-1533)	CR3		%
Carillion (RO-1053)	CR4		%
Scaldis (RO-1098)	CR2		%
VBMS (RO-1532)	CR3		%
Hellenic (RO-1395)	CR3		%
Hellenic (RO-1519)	CR3		%
			%

3.18 Ofgem has directed that our work in relation to these contracts covers the following:

- trace expenditure from the cash flow schedule to the relevant contract or other source record, and from the contract trace to an invoice(s) or journal;
- trace the invoice through the purchasing system;
- trace the invoice through to the payment system; and
- trace the payments through to the bank account.



- 3.19 Our testing in relation to these contracts is further detailed in **Appendix 1**, with the detailed testing for each of the suppliers in **Appendices 2 to 9**, and our findings are summarised in the following table:

#### Summary of direct costs testing

Contract	Invoices paid £	Accrued costs £	Non-OFTO amount £	Immaterial difference £	Total per 8 July 2019 CAT £
ABB (RO-1051)					100.0%
Babcock (RO-1061)					100.0%
ASSO (RO-1533)					100.0%
Carillion (RO-1053)					100.0%
Scaldis (RO-1098)					100.0%
VBMS (RO-1532)					100.0%
Hellenic (RO-1395)					100.0%
Hellenic (RO-1519)					100.0%
<b>Total</b>					<b>100.0%</b>

#### Invoices paid

- 3.20 Our review of invoices paid by the Developers, relating to the eight contracts selected by Ofgem, confirmed payment to the contractor and raised no areas of concern.

#### Accrued amounts

- 3.21 In relation to the accrued amounts:

- 3.21.1 The ABB accrued amounts represent unpaid milestones and variations at the date of our review. [REDACTED]  
[REDACTED]  
[REDACTED].

3.21.2 The Babcock accrued amount represents a payment retention, which we have agreed to the payment certificates. However, we understand that the amount and timing of any retention payable to Babcock remains unclear and accordingly, we recommend that Ofgem obtains an update on the payment of retention prior to finalising the FTV.

3.21.3 The Carillion accrued amounts represent an error which was discovered in the VAT reported on the bank reconciliation. This resulted in the costs in the CAT being overstated and accordingly, a decrease in the Transmission Costs of £0.3 million is required.

### Non-OFTO amounts

3.22 Amounts not related to the Transmission Assets represent amounts paid to contractors which related to the Generation Assets.

3.23 For the ABB and VBMS contracts, we have obtained explanations for the basis for cost allocation to the Transmission Assets or Generation Assets, and are satisfied that the allocations have been done on a reasonable basis.

## REVIEW OF INDIRECTLY INCURRED COSTS

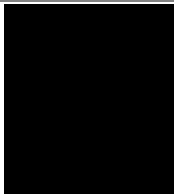


### Project management costs

3.24 Ofgem has directed that our work in relation to project management costs covers the following:

- select a random sample of five employees;
- agree costs from each individuals timesheet to the system; and
- agree corresponding payment from the project.

3.25 Our detailed testing in relation to project management costs is set out in **Appendix 9**, and our findings are summarised in the following table:

**Summary of indirect costs testing**

Summary of indirect costs testing					
	Function [internal/external]	December 2018 Net cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
	Internal		✓	✓	✓
	Internal		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓
					

3.26 Our testing of project management support services costs demonstrated that costs have been paid as stated.

- 3.27 For the avoidance of doubt, we have not verified the suitability of the hourly rates (as set out in the CMA) charged to the project by the Developers.

## MOVEMENTS IN THE COST ASSESSMENT

- 3.28 The movements between the ITV set on 8 April 2018 and the most recent cost assessment of 8 July 2019 are summarised in the following table:

**Breakdown of Transmission Assets costs**

	CAT Reference	9 April 2018 ITV £	8 July 2019 CAT £	Movement £
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Onshore cable supply and installation	CR4			
Onshore substation	CR5			
Connection contract costs	CR7			
General development (contingency, development costs)	CR8			
Total capital costs		284,726,189	305,644,320	20,918,132
Interest during construction		18,182,038	19,052,643	870,605
		<b>302,908,227</b>	<b>324,696,963</b>	<b>21,788,736</b>

- 3.29 The 8 July 2019 CAT reflects a net increase in the cost of the Transmission Assets of £21.8 million from the April 2018 ITV, with the more significant movements over £1 million comprising increases in certain capital costs amounting to £22.74 million and decreases in certain capital costs of £11.77 million. The principal increases and reasons for the increases in certain costs of £22.74 million are detailed below:

- £[REDACTED] of costs related to the Babcock contract that had been excluded in part or entirely by Ofgem at the ITV stage, but which were included in the FTV CAT.
- £[REDACTED] of costs related to the LS Cables installation contract that had been excluded in part or entirely by Ofgem at the ITV stage, but which were included in the FTV CAT. This was delivered by VBMS.
- £[REDACTED] of costs related to the finalisation of the Carillion contract, of which £[REDACTED] had been excluded in part or entirely by Ofgem at the ITV stage, but which were included in the FTV CAT
- An increase in land agent costs of £[REDACTED] as a result of the difficulties in reinstatement of the land cable.
- An increase in project management costs of £[REDACTED] due to the duration of the project having increased.

3.30 The principal increases and reasons for the decreases in certain costs of £11.77 million are detailed below:

- the release of £5.0 million of contingency provision following the project drawing to a close;
- a reduction of £2.03 million of painting costs following the outturn being less than forecast.
- a reduction in Hellenic cable installation costs of £4.74 million.

3.31 The full analysis of the above variances is presented at **Appendix 11**.

### IMPACT OF COST ASSESSMENT REVIEW

3.32 Following our review of the 8 July 2019 CAT, as detailed above, we consider that, we consider that the following adjustments should be made:

#### Impact of cost assessment

	CAT reference	Ref	£
Cost of Transmission Assets per CAT (excluding IDC)			305,644,320
Carillion contract value overclaimed due to bank reconciliation error	CR4	App 1; 1.26	██████
Swire Blue Ocean costs double counted	CR2	App 11; 11.11	██████
AXA CAR insurance costs incorrectly including business interruption costs	CR8	App 11; 11.49	██████
Total adjustments			(1,606,656)
<b>Revised cost of Transmission Assets</b>			<b>304,037,664</b>

### Recommendations for follow-up

3.33 As highlighted above, the FTV CAT contains a number of costs that were claimed by the Developers at the ITV stage, but which were disallowed by Ofgem for the purposes of setting the ITV. Accordingly, we recommend that Ofgem should review these previously disallowed costs to consider whether the grounds for their exclusion at the ITV stage are still applicable.

3.34 In addition, we recommend that Ofgem should obtain an update from the Developers regarding the unpaid amounts of the ABB and Babcock contracts to assess whether an adjustment is required to reflect the final agreed position.

# 1 INVOICE TESTING

## ABB (RO-1051)

- 1.1 The 8 July 2019 CAT includes an amount of £[REDACTED] which was due to ABB for Onshore substation supply and Offshore HV equipment, which is made up as follows:

### ABB

	£
Invoiced amounts	[REDACTED]
Accrued costs	[REDACTED]
Total amounts paid/payable	[REDACTED]
Non-OFTO amount	[REDACTED]
Total amounts paid/payable in relation to the Transmission Assets	[REDACTED]
Total ABB costs per 8 July 2019 CAT (£)	[REDACTED]
	[REDACTED]

### Review of amounts paid

- 1.2 We obtained a schedule of all amounts paid under the ABB contract which recorded 19 purchase invoices. This schedule is included at **Appendix 2**.

#### *Vouching to invoices*

- 1.3 We agreed 19 invoices recorded on the schedule to the underlying invoice.

#### *Vouching to purchase ledger*

- 1.4 We agreed all 19 amounts to the purchase ledger.

#### *Vouching to bank statements*

- 1.5 We agreed the payment of all 19 amounts to bank statements.

### Accrued amounts

- 1.6 The accrued costs relate to the final milestone payments due, together with some unpaid variations, and have been agreed to the last payment notice (20). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### Non-OFTO amounts

- 1.7 Amounts not related to the Transmission Assets represent amounts paid to contractors which relate to the Generation Assets.

- 1.8 For ABB, milestone payments have been allocated to either Transmission or Generation Assets based upon the percentage of the contract amount attributable to the Transmission or Generation Assets. Variations have been allocated to the Transmission or Generation Assets based upon whether the variation was directly related to either the Transmission or Generation Assets.

## BABCOCK (RO-1061)

- 1.9 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to Babcock for the provision of Offshore substation structure, which is made up as follows:

Babcock	
	£
Invoiced amounts	[REDACTED]
Accrued costs	[REDACTED]
Total amounts paid/payable	[REDACTED]
Total Babcock costs per 8 July 2019 CAT (£)	[REDACTED]

## Review of amounts paid

- 1.10 We obtained a schedule of all invoices paid under the Babcock contract which recorded 22 purchase invoices. This is included at **Appendix 3**.

### ***Vouching to invoices***

- 1.11 We agreed all 22 invoices recorded on the schedule to the underlying invoice.

### ***Vouching to purchase ledger***

- 1.12 We agreed all 22 invoices to the purchase ledger.

### ***Vouching to bank statements***

- 1.13 We agreed the payment of all 22 invoices to bank statements.

## Accrued amounts

- 1.14 The accrued costs relate to the sum of amounts held as a retention, which typically amount to 2.5% of the invoice value. For the Babcock contract, we have been provided with a breakdown of the retention amounts which we have agreed to the payment certificates.
- 1.15 However, the Developers have advised that it is not possible to determine the amount of retention that will be paid to Babcock and the timing of any payment, at the current time. Accordingly, we recommend that Ofgem obtains an update from the Developers prior to setting the FTV.

## ASSO (RO-1533)

- 1.16 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to ASSO for the provision of Offshore export cable installation for cable 4, which is made up as follows:

### ASSO

	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
Total ASSO costs per 8 July 2019 CAT (£)	[REDACTED]

### Review of amounts paid

- 1.17 We obtained a schedule of all invoices paid under the ASSO contract which recorded seven purchase invoices. This is included at **Appendix 4**.

#### *Vouching to invoices*

- 1.18 We agreed all seven invoices recorded on the schedule to the underlying invoice.

#### *Vouching to purchase ledger*

- 1.19 We agreed all seven invoices to the purchase ledger.

#### *Vouching to bank statements*

- 1.20 We agreed the payment of all seven invoices to bank statements.

## CARILLION (RO-1053)

- 1.21 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to Carillion for the supply and installation of Onshore Cable, which is made up as follows:

### Carillion

	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
VAT error in posting - adjustment proposed	[REDACTED]
Total Carillion costs per 8 July 2019 CAT (£)	[REDACTED]

### Review of amounts paid

- 1.22 We obtained a schedule of all invoices paid under the Carillion contract which recorded six purchase invoices. This is included at **Appendix 5**.

#### *Vouching to invoices*

- 1.23 We agreed all six invoices recorded on the schedule to the underlying invoice.

#### *Vouching to purchase ledger*

- 1.24 We agreed all six invoices to the purchase ledger.

***Vouching to bank statements***

- 1.25 We agreed the payment of all six invoices to bank statements.

**VAT error in posting – adjustment proposed**

- 1.26 The Developers have confirmed that, for the Carillion contract an error was discovered in the VAT reported on the bank reconciliation which meant the costs in the CAT are over reported and accordingly a decrease in the Transmission Costs of £[REDACTED] is required.

**SCALDIS (RO-1098)**

- 1.27 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to Scaldis for the provision of Offshore substation installation which is made up as follows:

Scaldis	
	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
Total Scaldis costs per 8 July 2019 CAT (£)	[REDACTED]

**Review of amounts paid**

- 1.28 We obtained a schedule of all invoices paid under the Scaldis contract which recorded 10 purchase invoices. This is included at **Appendix 6**.

***Vouching to invoices***

- 1.29 We agreed all 10 invoices recorded on the schedule to the underlying invoice.

***Vouching to purchase ledger***

- 1.30 We agreed all 10 invoices to the purchase ledger.

***Vouching to bank statements***

- 1.31 We agreed the payment of all 10 invoices to bank statements.

**VBMS (RO-1532)**

- 1.32 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to VBMS for the provision of Offshore export cable installation for cable 3, which is made up as follows:

VBMS	
	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
Non-OFTO amount	[REDACTED]
Total amounts paid in relation to the Transmission Assets	[REDACTED]
Total VBMS costs per 8 July 2019 CAT (£)	[REDACTED]
	[REDACTED]



### Review of amounts paid

- 1.33 We obtained a schedule of all invoices paid under the VBMS contract which recorded 12 purchase invoices. This is included at **Appendix 7**.

#### ***Vouching to invoices***

- 1.34 We agreed all 12 invoices recorded on the schedule to the underlying invoice.

#### ***Vouching to purchase ledger***

- 1.35 We agreed all 12 invoices to the purchase ledger.

#### ***Vouching to bank statements***

- 1.36 We agreed the payment of all 12 invoices to bank statements.

### Non-OFTO amounts

- 1.37 Amounts not related to the Transmission Assets represent amounts paid to contractors which relate to the Generation Assets.
- 1.38 For VBMS, the costs have been allocated to either Transmission Assets or Generation Assets based upon the time spent by VBMS on ripping out cable 1 (Generation Assets) and the time spent on installing cable 3 (Transmission Assets).

### HELLENIC (RO-1395)

- 1.39 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to Hellenic for the supply of Offshore export cable 3, which is made up as follows:

Hellenic (RO-1395)

	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
Total Hellenic costs per 8 July 2019 CAT (£)	[REDACTED]

### Review of amounts paid

- 1.40 We obtained a schedule of all invoices paid under the Hellenic contract which recorded five purchase invoices. This is included at **Appendix 8**.

#### ***Vouching to invoices***

- 1.41 We agreed all five invoices recorded on the schedule to the underlying invoice.

#### ***Vouching to purchase ledger***

- 1.42 We agreed all five invoices to the purchase ledger.

***Vouching to bank statements***

- 1.43 We agreed the payment of all five invoices to bank statements.

**HELLENIC (RO-1519)**

- 1.44 The 8 July 2019 CAT includes an amount of £[REDACTED] payable to Hellenic for the supply of Offshore export cable 4, which is made up as follows:

Hellenic (RO-1519)	
	£
Invoiced amounts	[REDACTED]
Total amounts paid	[REDACTED]
Total Hellenic costs per 8 July 2019 CAT (£)	[REDACTED]

**Review of amounts paid**

- 1.45 We obtained a schedule of all invoices paid under the Hellenic contract which recorded three purchase invoices. This is included at **Appendix 9**.

***Vouching to invoices***

- 1.46 We agreed all three invoices recorded on the schedule to the underlying invoice.

***Vouching to purchase ledger***

- 1.47 We agreed all three invoices to the purchase ledger.

***Vouching to bank statements***

- 1.48 We agreed the payment of all three invoices to bank statements.

2 ABB (RO-1051) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
<div></div>					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date							

3 BABCOCK (RO-1061) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
<div></div>					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date			<div></div>				

## 4 ASSO (RO-1533) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date			<u>          </u>				

## 5 CARILLION (RO-1053) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date							

## 6 SCALDIS (RO-1098) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date							

7 VBMS (RO-1532) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
<div></div>					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date			<div></div>				



## 8 HELLENIC (RO-1395) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date							

## 9 HELLENIC (RO-1519) INVOICE REVIEW

Invoice no.	Description	Invoice date	Net invoice value £	Date paid	Agreed to invoice	Agreed to ledger	Agreed to bank
					✓	✓	✓
					✓	✓	✓
					✓	✓	✓
Paid to date			<u>          </u>				

## 10 INDIRECT COSTS REVIEW

### PROJECT MANAGEMENT COSTS

10.1 The Developers have outlined the process for allocating project management costs to the Transmission Assets. The process is as follows:

- for internal staff, their time is recorded on a timesheet of the hours incurred;
- the cost is allocated to the project based on the percentage of time spent related to the Transmission Assets;
- for external staff, their timesheet is recorded on a timesheet which generates an invoice;
- an invoice is issued with the associated timesheets attached;
- the cost of these staff is allocated based on the time recorded in relation to the Transmission Assets.

10.2 As instructed by Ofgem, we selected a sample of five individuals for us to test the above process.

10.3 The Developers have provided details from these five employees' actual timesheet records. We have traced these to the invoices being raised, posted on the system and paid as follows:

#### Summary of indirect costs testing

	Function [internal/external]	December 2018 Net cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
	Internal		✓	✓	✓
	Internal		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓
	External		✓	✓	✓

## 11 MOVEMENTS BETWEEN THE COST TEMPLATES

11.1 We have been instructed to compare the total Transmission Asset costs as set out in the 8 July 2019 CAT with the total Transmission Asset costs included within the ITV at April 2018, and to obtain explanations for variances between the two dates. The movement is summarised in the table below:

### Breakdown of Transmission Assets costs

	CAT Reference	9 April 2018 ITV £	8 July 2019 CAT £	Movement £
Offshore substation	CR2			
Submarine cable supply and installation	CR3			
Onshore cable supply and installation	CR4			
Onshore substation	CR5			
Connection contract costs	CR7			
General development (contingency, development costs)	CR8			
Total capital costs		284,726,189	305,644,320	20,918,132
Interest during construction		18,182,038	19,052,643	870,605
		<b>302,908,227</b>	<b>324,696,963</b>	<b>21,788,736</b>

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

### OFFSHORE SUBSTATION

11.3 Offshore substation costs have increased by a net amount of £[REDACTED], as summarised in the table below.

### Offshore substation costs net movement

	Paragraph	£
Babcock costs disallowed at ITV stage but included in FTV CAT	11.4	[REDACTED]
J Tube costs - partially allowed at ITV but included at FTV	11.5	[REDACTED]
Increase James Fisher contract	11.6	[REDACTED]
Increase in LV Shipping costs	11.7	[REDACTED]
Increase in other contract costs	11.8	[REDACTED]
Increase in MPI Painting Jackup	11.9	[REDACTED]
Reduction in painting costs	11.10	[REDACTED]
Increase in jackup vessel costs	11.11	[REDACTED]
SCADA commissioning	11.12	[REDACTED]
Reallocation of costs	11.13	[REDACTED]
Other costs < £250,000		[REDACTED]
		[REDACTED]

11.4 The FTV CAT includes £[REDACTED] of costs relating to the Babcock contract, of which £[REDACTED] were allowed and £6.80 million were disallowed at the ITV stage. Accordingly, we recommend that Ofgem should review these previously disallowed costs to consider whether the grounds for their exclusion at the ITV stage are still applicable.

- 11.5 The FTV CAT includes £[REDACTED] of costs in the relation to J-tubes which were partially allowed at the ITV stage. Accordingly, we recommend that Ofgem should review these previously costs to consider whether the grounds for their partial exclusion at the ITV stage are still applicable.
- 11.6 The FTV CAT includes £[REDACTED] additional costs relating to the James Fisher contract for J-tubes. The contract had been placed when the ITV was submitted, but work was yet to be completed. The cost provided in the FTV is the outturn cost of the contract which transpired to be more complicated than expected, largely due to design changes. In addition, further scope was re-allocated from other contracts, namely the delivery of the J-tube to site via a vessel. Both of these reasons contributed to increased costs.
- 11.7 There was an increase in LV Shipping costs of £[REDACTED] at the FTV stage. These costs are in relation to agency services such as paying for taxis to ship crew to train stations and paying for engineering work needed at short notice. At the time of the ITV an estimate was provided as the work had not been completed. The FTV contains the outturn of the contract.
- 11.8 Other contract costs decreased by £[REDACTED]. The ITV CAT included costs for contracts not yet placed, some of which were no longer required at the FTV stage. These costs have therefore been removed.
- 11.9 Substation painting costs increased by £[REDACTED] at the FTV stage. These costs relate to substation painting of the MPI Jackup, which had not started when the ITV was submitted, therefore an estimate was used. The FTV contains the outturn costs.
- 11.10 Substation painting (Venko) costs decreased by £[REDACTED] at the FTV stage. These costs are in relation to substation painting work which had not begun at the time of ITV submission. An estimate of £[REDACTED] was provided ahead of completing tendering work and included in the ITV CAT. Venko was awarded the contract and the FTV includes the outturn of the contract of £[REDACTED].
- 11.11 The FTV CAT included increased costs of £[REDACTED] in relation to Swire Blue Ocean (OSP Jackup Vessel). These costs have increased due to double counting of the fuelling during the mobilisation of the vessel. The initial fuel was paid for using a manual payment for prompt payment. The final price of fuelling was confirmed later and paid for through SAP, which was later disputed. The correct cost of this contract is £[REDACTED] rather than £[REDACTED]. Accordingly a decrease in the CAT of £[REDACTED] is required.
- 11.12 SCADA commissioning costs of £[REDACTED] were newly included at the FTV stage. These costs with Sgurr (Wood Group) were not anticipated at the ITV stage, thus were not included.

**Reallocated costs**

- 11.13 At the ITV stage Ofgem reallocated £[REDACTED] costs from CR8 to CR2. At the FTV stage, these costs were again included in CR8, with the exception of £[REDACTED] included in CR2. At the FTV stage, £[REDACTED] of costs were included in the CAT (in CR8), a reduction of £[REDACTED], with the principal differences, totalling £[REDACTED], being summarised below.
- 11.14 Costs of £[REDACTED] in relation to the Multi-purpose Guard Vessel from James Fisher Marine Services Ltd and £[REDACTED] in relation to George Johannes Guard Vessel Charter were included in CR2 at the ITV stage. At FTV, these costs were reduced to only include the submarine cable costs, as explained at paragraph 11.31 below, and therefore have been included in CR3, resulting in a total reduction in CR2 costs of £[REDACTED].
- 11.15 Fuel supply costs decreased by £[REDACTED] at the FTV stage. These costs relate to the supply of fuel for CTV by Certas Energy UK Limited. The original calculation at ITV was on the basis of 25% of the fuel costs being attributable to OFTO. As only three CTVs were used to support the OFTO out of a fleet of more than 20 CTVs used on the project, this percentage was revised downward to 10% for the FTV.
- 11.16 The above two decreases, totalling £[REDACTED], are partially offset by an increase in CTV charter costs. These increased by £[REDACTED] at the FTV stage due to the charter period for this vessel being extended to take over the role of the RRV Audrey, which was used as a survey vessel.

**SUBMARINE CABLE SUPPLY & INSTALLATION**

- 11.17 Submarine cable supply and installation costs have increased by a net amount of £[REDACTED], as summarised in the table below.

**Submarine cable supply and installation costs net movement**

	Paragraph	£
LS Cable and associated costs disallowed at ITV	11.18	[REDACTED]
Fibre optic claims reduction	11.19	[REDACTED]
Float pit backfill - Van Oord	11.20	[REDACTED]
VBMS - installation replacement east	11.21	[REDACTED]
ASSO - installation replacement west	11.22	[REDACTED]
Garrad Hassan & Partners Ltd (DNV) - Owners Engineer	11.23	[REDACTED]
EDS - Jointing & OSP	11.24	[REDACTED]
Wind - cable storage	11.25	[REDACTED]
Landfall civils	11.26	[REDACTED]
Van Ord - Dredging or Floatation Pits Digging	11.27	[REDACTED]
VBMS, Deep O, GMSL, ASSO - Post Lay Burial for Second Ends only	11.28	[REDACTED]
N Sea, James Fisher, Fugro - Cable protection (Rock Bagging/Dumping)	11.29	[REDACTED]
N-Sea, DSMC, JFMS - Divers	11.30	[REDACTED]
RO-1311-George Johannes-Guard Vessel	11.31	[REDACTED]
Other costs < £250,000		[REDACTED]
		[REDACTED]

- 11.18 The FTV CAT includes £[REDACTED] of costs associated with the works undertaken by LS Cables, which were disallowed at the ITV stage. Accordingly, we recommend that Ofgem should review these previously disallowed costs to consider whether the grounds for their exclusion at the ITV stage are still applicable.
- 11.19 At FTV, the CAT includes fibre optic cable costs that were £[REDACTED] lower than the ITV stage due to GMSL claims being settled at a lower amount than was predicted at the ITV stage.
- 11.20 There was a net decrease in Van Oord float pit backfill costs of £[REDACTED] at the FTV stage. This is due to the contract outturn being lower than expected at the ITV stage, with the west float pit costs being removed in their entirety as they are associated with cable two and are not being claimed.
- 11.21 VBMS cable installation east costs decreased by £[REDACTED] at the FTV stage. These costs, relating to east export cable replacement installation, have reduced due to the cost attributable to removing cable one not being included in the CAT.
- 11.22 ASSO cable installation west costs increased by £[REDACTED] at the FTV stage due to the outturn of the contract being higher than predicted at the ITV stage, which was before work had begun. The costs relate to the west export cable installation. The contract was a combination of fixed price and rate, with ROW taking the weather risk on the work.
- 11.23 At the ITV stage, Garrad Hassan costs amounted to £[REDACTED]. At the FTV stage, these costs were recognised in CR8 to better reflect the scope of the work thus reducing the costs within CR3.
- 11.24 EDS offshore cable jointing costs increased at the FTV stage by £[REDACTED], due to the outturn cost attributable to cables three and four. At the ITV stage, EDS was engaged only for the jointing work for cable three, with the costs for cable four included in contingency. EDS was subsequently engaged to conduct the works for cable four.
- 11.25 Wind cable storage costs increased by £[REDACTED] at the FTV stage due to the final outturn of the contract in relation to construction works. This included the transportation of cable three to storage ahead of its installation, storing cable three ahead of installation and works associated with offloading spare cable following installation. The Developers have confirmed that a full analysis was undertaken of the Wind contract at the FTV stage which highlighted that some invoices had been incorrectly charged to the generation assets at the time of the ITV.
- 11.26 At the FTV stage landfall civil costs included within CR3 were £[REDACTED] lower than at the ITV due to these costs now being included in land cable costs (CR4) by the Developers.
- 11.27 Van Ord Dredging and Floatation Pits Digging costs, which were included in the ITV at an amount of £[REDACTED], have been removed at the FTV stage as a result of costs associated with cable 2 being removed.

- 11.28 At the ITV stage, post lay burial costs for second ends were expected to arise amounting to £[REDACTED]. These costs were not required at the FTV stage thus resulting in a reduction in costs.
- 11.29 At the FTV stage cable protection costs increased by £[REDACTED] from £[REDACTED] to £[REDACTED]. The Developers have explained that these costs are required ahead of cable lay activity and are difficult to estimate. It was expected that the target burial depth would be met in most cases. However, there was a lot more cable which didn't reach target depth and required additional protection, resulting in additional costs.
- 11.30 At the ITV stage an estimate was included for diving works of £[REDACTED]. However, these works were not required and accordingly this cost has been removed from the FTV CAT.
- 11.31 As explained in paragraph 11.14 above, at the ITV stage guard vessel costs of £[REDACTED] were included in CR2. At the FTV stage, the costs associated with cables one and two have been removed, and the remaining costs of £[REDACTED] have been included in CR3, to reflect that they are exclusively a submarine cable cost.

## ONSHORE CABLE SUPPLY & INSTALLATION

- 11.32 Onshore cable supply and installation costs have increased by a net amount of £[REDACTED], as summarised in the table below.

**Onshore cable supply and installation costs net movement**

	Paragraph	£
Costs disallowed partially or in full at ITV but included in FTV (Carillion)	11.34	[REDACTED]
Ofgem deductions at ITV not in FTV (Carillion)	11.35	[REDACTED]
Carillion termination costs	11.36	[REDACTED]
	11.33	[REDACTED]
Three Shires - Reinstatement civil work and planting	11.37	[REDACTED]
Other reinstatement work	11.38	[REDACTED]
Environmental Liability Insurance	11.39	[REDACTED]
Re-allocated costs	11.40	[REDACTED]
Other costs < £250,000		[REDACTED]
		[REDACTED]

- 11.33 The FTV CAT includes £[REDACTED] of costs relating to the Carillion contract, compared to £[REDACTED] of costs that were allowed at the ITV stage, an increase of £[REDACTED].
- 11.34 Of this increase, £[REDACTED] relates to Carillion costs that were disallowed, either partially or in full, at the ITV stage, but were included by the Developers in the FTV CAT. Accordingly, we recommend that Ofgem should review these previously disallowed costs to consider whether the grounds for their exclusion at the ITV stage are still applicable.
- 11.35 In addition, specific deductions amounting to £5.56 million were made at the ITV stage, which do not appear to be reflected in the FTV CAT.



- 11.36 However, the Developers have made a deduction in the FTV CAT of £4.95 million to reflect the outturn position of the Carillion contract at termination, with other contracts having been used to complete the remaining scope of the work.
- 11.37 Reinstatement and planting costs increased by £[REDACTED] at the FTV stage. This was a time and materials-based contract. At the ITV stage an estimate had been provided and work continued to be carried out. However the Developers have acknowledged that the estimate at the ITV stage was purely that as the scope was outside their previous expertise.
- 11.38 Other reinstatement work costs decreased by £[REDACTED] at the FTV stage. This was due to the estimate being made at the ITV stage before contracts were finalised and the scope of works was fully understood.
- 11.39 The FTV CAT includes £[REDACTED] of costs in relation to Environmental Liability Insurance. The cost relates to the landowner costs, and was included within the wider landowner costs category at the ITV stage.

***Reallocated costs***

- 11.40 At the ITV stage Ofgem reallocated £[REDACTED] of costs relating to land agreements, local authority costs and property and leases from CR8 to CR4. At the FTV stage, some of these costs were again included in the CAT in CR8 (see paragraphs 11.41 and 11.42 below), with £[REDACTED], mainly relating property and leases, being included in CR4, hence the increase of £[REDACTED].
- 11.41 At the ITV stage, Ofgem reallocated £[REDACTED] of costs associated with land agreements from CR8 to land cable (£[REDACTED]) and onshore substation costs (£[REDACTED]). At the FTV stage, these costs totalling £[REDACTED] are included in CR8, an increase of £[REDACTED], principally due to FGP land agent costs increasing by £[REDACTED]. The Developers have explained that as a result of the Carillion liquidation and poor performance from ABB, the reinstatement of the Rampion cable route and the substation took significantly longer than expected. Consequentially, this required more management from the land agent.
- 11.42 At the ITV stage, Ofgem reallocated costs from CR8 to CR4 amounting to £[REDACTED] relating to West Sussex CC planning performance agreement. We understand from the Developers that these are included within development costs in CR8 in the FTV CAT.

**ONSHORE SUBSTATION**

11.43 Onshore substation costs have decreased by a net amount of £[REDACTED], as summarised in the table below.

**Onshore substation costs net movement**

	Paragraph	£
ABB non-specific costs	11.44	[REDACTED]
Re-allocated costs	11.45	[REDACTED]
Other costs < £250,000		[REDACTED]
		[REDACTED]

11.44 ABB costs decreased by £[REDACTED] at the FTV stage largely due to the firming up of variations.

**Reallocated costs**

11.45 At the ITV stage Ofgem reallocated £[REDACTED] costs from CR8 to CR5. At the FTV stage, these costs were again included in CR8 (£[REDACTED]) and CR4 (see paragraph 11.46 below). At the FTV stage, only £[REDACTED] has been included in CR4, hence the decrease of £[REDACTED].

11.46 At the ITV stage, Ofgem reallocated £[REDACTED] of costs associated with property and leases from CR8 to land cable (£[REDACTED]) and onshore substation costs (£[REDACTED]). At the FTV stage, the majority of these costs (£[REDACTED]) have been included in CR4 (land cable).

**GENERAL DEVELOPMENT COSTS**

11.47 General development costs have increased by a net amount of £[REDACTED], of which £[REDACTED] relates to costs that had been reallocated by Ofgem to other capital cost categories at the ITV stage (as described above) but have not been reallocated at FTV (and hence are included in CR8) costs movements, totalling an increase of £[REDACTED], are summarised in the table below.

**General development costs net movement**

	Paragraph	£
Costs transfer	11.47	[REDACTED]
AXA - CAR Insurance	11.48	[REDACTED]
EON project management costs	11.49	[REDACTED]
ERSG - [REDACTED]	11.50	[REDACTED]
TRS - [REDACTED]	11.51	[REDACTED]
RSK Environment - Environmental consultancy	11.52	[REDACTED]
[REDACTED] Owners Engineer	11.53	[REDACTED]
[REDACTED]	11.54	[REDACTED]
Development costs	11.55	[REDACTED]
Contingency	11.56	[REDACTED]
Other costs < £250,000		[REDACTED]
		[REDACTED]

- 11.48 AXA CAR insurance costs increased by £[REDACTED] at the FTV stage, which has arisen as a result of the inclusion of business interruption insurance costs in error. The Developers have confirmed that the amount to be claimed for the OFTO should be £[REDACTED], as per the amount in the ITV. Accordingly, an adjustment to the CAT of £[REDACTED] is required.
- 11.49 E.ON project management costs increased by £[REDACTED] as a result of the project taking longer than anticipated, including an extended OFTO process.
- 11.50 At the FTV stage [REDACTED] costs increased by £[REDACTED]. These costs are related to a commissioning engineer ([REDACTED]) under contract RO-1466, who was used on the project for longer than the ITV anticipated.
- 11.51 [REDACTED] costs increased by £[REDACTED] at the FTV stage. These costs are related to an Offshore Substation Completion Manager ([REDACTED]), who was used on the project for longer than the ITV anticipated, leading to increased costs.
- 11.52 At the FTV stage RSK environmental consultancy costs increased by £[REDACTED]. This is principally due to the increased duration of the onshore re-instatement works, covering both the onshore cable route and the onshore substation. The onshore cable re-instatement works took longer than originally anticipated due to Carillion entering into liquidation in January 2018 and ROW having to oversee the completion of this scope. Work has also had to be carried out with regards to noise compliance at the onshore substation.
- 11.53 At the FTV stage £[REDACTED] of Garrad Hassan Owners Engineer costs were introduced which were reallocated to CR8 from CR2 and CR3 under the wider banner of contract RO-1046 in order to better reflect the scope of the work.
- 11.54 [REDACTED] costs of £[REDACTED] were introduced at the FTV stage. These costs relate to an Offshore Substation Site Manager ([REDACTED]) under contract RO-1267. The OFTO contribution for this contract was not included in the ITV.
- 11.55 Development costs have fallen by £[REDACTED] at the FTV. The Developers explained that they have undertaken a more detailed analysis of development costs which has resulted in reduced costs being claimed at the FTV stage when compared with the ITV stage.
- 11.56 In April 2018, we conducted reviews of the cost templates for the Transmission Assets prepared up to 9 April 2018 (the ex-ante review). At this stage, although construction of the Transmission Assets was well under way, as there remained a degree of uncertainty over a number of costs, a contingency provision of £[REDACTED] was included in the ITV. The contingency provision is no longer required at the FTV stage and has therefore been removed.

## INTEREST DURING CONSTRUCTION

- 11.57 Interest during construction (IDC) has increased by £[REDACTED]. IDC is outside the scope of this review and therefore no further work has been performed in this area.



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