



**Ex-Ante 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 This report relates to the Rampion Offshore Wind Farm (ROWF/ the Wind Farm) which 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.
- 1.2 Our review and this report is based upon the cost template submitted to Ofgem dated 9 April 2018 and incorporates information and explanations provided regarding the costs in this version of the cost template, both in our site visit and in correspondence with the Developers, up to 14 August 2018.
- 1.3 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
- 1.4 The Wind Farm is composed of an offshore substation platform (OSP), two 17km long 150kV undersea offshore export cables, two sets of 27km long 150kV onshore, underground cables, a new onshore substation (ONSS) at Twineham and two 400kV cables connecting the ONSS to the existing 400kV National Grid Electricity Transmission (NGET) substation at Bolney.
- 1.5 At the time of our review, the ROWF Transmission Assets were under construction. They were fully operational and commissioned by the end of 2018.
- 1.6 Grant Thornton UK LLP (Grant Thornton) has been instructed by The Office of Gas and Electricity Markets (Ofgem) to review the ex-ante cost assessments prepared by the Developers for the Transmission Assets of the Wind Farm (Ex-Ante Review).

- 1.7 The Ex-Ante Review has considered the accuracy, completeness and allocation of costs against the cost template prepared by the Developers for the Wind Farm Transmission Assets, based on supporting information and methodology provided by the Developers. Further detail on our work is set out in Sections 4 to 11 of this report. The purpose of a review at this stage is to:
- 1.7.1 determine if a developer cost estimate requires updating for the next stage of the transfer process, Enhanced Pre-Qualification (EPQ) and Invitation to Tender (ITT);
  - 1.7.2 aid identification of technical issues that we have noted by helping to identify areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the Indicative Transfer Value (ITV) for the ITT stage of the process; and
  - 1.7.3 assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information.
- 1.8 The Developers' estimate of the cost of the Wind Farm Transmission Assets, included in the cost assessment template dated 9 April 2018 (the CAT), amounts to £388.0 million. This is the first cost assessment template submitted by the Developers. The CAT presents the Developers' estimated costs of the Transmission Assets as follows:

#### Transmission Assets cost summary

	CAT Reference	Paragraph Reference	Total costs £	%
Offshore substation	CR2	7.1		%
Submarine cable supply and install	CR3	8.1		%
Onshore cable supply and install	CR4	9.1		%
Onshore substation	CR5	10.1		%
Connection costs	CR7	11.1		%
Project common costs and development costs	CR8	6.1		%
Total capital costs			362,726,188	93.5%
Interest during construction		5.23	25,304,664	6.5%
			<b>388,030,852</b>	<b>100.0%</b>

## SUMMARY OF FINDINGS

- 1.9 The Developers have provided us with supporting documentation and/or explanations for the majority of items included within the cost template. 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.

- 1.10 As part of our line-by-line review of the CAT, we have agreed the costs of the transmission business above £100,000 to supporting documentation. This included confirming costs in the CAT to contracts between the Developers and the subcontractors, contract variations orders and to working schedules prepared by the Developers that set how estimated costs within the CAT have been calculated. This also included gaining an understanding from the Developers 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.
- 1.11 In most cases, we were able to confirm that the costs included in the CAT were appropriately stated. However, we identified that some costs were incorrectly stated, and as such, we propose adjustments for these costs at paragraph 1.39 below.
- 1.12 Furthermore, there were some costs where we were unable to gain sufficient comfort of their treatment in the CAT, and where this is the case, we have recommended that Ofgem should discuss these areas with the Developers. Such costs are detailed in paragraphs 1.32 to 1.38 below.

### **Allocation rates**

- 1.13 The majority of the costs relating to the six main construction packages<sup>1</sup>, are 100% attributable to the Transmission Assets. However, the CAT includes a number of common costs to the Wind Farm as a whole. Where costs are not directly attributable to either the transmission or generation business (shared costs), the Developers have allocated costs to the Transmission Assets (OFTO<sup>2</sup>) based upon the following methods:

- 1.13.1 Cost by cost basis. This basis is particularly relevant to Package 14, the Construction Management package used to enable delivery of the other construction packages. This package is split into five sub packages, each of which contains a proportion of OFTO cost. The Developers have looked at each of the costs incurred within these sub packages and where there are clear metrics or separate divisions with services in order to determine the OFTO share of the cost these have been used. For example, unexploded ordnance (UXO) & boulder clearance costs have been allocated based on the ratio of OFTO export cable length (20%) and array cable length (80%). Further detail in relation to the specific allocation rates applied is set out in Section 6 of this report.

<sup>1</sup> Packages 6, 8, 10, 11, 12 and 15, as described in section 2.2.3 of the 'ROWF CAT Compilation Guide -Supporting the CAT Submission to Ofgem in April 2018' dated 9 April 2018

<sup>2</sup> Offshore Transmission Owner

1.13.2 Transmission Assets cost % of total capital expenditure (CAPEX). Where there are no obvious allocation metrics, a ratio of 25% of total cost has been applied. The Developers have explained that this ratio represents the approximate share of the cost of Transmission Assets CAPEX as a percentage of total Wind Farm CAPEX (excluding package 14). Our verification work in relation to this allocation rate is set out at paragraphs 5.31 to 5.33 of this report.

1.13.3 Shared resource costs. For the project management costs which are shared between transmission and generation, an allocation has been determined on a person-by person basis, based upon the number of days spent on specific tasks. Further detail in relation to the allocation rates applied and our verification of these rates is set out at paragraphs 5.3 to 5.19 of this report.

1.14 The table below summarises the allocated costs included within the CAT, and the effective allocation rate<sup>3</sup> for such costs:

#### Allocated costs

	Paragraph Reference	Total £	Allocation £	Effective rate %
Internal Project Management – Resources	5.3			%
Contracted Project Management – Resources	5.14			%
Other Capital Costs - Common Costs	6.1			%
CTV & Offshore Service - Common Costs	6.1			%
Construction Base- Common Costs	6.1			%
DEVEX	6.68			%
				32.0%

1.15 This table shows that the allocation methodologies used by the Developers have resulted in cost allocations to the Transmission Assets at an average rate of 32.0%, which is higher than the rates we have seen on previous projects of around 25%. This is due to the higher effective rates of % and % in relation to resources costs (contracted project management and internal project management) and % for other common costs.

1.16 Whilst the effective rates for shared resources of % and % are higher than the CAPEX rate used for resources on previous projects, we note that discussions on previous projects have highlighted that the amount of time spent by project teams on the Transmission Assets as a proportion of total time can be higher than the proportion of CAPEX. As such, a higher rate for shared resources may be justifiable.

1.17 The effective rate of % for 'Other Capital Costs - Common Costs' is high as a result of £ of costs relating to Fishing Liaison services allocated to the Transmission Assets at % (ie costs of £ included in the CAT). However, we have not been provided with any information from the Developers in relation to these costs.

<sup>3</sup> ie excluding costs with an 'allocation rate' of 100%

- 1.18 In light of the higher effective allocation rates for shared costs to the Transmission Assets, particularly in relation to resources costs and other capital costs, we recommend that Ofgem should discuss cost allocation further with the Developers.

### Resources costs – daily rates

- 1.19 The CAT includes approximately £[REDACTED] million<sup>4</sup> relating to the time costs of project management resource on the project, including time spent by both E.ON employees and contractors, on the Transmission Assets.
- 1.20 Whilst we have been provided with details of the costs incurred on the Transmission Assets, as well as their OFTO allocation percentage, which we are informed is based on the amount of OFTO-related services provided, we have not been provided with details of the days spent on the Transmission Assets or of the constituent parts of those daily rates.
- 1.21 We understand that ROW are required to sell the Transmission Assets to the OFTO at cost. As such, if the rates calculated by the Developers include any profit element, this would be inconsistent with this requirement. The Developers confirmed<sup>5</sup> that no profit element is included within internal staff and contractor's rates. However, as explained in Section 5 of this report, we have not been able to independently verify this.

### Contingencies

- 1.22 The CAT for the Transmission Assets includes a contingency provision amounting to £[REDACTED] ([REDACTED]%<sup>6</sup> of pre contingency capital costs excluding IDC). The Developers explained that this is to cover known unknowns and as such, has not been calculated in relation to a risk register.
- 1.23 Based upon our experience, we note that the percentage of contingencies is lower than what we have seen on other projects. However, as the Developers have provided no further rationale or support for the contingency provision, we are unable to substantiate the costs. As such, we recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 1.24 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.

### Foreign exchange

- 1.25 We discussed with the Developers their policy of minimising exchange rate risk exposure. In the first instance, all parties bidding for work are asked to submit prices in Sterling. If it is not possible for a selected supplier to complete the work in pound sterling, all contracts above a pound sterling equivalent cost of £100,000 are hedged at signing. However, the Developers explained that in practice, the Transmission Assets costs not in Sterling are minimal.

<sup>4</sup> See breakdown of resources in the table at paragraph 6.1

<sup>5</sup> Confirmed at site visit on 7 June 2018

<sup>6</sup> [REDACTED] = [REDACTED]%

- 1.26 We confirmed that the CAT includes costs which are payable in foreign currencies (EUR) of approximately €[REDACTED] (£[REDACTED]), converted using the spot rate on date of payment. As detailed in paragraph 5.36 of this report, the effective rate used by the Developers is [REDACTED].

### **Export cable costs – costs disallowed by Ofgem**

- 1.27 Following installation of the two export cables, faults were found with the cables that meant that they needed to be replaced. As such, the Developers had to enter into new contracts for the supply and installation of two new export cables, along with a third fibre optic cable. We understand that, as set out in the cost assessment guidance, the Developer is expected to make an insurance claim and therefore Ofgem is minded to disallow the costs associated with the supply and installation of the original cables (LS Cables and associated costs and VBMS costs). Ofgem is also considering removing the costs in relation to the dedicated fibre optic cable (GMSL and VolkerInfra). Further detail is set out at paragraphs 8.2 to 8.6 of this report.
- 1.28 We understand that Ofgem may also disallow costs in relation to boulder and UXO clearance connected to the export cables. As such, Ofgem instructed that our review should not cover these costs, totalling £[REDACTED], as set out in the table at paragraph 1.39 below.

### **Areas requiring technical input**

#### ***Resources costs***

- 1.29 The CAT includes the cost of time spent by the Developers' internal staff in managing the project and in the construction of the Transmission Assets.
- 1.30 The Developer has provided us with invoices and detailed schedules that show the number of days spent by each individual and activity during the construction of the Wind Farm. However, it is not our area of expertise to establish whether the time spent by the Developers' own staff is reasonable, or whether the daily rates used in the CAT are reasonable.
- 1.31 On this basis, we recommend that Ofgem should instruct technical advisors to review project management costs in order to determine whether these costs are being efficiently incurred.

- 1.32 [REDACTED]
- 1.32.1 [REDACTED]
- 1.32.2 [REDACTED]

- 1.33 As the Developers have not provided any further detail for the settlement payments we cannot confirm the nature of these costs. We therefore recommend that Ofgem consider whether these costs have been economically and efficiently occurred.

### Expected future costs

- 1.34 The CAT contains a number of costs for which the Developers have explained that the estimated costs were correct at April 2018 but there are now anticipated future costs. We have not been provided with further information in relation to these future costs and therefore recommend that Ofgem obtain an update of the following costs prior to finalising the ITV:

#### Expected future costs

	CAT Reference	Para Reference	Current CAT estimate £
E.ON Climate & Renewables UK Wind - Rampion CMA - Replace PO 4500117303	CR8	5.10	
Contracted project management	CR8	5.16	
CTV hire	CR8	6.23	
Bond Dickinson – Legal services	CR8	6.48	
RSK Environment - Environmental consultancy	CR8	6.52	
LV Shipping – Agency Services	CR2	7.33	
James Fisher – J-Tube installation	CR2	7.44	

- 1.35 As the Carillion contract was terminated before all costs included in the CAT were paid to the contractor, a cost reduction may be required. As such, we also recommend that Ofgem obtain an update in relation to the Carillion costs prior to finalising the ITV, as detailed at paragraph 9.8 of this report.

### Unsubstantiated costs

- 1.36 The CAT contains a number of estimates made by the Package Managers for expected contract variations and remaining budgets. The table below sets out the costs where the level of information provided by the Developers has been insufficient for us to substantiate the amount included in the CAT. This includes instances where the Developers have provided rationale for the inclusion of an estimate, whilst being unable to provide justification for the value of the estimate.
- 1.37 Such costs total £ [REDACTED] ([REDACTED] % of capital costs) as follows:

#### Unsubstantiated costs

	CAT Reference	Para Reference	OFTO amount £
Contingency	CR8	5.20	
Bond Dickinson – Legal services	CR8	6.48	
FGP - Land Agent	CR8	6.50	
South Downs National Park – Section 106 Agreement	CR8	6.53	
West Sussex CC – Planning Performance Agreement	CR8	6.53	
West Sussex CC – Section 106 Agreement	CR8	6.53	
FGP - Landowner payments	CR8	6.61	
Brown and May Marine LYD – Fishing Liaison Services	CR8	6.63	
Brown and May Marine Ltd – Fishing Agreement Fees	CR8	6.63	

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Pinsent Masons LLP - ROW OFTO Legal Advisor	CR8	6.67	
General Development costs	CR8	6.68	
Offshore completion works	CR2	7.26	
OTEAC - Fire Suppression System	CR2	7.35	
MML - 33kv Doors	CR2	7.38	
Wood Group - Corrosion project works	CR2	7.39	
TBC - DNV, LOC, JECs, LV, Elmer Ridge Cables, Mainbrace Marine, Driver Trett,	CR2	7.40	
MPI - Painting Jackup	CR2	7.41	
TBC – Painting	CR2	7.42	
Uniper - Substation engineering and commissioning support	CR2	7.52	
RO-1518 Float Pit Backfill – East	CR3	8.8	
RO-1518 Float Pit Backfill – West	CR3	8.8	
Installation West	CR3	8.15	
James Fisher - HDD duct and diving services	CR3	8.18	
OrdTek - UXO Consultancy	CR3	8.20	
N-Sea, DSMC, JFMS – Divers	CR3	8.24	
DNV - HV Electrical Testing	CR3	8.25	
EDS - Jointing & OSP	CR3	8.25	
Wind - Cable Storage	CR3	8.25	
? - Landfall Civils	CR3	8.25	
VolkerInfra – HDD	CR3	8.25	
VBMS - Bentoniting x3 (option to be taken up)	CR3	8.25	
N Sea, James Fisher - UXO & Boulder Clearance	CR3	8.25	
CCI - Cable Consultancy	CR3	8.25	
VBMS, Deep O, GMSL, ASSO - Post Lay Burial for Second Ends only	CR3	8.25	
N Sea, James Fisher, Fugro - Cable protection (Rock Bagging/Dumping)	CR3	8.25	
Prodiver - Diving Consultancy	CR3	8.25	
Carillion variations pending (VRE-001, 004, 006, 007, 008 and 009)	CR4	9.12	
Three Shires - Reinstatement civil work and planting	CR4	9.23	
TBC - Other Reinstatement work	CR4	9.25	
E.ON Energy Solutions Limited - Electricity Supply for Commissioning Works	CR5	10.6	
Uniper - Substation engineering and commissioning support	CR5	10.6	

- 1.38 In light of the high value of these costs, we recommend that Ofgem should obtain an update from the Developers on these shortly prior to finalising the ITV in order to determine whether these costs should be included within the Transmission Assets.

## CONCLUSION

- 1.39 Following the Ex-Ante Review and the supporting information provided, we consider that adjustments of £5,714,621 (1.58% of capital costs) are required to decrease the value of the costs included in the CAT as summarised in the following table (along with the costs which may be disallowed by Ofgem of £ (as per paragraph 1.28 above).

### Impact of cost assessment

	CAT Reference	Paragraph Reference	£
<b>Cost of Transmission Assets per CAT (excluding IDC)</b>		1.8	362,726,188
<b>Cable costs disallowed by Ofgem</b>			
Boulder and UXO clearance costs	CR8	6.3	
LS Cables - RO-1047 Offshore Export Cable Supply	CR3	8.1	
VBMS - RO-1067 LS Export Cable Installation	CR3	8.1	
VBMS - RO-1433 Export Cable Repair	CR3	8.1	

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Other Costs Associated with LS Cables	CR3	8.1	
GMSL - RO-1444 Fibre Optic Supply and Install	CR3	8.1	
VolkerInra - RO-1450 Fibre Optic HDD	CR3	8.1	
<b>Adjustments</b>			
Rix Shipping Co Ltd - CTV Charter - Rix Tiger	CR8	6.20	
George Johannes Limited - Guard Vessel Charter - George Johannes	CR8	6.21	
Rix Shipping Co Ltd – Charter of CTV Rix Panther	CR8	6.22	
Global Maritime Consultancy Ltd - MWS for export cables	CR8	6.42	
Uniper Technology - Document Management System (ThinkProject!)	CR8	6.66	
ABB - Project Management (OFTO)	CR2	7.25	
ABB - Offshore substation (Transformers)	CR2	7.25	
ABB - Offshore Substation (HV Switchgear)	CR2	7.25	
ABB - Offshore Substation (Reactive Equipment)	CR2	7.25	
ABB - Offshore Substation (Other scope)	CR2	7.25	
ABB - Offshore Substation (Water Mist System)	CR2	7.25	
ABB - Commissioning (OFTO)	CR2	7.25	
LV Shipping - Agency Services	CR2	7.33	
James Fisher - J Tube Installation	CR2	7.44	
Installation East	CR3	8.14	
Global Maritime – MWS	CR3	6.42	
Mitie security	CR3	9.20	
N Sea – Boulder Clearance for East Replacement	CR3	8.21	
Deep BV - Survey Support/Geophysical Survey	CR3	8.22	
Carillion -VRE-002 Onshore-Offshore end to end HV test	CR4	9.11	
Carillion -VRE-003 Fibre Optic Microwave Link Connection	CR4	9.11	
Carillion - VRE-005 Brooklands compound	CR4	9.11	
Miles Drainage - Reinstatement drainage costs	CR4	9.24	
ABB - Project Management (OFTO)	CR5	10.4	
ABB - Onshore Substation - Civil Works & BoP (includes civil works, 150 kV cable tails etc.)	CR5	10.4	
ABB - Onshore Substation - Reactive Equipment	CR5	10.4	
ABB - Onshore Substation – Transformers	CR5	10.4	
ABB - Onshore Substation - HV Switchgear	CR5	10.4	
ABB - Onshore Substation - LV Switchgear	CR5	10.4	

**Impact of cost assessment cont..**

	CAT Reference	Paragraph Reference	£
ABB - Onshore Substation (Harmonic filters)	CR5	10.4	
ABB - Onshore Substation (PD monitoring)	CR5	10.4	
ABB - Onshore Substation (Diesel Generator)	CR5	10.4	
ABB - Commissioning (OFTO)	CR5	10.4	
ABB - Project Management (OFTO)	CR7	11.4	
ABB - Onshore Substation - 400kV Cables to Bolney Substation	CR7	11.4	
			(5,714,621)
Total adjustments			
<b>Revised cost of Transmission Assets</b>			

**Summary of cost movements and unsubstantiated costs**

- 1.40 At **Appendix 1**, we set out a summary by CR category of the cost movements detailed in the table at paragraph 1.39 above, along with the unsubstantiated costs including those in the table in paragraph 1.37 above.

**Grant Thornton UK LLP****London****21 July 2021**

## 2 INTRODUCTION AND BACKGROUND

### INSTRUCTIONS

- 2.1 Grant Thornton UK LLP has been instructed by Ofgem to prepare an Ex-Ante Review of the cost information and cost templates prepared for Ofgem by the Developers in relation to the ROWF Transmission Assets.
- 2.2 The review is to understand whether the costs provided in the Developers' cost template can be matched to specific contracts or other supporting information, and whether appropriate metrics exist for cost allocation between transmission and generation. Our work involved tracing the amounts quoted in the cost assessment template to supporting contracts, schedules and other supporting information that indicates how costs have been derived. The review also involved a site visit to the Developers' premises in order to discuss the information provided, together with the basis for the cost allocation metrics used.
- 2.3 The purpose of a review at this stage is to:
- 2.3.1 determine if a developer cost estimate requires updating for the next stage of the transfer process, EPQ and ITT;
  - 2.3.2 aid technical evaluation by helping to identify 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; and
  - 2.3.3 assist determination of ITV for ITT by reviewing accuracy, allocation and completeness of cost information.
- 2.4 The Ex-Ante Review is based upon the Developers' 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).
- 2.5 Grant Thornton's review of the ex-ante cost information prepared by the Developers is limited to the scope as set out above and does not include detailed cost verification or any review of technical or legal issues.
- 2.6 Our review and this report is based upon the cost template submitted to Ofgem dated 9 April 2018 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 Developers up to 14 August 2018.
- 2.7 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.

- 2.8 This work does not constitute an audit performed in accordance with Auditing Standards.
- 2.9 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.
- 2.10 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.
- 2.11 No responsibility is accepted to anyone other than Ofgem.

## **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 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 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 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**

- 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.

## BACKGROUND TO THE WIND FARM

- 2.16 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.
- 2.17 The Wind Farm is expected to consist 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.
- 2.18 At the time of our review, the ROWF Transmission Assets were under construction. They were fully operational and commissioned by the end of 2018. The Transmission Assets are expected to deliver an availability of 98%, taking into account both planned and unplanned maintenance.

## OWNERSHIP STRUCTURE

- 2.19 At the time of our review, the Wind Farm was owned by ROW, which itself has three shareholders, E.ON (50.1%), Enbridge (24.9%) and UK Green Investment Rampion Limited (25%).

### 3 THE ROWF EX-ANTE REVIEW

- 3.1 The main purpose of the Ex-Ante Review of the Wind Farm's Transmission Assets is to determine whether the costs as set out in the Developers' cost template for the Transmission Assets are appropriately stated to use in Ofgem's cost assessment, and whether costs not directly attributable to either the Generation or Transmission Assets have been allocated between the two on a reasonable basis.
- 3.2 The starting point in our review of the cost information provided was the CAT dated 9 April 2018, and was based upon the Developers' estimates of the costs of the Transmission Assets up to April 2018.
- 3.3 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:
- 3.3.1 whether the costs can be directly attributed to either the transmission or generation businesses (as in the case of the main capital contracts); or
  - 3.3.2 what is considered the main driver behind the relevant development or project management cost (this is usually the degree of time/activity required in relation to different components of the Wind Farm development).
- 3.4 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 to actual payments, as that will be done for selected contracts as part of the later forensic review.

- 3.5 The cost assessment for the Transmission Assets of the Wind Farm as per the CAT is summarised below:

**Transmission Assets cost summary**

	CAT Reference	Paragraph Reference	Total costs £	%
Offshore substation	CR2	7.1		%
Submarine cable supply and install	CR3	8.1		%
Onshore cable supply and install	CR4	9.1		%
Onshore substation	CR5	10.1		%
Connection costs	CR7	11.1		%
Project common costs and development costs	CR8	6.1		%
Total capital costs			362,726,188	93.5%
Interest during construction		5.23	25,304,664	6.5%
			<b>388,030,852</b>	<b>100.0%</b>

- 3.6 Our findings in respect of the Ex-Ante Review are set out as follows:
- 3.6.1 The overview of the Developers' processes for accounting and procurement of the Wind Farm are set out in Section 4;
- 3.6.2 Our work in relation to costs and procurement matters which are common to the CAT as a whole are set out in Section 5;
- 3.6.3 Our work in relation to project common costs and development costs which have been allocated to the Transmission Assets, summarised on the CAT under CR8, is set out in Section 6;
- 3.6.4 Our work in relation to costs specific to each component of the Transmission Assets, summarised on the CAT under CR2, CR3, CR4, CR5 and CR7 is set out in Sections 7 to 11;
- 3.6.5 A summary of the issues identified as part of our review are set out in the executive summary (Section 1).

**INFORMATION PROVIDED**

3.7 Grant Thornton has relied upon the following information in reviewing the cost assessment for the Wind Farm:

3.7.1 Preliminary Information Memorandum dated September 2016 and Information Memorandum dated October 2016<sup>7</sup>

3.7.2 information contained in the Ofgem developer data room for the Wind Farm Project

3.7.3 information and explanations provided to us by the Developers. This included a meeting with the Developers on 7 June 2018 to discuss the Transmission Assets and telephone calls and email correspondence with the Developers.

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<sup>7</sup> Actual dates not specified

## 4 ROWF PROCESSES

### INTRODUCTION

- 4.1 In this section, we set out the processes that have been used by the Developers in relation to procurement and accounting for the Wind Farm, and in particular, the Transmission Assets.
- 4.2 From our discussions with the Developers 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:
- 4.2.1 competitive tendering;
  - 4.2.2 specific planning and budgeting tools, including building on experience obtained from similar projects; and
  - 4.2.3 controls over variation orders and large expenditure items.

### PROCUREMENT

#### Purchase requisitions

- 4.3 In order to trigger a procurement need, the requester raises a purchase requisition. This is an internal form, which is submitted to the Developers' purchasing department, and one which lists items to be purchased from an outside vendor, along with estimates of costs. The purchasing requisition will either be approved or denied by the purchasing department. Estimates of costs will be amended as necessary by the procurement team, and the derived estimate will be inputted into SAP. Once the purchasing department has approved the purchase requisition, a purchase order to the outside vendor (for the expected contract outturn) is issued.
- 4.4 The SAP system records the authorised contract sum, which reflects the contract value and an additional sum giving scope for variations without seeking increased funds. Additional contract sums have to be approved in line with the procurement process outlined below.

## Procurement process

- 4.5 The procurement process for Rampion follows E.ON's Business Governance Group Policy<sup>8</sup>. Members of E.ON's Procurement Team, who are managed separately from the Project Team (and as such are independent decision makers), oversee the application of the policy and operate the procurement process. The policy describes the process to be followed, which can be summarised as follows:
- 4.5.1 all purchases must be recorded in the SAP system, from placement of orders through to completion of the transaction;
  - 4.5.2 for purchases of less than £4,000 (€5,000) no specific process is employed. These can be made by the Project Team without reference to the Procurement Team and within the delegations of EC&R;
  - 4.5.3 for purchases above £4,000 (€5,000) but less than £40,000 (€50,000) a simplified process employed where a single quote is sufficient, however in most cases the responsible purchaser will require additional quotes and may elect to run a formal tender exercise;
  - 4.5.4 for purchases over £40,000 (€50,000), the Procurement Team is fully involved and manage the process. A full tender exercise is executed requiring involvement of at least three different parties; and
  - 4.5.5 for purchase over £800,000 (€1 million), in addition to the requirements of 4.3.4 above, the responsible purchaser must present the contract to the Sourcing Board for approval.
- 4.6 Prior to the start of the tendering for large purchases, a three step tender approval process is established to ensure transparency of spend as well as thorough procurement planning. This also ensures that all bundling opportunities are met.

<sup>8</sup> As Construction Service Provider (CSP) to ROW

- 4.7 For tenders above £800,000 (€1 million), the tender process, led by the supply chain organisation, has to be executed along the following five essential steps:
- 4.7.1 definition of tender strategy and tender targets (cost, quality, delivery)
- 4.7.2 'Tender-Category Strategy' alignment (if global category strategy exists<sup>9</sup>)
- 4.7.3 For all non-global categories:
- analysis of the respective supply market and its dynamics
  - specific analysis and profiling of existing and potential new supplier
  - analysis of nature of demand, cost drivers and volume forecasts
  - segmentation of category supply/demand positioning
- 4.7.4 Development of core elements of tender:
- Scope of tender, i.e. technical/subject specific specifications, service level agreements, volume forecasts etc.
  - Tender designs, i.e. lot structures, contract duration, pricing mechanisms, specific tender rules/criteria (e.g. transparency level, cost savings idea contribution etc.)
  - Supplier list for tender participation
  - Overall tender and negotiation time line
  - Tender evaluation model
- 4.7.5 Supplier selection for negotiation, and initial negotiation planning
- 4.8 The responsible purchaser sets up the tender evaluation model and aligns upfront with the requester (see paragraph 4.3 above) which evaluation model shall be used in the tender. 'Financial' parameters (eg cost/price, payment terms, total cost of ownership, net present value, internal rate of return etc) are always used to score the tenders. 'Non-financial' parameters (eg technical compliance, delivery terms, quality risks/commitments, references etc.) are optional and will be integrated if seen as essential for the awarding decision. If non-financial parameters are used then the financial parameters are required to have a weighting of at least 50% in the evaluation model.
- 4.9 All tenders are to be evaluated by the Supply Chain organisation, and if applicable, by the requester (see paragraph 4.3 above), in terms of technical and subject-specific content.

<sup>9</sup> ie if the purchasing category is managed by a Supply Chain Center of Competence (CoC) to ensure the strategy is defined by the category team leader(s) and aligned and communicated to the business

## MULTI-CONTRACT STRATEGY

- 4.10 A multi-contract approach has been taken in line with recent offshore wind projects completed by the CSP (including Humber Gateway), but with refinements made to the package 'quilt' (which describes the scope of the work packages used for construction) to take into account lessons learnt, cost reduction drivers identified and project specific requirements. The Developers explained that the CSP considers that a multi-contract strategy is most economical, and enables the Developers to enlist the services of suitable suppliers with the appropriate technical expertise and experience for specific tasks.

## COMPETITIVE TENDERING

- 4.11 As detailed at paragraphs 4.5 to 4.9 above, one of the main tools used by the Developers in achieving value for money and highest compliance to requirements is the use of a competitive tendering process for the selection of companies for the main elements of construction of the Wind Farm. The majority of contracts were put out to tender, with the Developers inviting specialist companies in each area to tender for the work.
- 4.12 As part of our work we have reviewed the tender evaluation reports, including the reason behind the award for each contract and ensured the processes are in line with those documented in the E.ON policy, in relation to four of the main contracts:
- Babcock offshore substation EPC (RO-1061)
  - ABB onshore and offshore substations (RO-1051)
  - Scaldis offshore substation installation (RO-1098)
  - Carillion onshore cable supply and installation (RO 1053).
- 4.13 Our reviews in this regard, including our comments upon the reason behind the award for each contract as given in the tender evaluation documentation, are detailed in the respective sections of the report, Sections 7 and 9.
- 4.14 As further explained in Section 8, we note that the Hellenic cable contracts (RO-1395 and RO-1519) and the VBMS export cable installation contract (RO-1532) were awarded to a single tenderer.

### ***Contracting***

- 4.15 All consents, licences, commercial agreements and contracts which are required to build and operate the Wind Farm are in the name of ROW.

## DECISION MAKING PROCESSES

- 4.16 The governance process for approvals is covered by a range of procedures, dictated by the E.ON group and EC&R.

### **Accounting and budgeting process**

- 4.17 The Developers use the SAP accounting system for the Wind Farm. The SAP system manages the procurement and payment of vendors' purchase orders for the Wind Farm. SAP records the actual costs and remaining committed costs.
- 4.18 The CAT has been populated manually, with information derived from contracts (contracted costs) and estimate of future costs (SAP authorised amounts), as well as SAP payment records. Each contract cost has been recorded as a specific line in the CAT.

### **Forecasts and cost controlling**

- 4.19 Capital expenditure, budgets and forecasts are updated on a monthly basis, with the Package Manager informing of any changes and providing rationale for remaining costs. Budgets are made up of actual costs incurred, committed costs and remaining expenditure and are reported to investors on a monthly basis.
- 4.20 While some costs are based upon 'lump sum' fixed price contracts and can be estimated with confidence, other activities are calculated on a 'time and materials' basis and are therefore more difficult to forecast (being subject to factors such as weather and sea conditions). The Developers have informed us that a number of the smaller ROW contracts (by value) are on a 'time and materials' basis and as such, the CAT cost for these contracts cannot simply be agreed to a fixed price stated in the contract.

### **Invoice approval**

- 4.21 When the 'First approver', being the person responsible for the contract, receives the invoice of costs incurred for 'release', the invoice amount is matched against the purchase order (and the payment plan if one has been created). The 'First approver' ensures that the terms, quantities and the total amount are in accordance with both the contract and the item(s)/services(s) received from the vendor.
- 4.22 The 'Second approver', depending upon the size and type of the invoice, approves the release of the invoice by the 'First approver'.

### **COST ACCOUNTING AND ALLOCATION METHODOLOGY**

- 4.23 Where project costs are not fully attributable to the Transmission Assets (shared costs), estimates have been made of the proportions of the costs that should be attributed to the Transmission Assets. The CAT identifies the proportions of costs allocated to the Transmission Assets, and we have requested supporting explanations and/or calculations for these allocations from the Developers.

4.24 Shared costs are typically indirect costs which are for the general benefit of the overall project and include:

4.24.1 general project management and administration;

4.24.2 project support functions eg procurement, cost control, health and safety;

4.24.3 general consultants eg surveys, legal, environmental and consent

4.24.4 equipment benefitting both the Transmission and Generation Assets.

4.25 Further detail on cost allocation, and the work we have undertaken in relation to the allocation methods, is set out in Section 5.

## 5 COSTS COMMON TO THE TRANSMISSION ASSETS AS A WHOLE

### INTRODUCTION

- 5.1 Whilst the CAT has broken 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.
- 5.2 As such, we have summarised the work that we have undertaken in relation to these costs and cost principles in this section, and we cross refer to our findings in relation to such costs and cost principles in the later sections of this report.

### RESOURCES COSTS

#### Internal project management costs

- 5.3 The CAT contains internal resources costs comprising the following amounts:

#### E.ON project management costs

Description	Ref	Total costs £	OFTO %	Total per CAT £	Total paid to date £
E.ON Climate and Renewables UK – CMA Rampion	5.8				
E.ON Climate & Renewables UK Wind - Rampion CMA - Replace PO	5.9				

- 5.4 E.ON leads the project management services to construct the ROWF. These costs cover the employment of all E.ON staff on the ROWF, which has been subsequently allocated to the OFTO on a person-by-person basis according to reports from the individuals involved, resulting in an overall allocation rate of █%<sup>10</sup>.
- 5.5 Originally the contract for providing these services was between ROW and E.ON Climate & Renewables UK Ltd. During 2016, the contract providing these services was transferred to E.ON Climate & Renewable UK Wind Ltd. This transfer required the set up of a new PO, and as a result the costs are included in two lines of the CAT (as set out in the table at paragraph 5.3 above).

<sup>10</sup> Including staff 'allocated' to the OFTO at 100%, ie wholly related to the Transmission Assets

- 5.6 The Construction Management Agreement (CMA) includes a schedule of rates for the time for E.ON staff involved in the project (of which we have been provided with an extract). The Developers explained that the rates do not contain any profit element as are set to cover the cost and overheads of the staff involved and ensure that the contract is not loss making for E.ON Climate & Renewables Wind Ltd, who are the entity contracted to ROW. However, as we have not seen any calculations in support of the rates used we have not been able to independently verify this.
- 5.7 Timesheets are collected in order to calculate the monthly invoice to ROW, which for staff on a direct project role includes an estimation of their time spent on the OFTO. For supporting staff not directly employed on a project role, an estimation of their time spend on the OFTO asset has been made.
- 5.8 In relation to the E.ON Climate and Renewables UK Ltd costs, ie pre 2016, the Developers have provided an invoice breakdown of costs paid to date, totalling £[REDACTED] (£[REDACTED] post-OFTO allocation). We have agreed costs totalling £[REDACTED] (£[REDACTED] post-OFTO allocation) to the four invoices included in the breakdown over £100,000.
- 5.9 In relation to the E.ON Climate & Renewables UK Wind Ltd costs of £[REDACTED] (£[REDACTED] post-OFTO allocation), the Developers have provided an invoice breakdown totalling £[REDACTED] (£[REDACTED] post-OFTO allocation). We have been provided with and reviewed all invoices exceeding £100,000, covering the period November 2015 to March 2018, which total £[REDACTED] (£[REDACTED] post-OFTO allocation).
- 5.10 We understand from the Developers that the April 2018 invoice is for £[REDACTED] (£[REDACTED] post-OFTO allocation). The Developers have also provided us with a detailed spreadsheet setting out the workings (by employee) in relation to the May 2018 invoice. This includes further OFTO-related costs of £[REDACTED]. As such, the CAT includes a further £[REDACTED]<sup>11</sup> for internal staff costs for June 2018 onwards that we have not verified. The Developers have explained that the amount in the CAT of £[REDACTED] was the estimated total cost that was expected in April 2018. However, it is now anticipated that with a later OFTO process, this figure will rise for the FTV. We have not been provided with an updated estimate for the staff costs until transfer. As such, we suggest that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 5.11 Although we have been able to agree a large proportion of the staff costs to invoices/ supporting calculations, as noted at paragraph 5.6 above we are unable to confirm whether the rates charged are reasonable. We recommend that Ofgem's technical advisors review these costs in order to assess whether the amount of time spent and rates are efficiently incurred and that the percentages allocated to the Transmission Assets are reasonable.

<sup>11</sup> [REDACTED]

**Cost allocation**

- 5.12 As noted at paragraph 5.4 above, internal project management costs have been allocated to the Transmission Assets at an overall allocation rate of █%. We have reviewed the Developers' monthly spreadsheets for the E.ON project management costs which sets out the number of days worked by each member of staff multiplied by the applicable rate as set out in the CMA. A specific OFTO allocation rate, based on the work carried out, is then applied to the costs for each individual<sup>12</sup>.

**Contracted Project Management**

- 5.13 The Developers have appointed contractors to complete ROW's project management team on an as needed basis. The Developers explained that E.ON has a number of framework agreements with contractor agencies. When services are required from a contractor, the agencies are contacted and CVs are supplied. E.ON then selects the preferred candidate for the work and a work instruction with the agency is negotiated and then placed between ROW and the agency. Each individual work instruction contains details of the services that are being supplied.
- 5.14 Contracted project management costs, totalling £█, are included in the CAT, with a single line for each contractor, as summarised in the below table:

**Contracted Project Management**

	No of contractors	Total costs £
ERSG	█	█
Quanta	█	█
RSL	█	█
Rullion	█	█
Taylor Hopkinson	█	█
TRS	█	█
Uniper	█	█
	█	█

- 5.15 We selected a sample of 24 contractors, with total costs of £█, for which the Developers provided a spreadsheet detailing all invoices to date along with estimations of outturn costs for contracts that are not yet complete. Whilst there were no individual invoices over £100,000, we obtained a sample invoice for each contractor and reviewed the number of days worked and the daily rates paid. Of the costs of £█ payable to these 24 contractors, £█ has been invoiced and paid to date, and total estimated costs were £█, ie an increase of £█ compared to the CAT.

<sup>12</sup> We note that we have not seen the workings behind the allocation rates applied to each individual

- 5.16 The Developers have explained that the total contractor costs of £[REDACTED] included in the CAT was the estimated cost at the time it was prepared in April 2018. However as contractors are in a continual process of either leaving, joining or extending work scopes, it is now anticipated that this figure will rise at FTV. We have not been provided with an updated estimate for the contractor costs until the end of the project. As such, we suggest that Ofgem should obtain an update from the Developers prior to finalising the ITV.

#### **Cost allocation**

- 5.17 The Developers note that in the majority of cases, the services provided by the contractors were either 100% OFTO or they have been allocated to the OFTO at 25%. However, in some cases, costs have been allocated in accordance with the specific tasks the contractors have performed on the OFTO.
- 5.18 We have reviewed the allocation rates for each of the 146 contractors, and note the following allocation rates used by the Developers to allocate the contractor costs to the Transmission Assets (estimated from the services provided):

#### **Contracted Project Management - cost allocations**

	No of contractors	Total OFTO costs £
100%		[REDACTED]
95%		[REDACTED]
85%		[REDACTED]
80%		[REDACTED]
75%		[REDACTED]
70%		[REDACTED]
60%		[REDACTED]
50%		[REDACTED]
25%		[REDACTED]
20%		[REDACTED]
15%		[REDACTED]
10%		[REDACTED]
4%		[REDACTED]
		[REDACTED]

- 5.19 As stated in paragraph 5.11 above, in relation to the internal staff costs, we recommend that Ofgem's technical advisors review the contractor costs in order to assess whether the amount of time spent and rates are efficiently incurred and that the percentages allocated to the Transmission Assets are reasonable.

## CONTINGENCIES

### Methodology

- 5.20 The Developers explained that at the start of the Rampion construction project, an overall project contingency level of ■■■% was provisioned for in the budget, above contracted and other planned spend. However, due to the stage of development, this original contingency provision has now been consumed. Subsequently, a lump sum provision of £■■■■ has been included within the CAT based upon professional judgement from the construction. The latter is to cover “*known unknowns*”.
- 5.21 We note that, as the contingency provision was based upon the CAT, as prepared up to April 2018, the current value of contingency related to the Transmission Assets is likely to have decreased as the construction of the Transmission Assets nears completion. Furthermore, by the time of the Ex-Post Review, the value of the contingencies will fall to zero, as all costs will be known at this stage.
- 5.22 As the Developers have provided no further rationale or support for the contingency provision, we are unable to substantiate this cost. We recommend that Ofgem should obtain an update from the Developers at the time of finalising the ITV.

## INTEREST DURING CONSTRUCTION

- 5.23 The CAT includes the Developers’ nominal pre-tax interest charge of £25,304,664. All interest during construction calculations have been based on a rate of 8%, as agreed between the Developers and Ofgem. For the avoidance of doubt, we have not verified the Developer’s assessment of interest during construction, as this is outside the scope of our review.

## COST PRINCIPLES

### Cost allocation

- 5.24 The majority of the costs relating to the six main construction packages<sup>13</sup>, are 100% attributable to the Transmission Assets. However, the CAT includes a number of common costs to the Wind Farm as a whole. Where costs are not directly attributable to either the transmission or generation business (shared costs), the Developers have allocated costs to the Transmission Assets (OFTO<sup>14</sup>) based upon the following methods:
- 5.24.1 Cost by cost basis. This basis is particularly relevant to Package 14, the Construction Management package used to enable delivery of the other construction packages. This package is split into five sub packages, each of which contains a proportion of OFTO cost. The Developers have looked at each of the costs incurred within these sub packages and where there are clear metrics or separate divisions with services in order to determine the OFTO share of the cost these have been used, for example for UXO & Boulder Clearance costs have been allocated based on the ratio of OFTO export cable length (20%) and array cable length (80%).
  - 5.24.2 Transmission Assets cost % of total capital expenditure (CAPEX). Where there are no obvious allocation metrics, a ratio of 25% of total cost has been applied. The Developers have explained that this ratio represents the approximate share of the cost of Transmission Assets CAPEX as a percentage of total Wind Farm CAPEX (excluding package 14).
  - 5.24.3 Shared resource costs. For the project management costs which are shared between transmission and generation, an allocation has been determined on a person-by person basis, based upon the number of days spent on specific tasks.

<sup>13</sup> Packages 6, 8, 10, 11, 12 and 15, as described in section 2.2.3 of the 'ROWF CAT Compilation Guide -Supporting the CAT Submission to Ofgem in April 2018' dated 9 April 2018

<sup>14</sup> Offshore Transmission Owner

- 5.25 The table below summarises the allocated costs included within the CAT, and the effective allocation rate<sup>15</sup> for such costs:

#### Allocated costs

	Paragraph Reference	Total £	Allocation £	Effective rate %
Internal Project Management - Resources	5.3			%
Contracted Project Management - Resources	5.14			%
Other Capital Costs - Common Costs	6.1			%
CTV & Offshore Service - Common Costs	6.1			%
Construction Base- Common Costs	6.1			%
DEVEX	6.68			%
				32.0%

- 5.26 This table shows that the allocation methodologies used by the Developers have resulted in cost allocations to the Transmission Assets at an average rate of 32.0%, which is higher than the rates we have seen on previous projects of around 25%. This is due to the higher effective rates of % and % in relation to resources costs, contracted project management and internal project management respectively, and 31.0% for other common costs.
- 5.27 Whilst the effective rates for shared resources of % and % are higher than the CAPEX rate used for resources on previous projects, we note that discussions on previous projects have highlighted that the amount of time spent by project teams on the Transmission Assets as a proportion of total time can be higher than the proportion of CAPEX. As such, a higher rate for shared resources may be justifiable.
- 5.28 The effective rate of % for 'Other Capital Costs - Common Costs' is high as a result of £ of costs relating to Fishing Liaison services allocated to the Transmission Assets at % (ie costs of £ included in the CAT). However, we have not been provided with any information from the Developers in relation to these costs.
- 5.29 In light of the higher effective allocation rates for shared costs to the Transmission Assets, particularly in relation to resources costs and other capital costs, we recommend that Ofgem should discuss cost allocation further with the Developers.

### Verification of allocation rates

#### Cost by cost basis

- 5.30 We have reviewed the calculation of allocation rates applied on a cost by cost basis and these appear to have been determined in line with the stated methodology.

#### Transmission Assets cost % of total capital expenditure (CAPEX)

- 5.31 The Developers have applied an allocation rate of 25% which they state is consistent with previous cost assessment process that E.ON has been directly involved with and also those of other developers.

<sup>15</sup> ie excluding costs with an 'allocation rate' of 100%

- 5.32 The Developers explained that 25% is approximately the ratio derived by dividing the value of the Transmission Assets by the total value of the ROW project (excluding any shared costs). However, they note that in practice this is likely to outturn at around 28%.
- 5.33 We have been provided with the supporting calculation and confirm a rate specific to the ROW project of 28.90%<sup>16</sup>. However, we note that if the disallowed export cable costs of £ [REDACTED] (see paragraph 8.6 below) are excluded then the allocation rate is 24.62%, ie in line with previous projects. As such, the rate of 25% applied by the Developers appears reasonable.

### **Shared resource costs**

- 5.34 Our verification work in relation to E.ON project management and Contracted project management costs is detailed in paragraphs 5.12 and 5.17 above. Whilst we can confirm the allocation for these costs have been conducted on a person-by-person basis, and as such, this may well be a well-informed assessment of the allocation of time spent, we are unable to confirm whether the allocation rates are reasonable.

### **Foreign exchange**

- 5.35 We discussed with the Developers their policy of minimising exchange rate risk exposure. In the first instance, all parties bidding for work are asked to submit prices in Sterling. If it is not possible for a selected supplier to complete the work in pound sterling, all contracts above a pound sterling equivalent cost of £100,000 are hedged at signing. However, the Developers explained that in practice, the Transmission Assets costs not in Sterling are minimal.
- 5.36 We confirmed that the CAT includes costs which are payable in foreign currencies (EUR) of approximately € [REDACTED] (£ [REDACTED]), converted using the spot rate on date of payment, as detailed in the below table:

#### **Costs denominated in foreign currencies**

		Ref	Euros	£ equivalent
Document management system	CR8	6.65	[REDACTED]	
Palfinger Marine GmbH - Supply of Davit Cranes	CR2	7.30	[REDACTED]	
OSP Completion Jack Up - Bluewater Shipping	CR2	7.47	[REDACTED]	
OSP Completion Jack Up -MPI – OSP Jackup Vessel	CR2	7.51	[REDACTED]	
Wirescan AS - LIRA testing export cables (Disallowed by Ofgem)	CR3	n/a	[REDACTED]	
			[REDACTED]	
Effective exchange rate				[REDACTED]

### **Related party transactions**

- 5.37 The Developer has confirmed that there have been no related party transactions, other than project management and personnel.

<sup>16</sup> £286,254,009 (OFTO-CAPEX) / £990,908,187 (Total estimated costs to completion excluding shared costs) = 28.90%

**Boundaries used for purposes of cost allocation**

5.38 The Information Memorandum confirms the boundary points of the Transmission Assets proposed by the Developers, as follows:

- offshore— located at the 33kV Switch Gear, cable “tails” on each Switchboard incomer GT1 LV1, GT1 LV2, GT2 LV1 and GT2 LV2.
- onshore – located at the 400kV busbar, busbar clamps for each busbar disconnector.

5.39 The details that we have seen reflect costs between these two boundary points.

## 6 PROJECT COMMON COSTS AND DEVELOPMENT COSTS

### PROJECT COMMON COSTS

6.1 The project common costs included within the CAT are comprised as follows:

#### Project common costs

	Reference	£
<b>UXO and Boulder Clearance</b>	6.3	
<b>CTV and Offshore Service</b>		
CTV hire	6.18	
CTV and Guard Vessel Fuel	6.24	
Berthing and Facilities	6.26	
PPE and Equipment	6.31	
Vessel Management	6.34	
<b>Construction Base</b>	6.35	
<b>Project Management</b>		
Project Insurance	6.39	
Facilities and Communications	-	
HSSE	6.44	
Land Agreements	6.47	
Miscellaneous Engineering	-	
E.ON Project Management	5.3	
Contracted Project Management	5.13	
<b>Other Capital Costs</b>		
Environment and Consents	6.51	
Local Authorities	6.53	
Property and Leases	6.56	
Fisherman Management	6.62	
Stakeholder Management	-	
Document Management	6.64	
OFTO Transaction	6.67	
<b>Contingency</b>	5.20	
<b>Development costs</b>	6.68	

- 6.2 With the exception of resource costs of £[REDACTED]<sup>17</sup> and contingency of £[REDACTED], which we consider in Section 5, we detail the above costs further in this section. The rates for the allocation of costs to the Transmission Assets, including the rationale for the allocation methodology and the procedures we have undertaken to verify these rates, are set out in Section 5.

## UXO AND BOULDER CLEARANCE

- 6.3 UXO and boulder clearance costs included in the CAT, totalling £[REDACTED], comprise the following:

### UXO and Boulder Clearance

Description	Ref	Total costs £	OFTO %	Total per CAT £	Paid to Date £	Difference £
EGS - Geophysical & Geotechnical Investigation	6.5	[REDACTED]				
Bibby Hydromap Ltd - Geophysical Survey	6.7	[REDACTED]				
Ordtek - UXO Consultancy	6.9	[REDACTED]				
N-Sea - UXO Investigations and Detonation	6.11	[REDACTED]				
Peter Madsen - Boulder Relocation	6.13	[REDACTED]				
Hughes Subsea/James Fisher - Boulder Relocation	6.15	[REDACTED]		[REDACTED]	[REDACTED]	
James Fisher - Boulder Relocation				[REDACTED]		
Utec Geomarine - Rock berm design for OSP	-			[REDACTED]		
				[REDACTED]		

- 6.4 We have not been provided with any of the contracts for the UXO and boulder clearance costs as the Developers have explained that the contracts comprise both fixed and variable costs and therefore the contract does not set out a total price for the work to be carried out. In order to substantiate the costs included in the CAT we have obtained a breakdown of invoices paid to date and have reviewed all invoices over £100,000 (post-OFTO allocation).
- 6.5 The Developers entered into a contract with EGS for 'Geophysical and Geotechnical Investigation'. The Developers explained that this contract now complete and have provided a breakdown of invoices totalling £[REDACTED]. There were no invoices (post OFTO allocation) over £100,000.

<sup>17</sup> E.ON project management costs of £[REDACTED] + contracted project management costs of £[REDACTED] = £[REDACTED]

- 6.6 The Developers explained that the contract relates to both the Transmission and Generation assets. For shared costs, the Developers have applied a 20% allocation rate for the OFTO assets based upon a rough estimation of how much work is carried out between the assets, being approximately the ratio of OFTO export cable length (32km ie 20%) and array cable length (131km ie 80%). The following costs, as noted by the project manager, relate to the Transmission Assets (either 100% or shared):

**EGS - Geophysical & Geotechnical Investigation**

	Total cost £	OFTO %	OFTO cost £
Geophysical Survey – Rampion			
VO1 - archaeological target picking			
Additional onshore processors			
Creation of drying tables			
Raw data archiving and drying tables			
Additional mods to drying table (Nselby)			

- 6.7 The Developers entered into a contract with Bibby Hydromap for geophysical surveys. The Developers note that the Bibby Hydromap contract is now complete and have provided a breakdown of invoices totalling £[REDACTED], with no individual amount (post OFTO allocation) over £100,000.
- 6.8 The contract was originally placed to survey an amendment to the route of cable two but was also used for other non-OFTO works and therefore relates to both the Transmission and Generation Assets. As per the contract manager, £[REDACTED] ([REDACTED]%) of the total costs relates to the Transmission Assets. The Developers have not provided a breakdown or further information in support of the OFTO costs of £[REDACTED] nor support to the allocation rate. However, we have not looked into this further as understand that all of the UXO and boulder clearance costs are to be disallowed by Ofgem (see paragraph 6.17 below).
- 6.9 The Developers entered into a contract with Ordtek for UXO consultancy. The Developers note that this contract is now complete and have provided a breakdown of invoices, totalling £[REDACTED]. There were no invoices (post OFTO allocation) over £100,000.
- 6.10 The Developers explained that the contract relates to both the Transmission and Generation Assets. For shared costs, the Developers have applied a 20% allocation rate for the OFTO assets, on the same basis as for the EGS costs detailed at paragraph 6.6 above. The Developers have explained that the OFTO amount included in the CAT was incorrectly calculated at £[REDACTED], an over statement of £[REDACTED]<sup>19</sup>. We do not propose an adjustment for this difference.

<sup>18</sup><sup>19</sup>

- 6.11 The Developers entered into a contract with N-Sea for UXO investigations and detonation. The Developers explained that this contract is now complete and have provided a breakdown of invoices totalling £[REDACTED]. We have agreed costs totalling £[REDACTED] (£[REDACTED] post OFTO allocation at [REDACTED]%) to the six invoices over £100,000 (post OFTO allocation).
- 6.12 The Developers explained that the contract relates to both the Transmission and Generation Assets. For shared costs, the Developers have applied a 20% allocation rate for the OFTO assets, on the same basis as for the EGS costs detailed at paragraph 6.6 above. The following costs, as noted by the project manager, relate to the Transmission assets (either 100% or shared):

**N-Sea - UXO Investigations and Detonation**

	Total cost £	OFTO %	OFTO cost £
UXO Investigation & Option disposal	[REDACTED]		
Continue with UXO Investigations	[REDACTED]		
Additional funds UXO disposal/ongoing	[REDACTED]		
Additional funds UXO disposal/ongoing	[REDACTED]		
Additional offshore time UXO detonation	[REDACTED]		
	[REDACTED]		

- 6.13 The Developers entered into a contract with Peter Madsen for 'Boulder Relocation' to remove nearshore boulders only. It therefore relates 100% to the Transmission assets.
- 6.14 The Developers explained that the Peter Madsen contract is fully paid and have provided a breakdown of invoices totalling £[REDACTED]. We have agreed costs totalling £[REDACTED] to the five invoices over £100,000.
- 6.15 The Developers entered into a contract with Hughes Subsea for 'Boulder Relocation'. During the delivery of the work, Hughes Subsea were taken over by James Fisher. The Developers explained that the Hughes Subsea/ James Fisher contract is now complete and have provided a breakdown of invoices totalling £[REDACTED]. We have agreed costs of £[REDACTED] (£[REDACTED] post OFTO allocation) to the 11 invoices over £100,000 (post OFTO allocation).
- 6.16 The Developers explained that the contract relates to both the Transmission and Generation Assets. For shared costs, the Developers have applied a 30% allocation rate for the OFTO assets. This is based on the 20% allocation rate as for the EGS costs detailed at paragraph 6.6 above plus additional variations that are exclusively related to the Transmission Assets. These variations include rock bagging of the export cable, additional boulder clearance work relating to the export cables and boulder clearance work for the dedicated fibre optic cable. The Developers have explained that the OFTO amount included in the CAT was incorrectly calculated at £[REDACTED]<sup>20</sup>. We do not propose an adjustment for this difference.

<sup>20</sup> [REDACTED]

- 6.17 We understand that the above UXO and boulder clearance costs relate to the export cable costs that have been disallowed by Ofgem (see paragraphs 8.2 to 8.6 below), and that Ofgem has therefore made the decision to also disallow these costs.

## CTV AND OFFSHORE SERVICE

### CTV hire

- 6.18 CTV hire costs of £[REDACTED] are summarised as follows:

#### CTV hire

Description	Total costs £	Allocation rate	Total per CAT £
Rix Shipping Co Ltd – CTV Charter – Rix Tiger	[REDACTED]		
Rix Shipping Co Ltd – Charter of CTV Rix Panther	[REDACTED]		
James Fisher Marine Services Ltd – Multi Purposes Guard Vessel	[REDACTED]		
George Johannes Limited – Guard Vessel Charter	[REDACTED]		
Turbine Transfers Limited – Charter of Survey CTV – RRV Audrey	[REDACTED]		
			[REDACTED]

- 6.19 In relation to the above costs, the Developers have provided an invoice breakdown for the total costs paid to date, as set out in the table below. No individual invoice exceeds £100,000.

#### CTV hire – paid to date

Description		Total per CAT £	Total paid to date £	Difference £
Rix Shipping Co Ltd – CTV Charter – Rix Tiger	6.20	[REDACTED]		
Rix Shipping Co Ltd – Charter of CTV Rix Panther	6.22	[REDACTED]		
James Fisher Marine Services Ltd – Multi Purposes Guard Vessel	-	[REDACTED]		
George Johannes Limited – Guard Vessel Charter	6.21	[REDACTED]		
Turbine Transfers Limited – Charter of Survey CTV – RRV Audrey	6.22	[REDACTED]		

- 6.20 The Rix Tiger was specifically chartered for the OSP. The Developers explained that the Rix Tiger contract has been extended and the vessel has now been retained longer on the project to support the substation completion works. The total value authorised in SAP for the contract is now £[REDACTED]. The vessel is typically working a normal 12 hour day on a rate of £[REDACTED]. The paid to date figure of £[REDACTED] includes all hire up to the end of April 2018. The Developers state that the remaining SAP authorisation of £[REDACTED] will pay for the hire of the vessel up to the end of August 2018, which is when the charter is currently planned to end. The Developers therefore consider an adjustment of £[REDACTED] is necessary to increase the amount included in the CAT of £[REDACTED] to £[REDACTED].

- 6.21 Included in the CAT are costs of £[REDACTED] in relation to the George Johannes Limited Guard Vessel Charter, being the total value authorised for the contract. The Developers note that the vessel is being hired on a day rate of £[REDACTED]. The paid to date figure of £[REDACTED] includes all hire up to the end of April 2018. The Developers explained that the remaining SAP authorisation of £[REDACTED] would pay for the hire of the vessel up to the end of December 2018 but that it is unlikely that the vessel will need to be retained on the project to support the cable completion work up to this point. The Developers expect that the cable works are likely to complete during September 2018 and therefore propose an adjustment to reduce the CAT by £[REDACTED]<sup>21</sup> in relation to the 92 days for October to December 2018.
- 6.22 In relation to costs included in the CAT for the 'Charter of CTV Rix Panther' of £[REDACTED] and the 'Turbine Transfers Limited Charter of Survey CTV – RRV Audrey' of £[REDACTED], the Developers note that paid to date amounts of £[REDACTED] and £[REDACTED]<sup>22</sup> respectively are the final amounts. As such, we propose an adjustment to decrease the CAT by £[REDACTED] in relation to the Rix Panther.
- 6.23 The Developers have explained that the CTV plan was adjusted after the CAT was submitted and therefore vessels not listed in the CAT are now serving the OFTO needs on the site. As we have not been provided with further information in relation to these new vessels, we recommend that Ofgem discuss these vessel costs further with the Developers prior to finalising the ITV.

### CTV and Guard Vessel Fuel

- 6.24 The CAT includes CTV and Guard Vessel Fuel costs of £[REDACTED] (being total costs of £[REDACTED] allocated to the Transmission assets at 25%). The Developers have provided a breakdown of invoices for costs paid to date of £[REDACTED]<sup>23</sup> (£[REDACTED] pre-OFTO allocation). No individual invoice exceeds £100,000.
- 6.25 The Developers explained that the cost of fuel is a function of vessels on site, activity of vessels, type of vessel and fuel price and that the paid to date figure covers fuel use up to around mid/late April. We understand that CTVs will be in use on the ROW site until September/October 2018, which equates to a further period of around six months. The difference between the construction teams estimate of total fuel cost of £[REDACTED] and paid to date figure of £[REDACTED], results in £[REDACTED] of fuel to be purchased over the six month period, equivalent to roughly 35 to 39 deliveries at a cost of £[REDACTED] to £[REDACTED] per delivery.

<sup>21</sup> [REDACTED]

<sup>22</sup> [REDACTED]

<sup>23</sup> [REDACTED]

## Berthing and Facilities

6.26 Berthing and facilities costs included in the CAT, totalling £[REDACTED], comprise the following:

### Berthing and facilities

	Ref	Total costs £	OFTO %	Total per CAT £
Adler and Allan - Fuel tank servicing	-	[REDACTED]		
Adler and Allan - Fuel tank servicing	-	[REDACTED]		
Cutts Marine - Newhaven Marina Re-fuelling Bert Mods	-	[REDACTED]		
James Fisher Marine Services Ltd - Newhaven Port Temporary pontoon	6.27	[REDACTED]		
Newhaven Marina Limited - Newhaven Marina Fuelling	-	[REDACTED]		
Newhaven Marina Limited - Newhaven Marina Office	-	[REDACTED]		
Newhaven Port & Properties Ltd - Quay rent, service charge, land rent	6.27	[REDACTED]		
Newhaven Port & Properties Ltd - Quay option fee	-	[REDACTED]		
Newhaven Port & Properties Ltd - Harbour Dues	-	[REDACTED]		
Newhaven Port & Properties Ltd - Short Notice Port Services	-	[REDACTED]		
Newhaven Port & Properties Ltd - Purchase of Erected Fencing	-	[REDACTED]		
Newhaven Port & Properties Ltd - Construction base lease	6.27	[REDACTED]		
Newhaven Port & Properties Ltd - Warehouse rent	-	[REDACTED]		
		[REDACTED]		

6.27 For the three costs above £100,000, the Developers have provided an invoice breakdown for the total costs paid to date, as set out in the table below. No individual invoice exceeds £100,000.

### Berthing and facilities – paid to date

Description	Ref	Total per CAT £	Total paid to date £	Difference £
James Fisher Marine Services Ltd – Newhaven Port Temporary pontoon	6.28	[REDACTED]		
Newhaven Port and Properties Ltd – Quay rent, service charge, land rent	6.29	[REDACTED]		
Newhaven Port and Properties Ltd – Construction base lease	6.30	[REDACTED]		

6.28 The Developers explained that the costs paid to James Fisher Marine Services Ltd for the Newhaven Port Temporary Pontoon of £[REDACTED] (£[REDACTED] post-OFTO allocation) cover the hire of the pontoon up to until April 2018. The Developers explained that the difference of £[REDACTED]<sup>24</sup> is to cover a further five months' rent<sup>25</sup> at £[REDACTED] per month<sup>26</sup>, ie until September 2018, when the cable replacement operations are expected to complete.

6.29 The Developers have confirmed that no further payments are to be made in relation to the 'Newhaven Port and Properties Ltd – Quay rent, service charge and land rent'. We do not propose an adjustment for the difference of £[REDACTED] between the costs included in the CAT and the total paid to date (post-OFTO allocation).

<sup>24</sup> [REDACTED]

<sup>25</sup> [REDACTED]

<sup>26</sup> [REDACTED]

- 6.30 The CAT includes costs payable to Newhaven Port and Properties Ltd for lease of the construction base. The Developers note that the paid to date figure of £[REDACTED] (£[REDACTED] post-OFTO allocation) covers the rent up to until 24 June 2018. We understand from the Developers that the three year lease period will be completed on 1 November 2018. The Developers note that the annual rent is £[REDACTED] and a service charge of [REDACTED]% of the rent value is levied, which we have agreed to the lease agreement<sup>27</sup>. As such, the total amount payable for the three year lease period is £[REDACTED]<sup>28</sup>. The Developers state that total costs were estimated at £[REDACTED] (pre-OFTO allocation), an additional £[REDACTED], to account for any unforeseen additional costs associated with the lease. As no additional costs have been incurred, the Developers have confirmed that this additional estimate is no longer required. We do not propose an adjustment for the difference of £[REDACTED]<sup>29</sup>.

### PPE and Equipment

- 6.31 PPE and Equipment costs included in the CAT, totalling £[REDACTED], comprise the following:

#### PPE & Equipment

	Ref	Total costs £	OFTO %	Total per CAT £
The Heigtec Group - Climbing Equipment	-	[REDACTED]		
Sealite United Kingdom Limited - Navigational markers	-	[REDACTED]		
Arco Ltd - PO for PPE stored/used NCB / Offshore PO (1)	-	[REDACTED]		
Arco Ltd - PO for PPE stored/used NCB / Offshore PO (2)	-	[REDACTED]		
Cromwell Group (Holdings) Ltd - Tools and Materials	-	[REDACTED]		
Latchways plc - Latchways SRL Spares	-	[REDACTED]		
Pinpoint Manufacturing Limited - Lifting Bags	-	[REDACTED]		
Coussens Cranes Ltd - Onshore Crane Hire	-	[REDACTED]		
Clark Lifting Solutions UK Ltd - Rotohandler Hire	-	[REDACTED]		
Peter Leonard Marine - Servicing and Repair Offshore Kit	-	[REDACTED]		
GSE Rentals Ltd - Supply of Rental Survey Kit	-	[REDACTED]		
Newey & Eyre Ltd - Electrical Supplies	-	[REDACTED]		
B & G Lock & Tool Co - Locks	-	[REDACTED]		
Hanna Instruments - Water analysis equipment	-	[REDACTED]		
Teledyne Tss - Target Scaling Samples, inc 1200mm export	-	[REDACTED]		
Aggreko UK Limited - Generator and Temporary Power	-	[REDACTED]		
Screwfix Direct Ltd - Tool Supply	-	[REDACTED]		
Certex - Lifting equipment inspections	-	[REDACTED]		
Certex - Lifting equipment inspections	-	[REDACTED]		
Unique System - Survey equipment	6.32	[REDACTED]		
		[REDACTED]		

<sup>27</sup> [REDACTED]  
[REDACTED]  
[REDACTED]

<sup>28</sup> [REDACTED]

<sup>29</sup> [REDACTED]

- 6.32 The Developers have provided an invoice breakdown for the total costs paid to date in relation to the 'Unique System – Survey equipment' costs of £[REDACTED] (£[REDACTED] post-OFTO allocation). No individual invoice exceeded £100,000. The Developers explained that an allocation rate of 50% has been applied as the equipment is used equally between Transmission and Generation Assets.
- 6.33 We understand that total costs paid to date of £[REDACTED] (£[REDACTED] post-OFTO allocation) relate to the cost of the hire of equipment deployed on the RRV Audrey up to mid-April 2018. The Developers state that surveying work will continue through to 2018 and therefore the remaining costs of £[REDACTED] (£[REDACTED] post-OFTO allocation) will be used for equipment hire throughout this period.

### Vessel Management

- 6.34 Vessel Management costs, totalling £[REDACTED] (allocated to the Transmission Assets at [REDACTED]%), are all individually below £100,000 and therefore we have not looked into these costs further.

### CONSTRUCTION BASE

- 6.35 Construction Base costs included in the CAT, totalling £[REDACTED], comprise the following:

#### Construction Base

	Ref	Total costs £	OFTO %	Total per CAT £
Acclaim Handling Ltd - Warehouse Plant and Racking	-	[REDACTED]		
BT Fleet Ltd - Temp Site Vehicle	-	[REDACTED]		
City Electrical Factors Ltd - White Goods	-	[REDACTED]		
CK Office Solutions Limited - Managed Print Facility	-	[REDACTED]		
CLS Civil Engineering Ltd - Newhaven temporary car park	-	[REDACTED]		
Eden Springs UK Limited - Water Dispensers and Rental	-	[REDACTED]		
Ingenious Ltd - Newhaven IT Support	-	[REDACTED]		
Lift Safe Ltd - EP400 Power Truck	-	[REDACTED]		
McQuillan Signs & Graphics - Supply of tags	-	[REDACTED]		
OCS Group UK Ltd - Cleaning NCB	-	[REDACTED]		
Portakabin Limited - Installation of modular buildings	6.36	[REDACTED]		
Premier Modular Limited - Phase 1.5 and 2 of NCB Office Buildings	6.36	[REDACTED]		
Safe Site Facilities - temporary site barriers	-	[REDACTED]		
SeaPlanner Limited - NCI Tower Equipment Repairs	-	[REDACTED]		
Secure One Ltd - Site Security	-	[REDACTED]		
Sitelink Communications Ltd - IT Support, Broadband and VHF redundancy	-	[REDACTED]		
Speednet Scotland Ltd - Temporary Site comms Newhaven	-	[REDACTED]		
Street Food - Site Catering	-	[REDACTED]		
SUEZ Recycling and Recovery UK Ltd - Waste Facilities Contract NCB	-	[REDACTED]		
TNT UK Limited - Courier & Postage	-	[REDACTED]		
Vear Building Services Ltd - Building and Construction	-	[REDACTED]		
Wagstaff Interiors Group Ltd - Furniture for NCB	-	[REDACTED]		
Wasp Printers Ltd - Reprographics	-	[REDACTED]		
Zwanny Ltd - Supply of a fence spill boom	-	[REDACTED]		
		[REDACTED]		

- 6.36 For the two costs above £100,000, the Developers have provided an invoice breakdown for the total costs paid to date, as set out in the table below. We have agreed the one amount above £100,000<sup>30</sup> to the invoice.

**Construction Base – paid to date**

Description	Ref	Total per CAT £	Total paid to date £	Difference £
Portakabin Limited – Installation of modular buildings	6.37			
Premier Modular Limited – Phase 1.5 and 2 of NCB Office Buildings	6.38			

- 6.37 We understand that the sum paid to date to Portakabin Limited covers the modular building hire up to the end of March 2018. The original contract was valued at £[REDACTED], which we have agreed to the signed order letter dated 17 December 2015<sup>31</sup>. The total costs estimated by the Developers of £[REDACTED] includes an additional estimate of £[REDACTED] to cover variations to the scope of supply. We have been provided with five variation orders totalling £[REDACTED]. The Developers note that the difference of £[REDACTED] relates to further costs yet to be incurred. We have not looked into this difference further.
- 6.38 In relation to the ‘Premier Modular Limited – Phase 1.5 and 2 of NCB Office Buildings’ costs, the Developers note that the paid to date sum covers the modular building hire up to the end of April 2018. We have been provided with the framework agreement for temporary office facilities and associated work, dated 28 July 2017, which sets out a contract price of £[REDACTED]. The Developers note that there should be no further costs and therefore the CAT amount should be revised to £[REDACTED]<sup>32</sup>. We do not propose an adjustment for the difference of £[REDACTED]<sup>33</sup>.

<sup>30</sup> Premier Modular Limited, Invoice n510602199

<sup>31</sup> Order Reference: RO-1195, Order Title: Provision of Portable Cabin Office and Welfare Facility and Associated Ground Works. Location: Newhaven Construction Base, Rampion Offshore Wind Farm

<sup>32</sup> [REDACTED]

<sup>33</sup> [REDACTED]

## PROJECT MANAGEMENT

### Project Insurance

6.39 Project insurance costs included in the CAT, totalling £[REDACTED], comprise the following:

#### Project Insurance

	Ref	Total costs £	OFTO %	Total per CAT £
Aon Limited - Estimated maximum loss	-	[REDACTED]		
ATS - Charters liability insurance	-	[REDACTED]		
AXA - CAR Insurance	6.40	[REDACTED]		
E.ON Insurance - Charters liability insurance deposit	-	[REDACTED]		
Global Maritime Consultancy Ltd - MWS for export cables	6.41	[REDACTED]		
Global Maritime Scotland Ltd - MWS for export cables	-	[REDACTED]		
HDI Global - Pre-CAR Insurance	-	[REDACTED]		
London Offshore Consultants Ltd - RO-1137-WI-0001 - MWS for OSP onshore	-	[REDACTED]		
London Offshore Consultants Ltd - RO-1137-WI-0004 - Bould Clearance Vessel Suitability	-	[REDACTED]		
London Offshore Consultants Ltd - RO-1137-WI-0006 - Jacket Topside Install	-	[REDACTED]		
Uniper Risk Consulting GmbH - Third party liability insurance from AIG	6.43	[REDACTED]		
		[REDACTED]		

6.40 AXA construction all risk (CAR) insurance costs of £[REDACTED] (of which 25% (£[REDACTED]) has been allocated to the Transmission Assets) have been fully paid and we have agreed the cost to three invoices, as summarised in the table below:

#### AXA – CAR insurance

Description	SAP Purchase Order (PO) number	Invoice amount £
Construction Rampion Offshore Wind Farm Insurance tax 9.5% - 1 <sup>st</sup> instalment	[REDACTED]	[REDACTED]
Construction Rampion Offshore Wind Farm Insurance tax 9.5% - 2 <sup>nd</sup> instalment	[REDACTED]	[REDACTED]
Construction Rampion Offshore Wind Farm Insurance tax 9.5% - 2 <sup>nd</sup> instalment – Endorsement number 2	[REDACTED]	[REDACTED]
		[REDACTED]

6.41 Included in the CAT are costs of £[REDACTED] (which are [REDACTED]% OFTO related) for ‘Global Maritime Consultancy Limited – MWS for export cables’. Total costs paid to date total £[REDACTED] which we understand covers all MWS work in relation to the offshore export cables up to the end of April 2018. We note that the CAT also includes £[REDACTED] in CR3 (see paragraph 8.16 below) in relation to ‘Global Maritime – MWS’ costs, ie total MWS costs of £[REDACTED].

6.42 The Developers explained that the remaining work of the MWS concerns the installation of the replacement west cable, which is now being undertaken. Based upon previous experience of the work being undertaken, the Developers state that it is currently estimated by the construction team that this contract will outturn at around £[REDACTED]. As such, the Developers state that the CAT should be updated to reflect this, with all costs to be included in CR8. As such we propose adjustments to decrease CR3 costs by £[REDACTED] (to £[REDACTED]) and increase the CR8 costs by £[REDACTED] to £[REDACTED].

- 6.43 The Developers note that the 'Uniper Risk Consulting GmbH – third party liability insurance from AIG' costs of £[REDACTED] (of which [REDACTED]% (£[REDACTED]) has been allocated to the Transmission Assets) are fully paid. We have been provided with an invoice which, post-OFTO allocation, agrees to the amount in the CAT<sup>34</sup>.

## HSSE

- 6.44 HSSE costs included in the CAT, totalling £[REDACTED], comprise the following:

### HSSE

	Ref	Total costs £	OFTO %	Total per CAT £
Active Training Team Limited - Safety Leadership Training	-	[REDACTED]		
Alexandra - Workwear	-	[REDACTED]		
ARCO - PPE	-	[REDACTED]		
Bisarto - HSSE comment cards and collection boxes	-	[REDACTED]		
Mott MacDonald Ltd - ROW Independent Project Monitor	-	[REDACTED]		
Pristine Condition - Manual handling training	-	[REDACTED]		
RoSPA Enterprises - Permit to work training	-	[REDACTED]		
Steel River Consultants - HSSE Management	-	[REDACTED]		
Steel River Consultants - HSSE Management	-	[REDACTED]		
Steel River Consultants - HSSE Management	6.45	[REDACTED]		
		[REDACTED]		

- 6.45 Costs in relation to Steel River Consultants have been allocated to the Transmission Assets at a rate of [REDACTED]% based upon Steel River Consultants' estimate of the time spent working on OFTO HSSE. The Developers have provided an invoice breakdown of costs paid to date, totalling £[REDACTED] (£[REDACTED] post OFTO-allocation), covering all services within this contract up to the end of May 2018. No individual invoice exceeded £100,000. We note a difference of £[REDACTED] (£[REDACTED] post OFTO-allocation) between the estimated total costs and the costs paid to date.
- 6.46 We have been provided with the consultancy services agreement between ROW and Steel River Consultants Limited, dated 21 December 2015, we sets out a fixed monthly price of £[REDACTED]. The Developers note that the contract term completes at the end of September 2018, by which point most of the construction work will have been undertaken. As such, the fixed element of the contract still to be paid will cost £[REDACTED]<sup>35</sup>. The Developers further explained that the remaining estimated costs of £[REDACTED]<sup>36</sup> (£[REDACTED] post-OFTO allocation) will cover both variable elements of the contract and further scope to the contract which is likely to be needed.

<sup>34</sup> Doc-No.RE1613, dated 15 January 2016, invoice for AIG insurance, total: £[REDACTED]. [REDACTED]

<sup>35</sup> 4 months to September 2018 [REDACTED]

<sup>36</sup> [REDACTED]

## Land Agreements

- 6.47 Land agreement costs are wholly related to the Transmission Assets. The costs included in the CAT, totalling £[REDACTED], comprise the following:

### Land agreements

	Ref	Total per CAT £	Total paid to date £	Difference £
Bond Dickinson – Legal services	6.48	[REDACTED]	[REDACTED]	[REDACTED]
Bond Dickinson – OFTO Legal Support	-	[REDACTED]	[REDACTED]	[REDACTED]
FGP – Land Agency Services	6.49	[REDACTED]	[REDACTED]	[REDACTED]
FGP – Land agent	6.50	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]		

- 6.48 We understand from the Developers that £[REDACTED] has been paid to Bond Dickinson to cover legal services until the end of May 2018. The construction team have stated that the contract is still expected to outturn at £[REDACTED] (as per the CAT) on the basis that as reinstatement work has been significantly delayed through the liquidation of Carillion (who were originally contracted to provide these services), there is a significant amount of landowner associated work still to be completed. We recommend that Ofgem should obtain an update from the Developers prior to finalisation of the ITV.
- 6.49 The Developers note that the paid to date figure of £[REDACTED] for FGP land agency services is the final cost and therefore the CAT should be adjusted to reflect this. However, we do not propose an adjustment for the difference of £[REDACTED].
- 6.50 The CAT includes 'FGP Land agent' costs of £[REDACTED], of which £[REDACTED] has been paid to date, covering work up until the end of April 2018. The construction team have stated that the contract is still expected to outturn at £[REDACTED] (as per the CAT) on the basis that as reinstatement work has been significantly delayed through the liquidation of Carillion (which was originally contracted to provide these services), there is a significant amount of landowner associated work still to be completed. In light of the significant difference of £[REDACTED] between the estimated costs and costs paid to date, we recommend that Ofgem should obtain an update from the Developers prior to finalisation of the ITV.

**OTHER CAPITAL COSTS****Environment and Consents**

6.51 Environment and consents costs included in the CAT, totalling £[REDACTED], comprise the following:

**Environment and Consents**

	Ref	Total costs £	OFTO %	Total per CAT £
ABP Marine Environmental Research - Desk study - Coastal impacts	-	[REDACTED]		
Anatec Ltd - Navigation Assessment - VO4 Shipping Data	-	[REDACTED]		
Anatec Ltd - Navigation Assessment - VO5 Rock Matt Assessment	-	[REDACTED]		
Anatec Ltd - Navigation Assessment - VO6 Navigational Risk	-	[REDACTED]		
Anatec Ltd - Navigational Safety Document Review	-	[REDACTED]		
DECC - Safety Zones Application	-	[REDACTED]		
GoBe Consultants Limited - RO-1139 - Offshore consents support	-	[REDACTED]		
HSE - Health & Safety Executive	-	[REDACTED]		
Highways England - Highways England	-	[REDACTED]		
Marine Management Organisation - MMO application fees	-	[REDACTED]		
Mediacom - Publishing public notices	-	[REDACTED]		
Ouse & Adur Rivers Trust - Ouse & Adur Rivers Trust	-	[REDACTED]		
RSK Environment - Environmental consultancy	6.52	[REDACTED]		
Sussex Wildlife Trust - Sussex Wildlife Trust	-	[REDACTED]		
The Natural Power Consultants Ltd - Offshore Pre-construction Surveys	-	[REDACTED]		
Wessex Archaeology Limited - WSI and Retained Archaeologist services	-	[REDACTED]		
Uniper - Contaminated Land	-	[REDACTED]		
		[REDACTED]		

6.52 The Developers have provided an invoice breakdown for the total costs paid to date of £[REDACTED] in relation to RSK Environment environmental consultancy costs. All individual invoices are below £100,000. The Developers have not provided any further explanations in relation to the additional costs paid of £[REDACTED]<sup>37</sup>. Within this breakdown, no individual invoice exceeded £100,000. As such, we are unable to confirm whether any adjustment to the CAT is required and recommend that Ofgem obtain an update from the Developers prior to finalising the ITV.

<sup>37</sup> [REDACTED]

## Local authorities

6.53 Local authorities costs included in the CAT, totalling £[REDACTED], comprise the following:

### Local authorities

	Ref	Total per CAT £	Total per S106 Agreements £	Difference £
Lewes District Council - Newhaven construction base rates	-	[REDACTED]	[REDACTED]	
Mid Sussex - Substation rates	-	[REDACTED]	[REDACTED]	
South Downs National Park - Planning Performance Agreement	-	[REDACTED]	[REDACTED]	
South Downs National Park – Section 106 Agreement	6.54	[REDACTED]	[REDACTED]	
West Sussex CC – Planning Performance Agreement	6.54	[REDACTED]	[REDACTED]	
West Sussex CC – Section 106 Agreement	6.54	[REDACTED]	[REDACTED]	
West Sussex CC - Highway Act deposit	-	[REDACTED]	[REDACTED]	
West Sussex CC - Highways Act costs	-	[REDACTED]	[REDACTED]	
		[REDACTED]		

6.54 We have been provided with the agreements with the West Sussex County Council and the South Downs National Park Authority. However, the Developers note that no specific invoices for these agreements were raised by the authorities and monies were transferred through manual payments, some of which were made pre-final investment decision (FID).

6.55 The Developers have not provided any explanations in relation to the differences noted in the table at paragraph 6.53 above. As such, we have been unable to substantiate these costs and recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

## Property and leases

6.56 Property and leases costs included in the CAT, totalling £[REDACTED], comprise the following:

### Property and Leases

	Ref	Total costs £	OFTO %	Total per CAT £
Bond Dickinson LLP - CR Worsley leasehold option and land purchase	6.57	[REDACTED]		[REDACTED]
Bond Dickinson LLP - Newhaven construction option fee	-	[REDACTED]		[REDACTED]
Bond Dickinson LLP - TCE Lease Premium	6.58	[REDACTED]		[REDACTED]
Bond Dickinson LLP - 44 Deeds of Variation for Cable Leases	6.59	[REDACTED]		[REDACTED]
Bond Dickinson LLP - TCE OFTO Lease Fees	-	[REDACTED]		[REDACTED]
Fisher German - Land Agency	-	[REDACTED]		[REDACTED]
FGP - Landowner Payments	6.60	[REDACTED]		[REDACTED]
		[REDACTED]		[REDACTED]

6.57 We have agreed the Bond Dickinson LLP Worsley leasehold option costs of £[REDACTED] to an email from Bond Dickinson which sets out the costs for serving the Option Notice for the leasehold land, the Worsley land purchase and other associated fees, including the costs of agreeing the Environmental Specification Plan and the cost of serving notice on the Environmental Deed.

- 6.58 We have agreed the 'Bond Dickinson LLP TCE Lease Premium' of £[REDACTED], of which [REDACTED]% (£[REDACTED]) has been allocated to the Transmission Assets, to a letter from Bond Dickinson<sup>38</sup>, dated 3 December 2015, which details the Crown Estate Lease premium paid by the Developers when they entered into the lease.
- 6.59 We have agreed the 'Bond Dickinson LLP - 44 Deeds of Variation for Cable Leases' to an email from Bond Dickinson which sets out the costs, totalling £[REDACTED], for the cable route deeds of variation.
- 6.60 The Developers explained that the FGP landowner costs are an estimate of the likely spend on the land agreements in order to put them formally in place and to pay for crop loss in advance. The costs of £[REDACTED] covers over 50 separate agreements, each of which includes payments such as entry payments, payments for crop loss, disturbance and inconvenience, environmental costs and completion payments.
- 6.61 We have been provided with a spreadsheet, totalling £[REDACTED], which sets out calculations in support of the FGP landowner costs. However, the Developers have not provided explanations in response to our request for further information in relation to understanding how the spreadsheet was set up and the drivers behind the cost. Furthermore, the Developers note that the spreadsheet is currently being revised. As such, we recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

### Fisherman Management

- 6.62 Fisherman Management costs included in the CAT, totalling £[REDACTED], comprise the following:

#### Fisherman Management

	Ref	Total costs £	OFTO %	Total per CAT £
Brown and May Marine LYD – Fishing Liaison Services	6.63	[REDACTED]		
Brown and May Marine Ltd – Fishing Agreement Fees	6.63	[REDACTED]		
Renew Legal Limited - Legal advice – fishermen	-	[REDACTED]		
		[REDACTED]		

- 6.63 We have not received any information from the Developers in order to substantiate the above costs and therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

### Document Management

- 6.64 Document management costs included in the CAT of £[REDACTED], relate to 'Uniper Technology – Document Management System (ThinkProject!)' costs for the online document management system of £[REDACTED] (being total costs of £[REDACTED] allocated at [REDACTED]% to the Transmission Assets) and archiving costs of £[REDACTED].

<sup>38</sup> Letter subject – Rampion Offshore Wind Farm Lease – Completion Monies – Re Wind farm site upon the bed of the sea at Southern Array – the Crown Estate Commissioners to Rampion Offshore Wind Limited

- 6.65 The Developers have provided an invoice breakdown for the total paid to date in relation to the document management system of £[REDACTED] (£[REDACTED] post OFTO allocation). The Developers state that this is to cover work up to the end of June 2018. All invoices are individually below £100,000 (post-OFTO allocation) however we note that the invoices are in Euros (totalling €[REDACTED]<sup>39</sup>).
- 6.66 The Developers note that the OFTO is now expected to complete transfer no earlier than the end of 2019, which equates to an additional 18 months of use, at a current cost of using the service is £[REDACTED] - £[REDACTED] per month<sup>40</sup>. The Developers explained that charge of use is based upon the number of system users and the latter is expected to reduce as the project nears completion. As such, the Developers estimate a further £[REDACTED] to be spent on the document management system, being an additional 18 months of use, at an average cost of £[REDACTED] per month, leading to total estimated costs of £[REDACTED] (£[REDACTED] post-OFTO allocation). We therefore propose an adjustment to increase the costs in the CAT by £[REDACTED]<sup>41</sup>.

### OFTO TRANSACTION

- 6.67 The Developers note that the 'OFTO Transaction' cost included in the CAT of £[REDACTED] is an estimation based upon the approximate outturn cost for legal fees on the Humber OFTO transaction. As we have not been provided with any further information in order to substantiate this cost, we recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

<sup>39</sup> This equates to an effective exchange rate of [REDACTED]

<sup>40</sup> We requested but have not been provided with information evidencing this amount

<sup>41</sup> [REDACTED]

**DEVELOPMENT COSTS**

- 6.68 Development of the Rampion project and its OFTO assets took place from January 2010, when The Crown Estate awarded the E.ON shareholder with the development rights for the project, up to May 2015, when FID was reached and all development costs (DEVEX) were confirmed. DEVEX costs of £[REDACTED] relating to all activities in the initial commencement of the project, are included within the CAT as follows;

**Development costs**

	Ref	Total costs £	OFTO %	OFTO cost £
PO costs	6.70	[REDACTED]		
E.ON staff salaries	6.72	[REDACTED]		
External staff	-	[REDACTED]		
Grid connection	-	[REDACTED]		
Other E.ON costs	-	[REDACTED]		
Pinsent Mason	6.73	[REDACTED]		
	6.69			[REDACTED]
Other (no detail provided)	6.69			[REDACTED]
				[REDACTED]

**Verification of costs incurred**

- 6.69 In order to gain comfort in relation to the DEVEX costs incurred, we have obtained a detailed breakdown prepared by the Developers. The breakdown provided totals £[REDACTED], as set out in the table above. No further detail has been provided in relation to £[REDACTED] of costs, relating to land agreements costs and the costs associated with the fishing agreements, s106 and PPA<sup>42</sup>.

<sup>42</sup> The Developers note that as there is overlap between the development and construction costs, more time is required to provide a breakdown of these detailed costs

**PO costs**

- 6.70 The Developers have provided a breakdown of PO costs totalling £[REDACTED]. A summary of the POs over £100,000 (OFTO-related) is set out in the table below:

**Development costs - PO costs**

PO	Vendor Name	Service	Total development costs £	OFTO %	OFTO development costs £
4500090753	Fugro GB Marine Limited	Geo technical survey	[REDACTED]		
4500007501	Atkins Limited	Engineering Consultancy	[REDACTED]		
4500078725	Fugro GB Marine Limited	Geo technical survey	[REDACTED]		
4500075434	BAM Nuttall Ltd	Cable route GI	[REDACTED]		
4500007474	RSK Environment	Lead EIA Consultancy	[REDACTED]		
4500007595	Bond Dickinson LLP	Legal Services - Property	[REDACTED]		
4500007597	Fisher German Pries	Land Agency Services	[REDACTED]		
4500032309	Bond Dickinson LLP	Legal Services - CPO	[REDACTED]		
4500009852	Fugro Marine	Preliminary geotechnical survey	[REDACTED]		
4500088383	RSK Environment Ltd	Onshore pre construction + variations	[REDACTED]		
4500052310	Gardline Geosurvey Ltd	Geophysical Survey	[REDACTED]		
4500079574	Garrad Hassan & Partners Ltd	Offshore substation FEED	[REDACTED]		
4500079536	ERSG Ltd	Colin Davison	[REDACTED]		
4500071175	Fugro GB Marine Limited	Geo technical survey	[REDACTED]		
4500007473	SeaROC	Bird & Mammal Surveys	[REDACTED]		
4500082406	Fugro GB Marine Limited	Geo technical survey	[REDACTED]		
4500008894	FGP	Land Agent	[REDACTED]		
4500087712	ERSG LTD	Andy Shaw	[REDACTED]		
Other PO costs (below £100,000)			[REDACTED]		
			[REDACTED]		

- 6.71 We have reviewed the PO breakdowns for the 18 purchase orders individually over £100,000, totalling £[REDACTED] ([REDACTED]% of total DEVEX costs), however we have not been provided with any further supporting documentation or explanations.

**Resources**

- 6.72 The Developers have provided a breakdown of the E.ON staff salaries costs of £[REDACTED] (£[REDACTED] of which is OFTO-related) and the external staff costs of £[REDACTED] (£[REDACTED] of which is OFTO-related). We note there are no individual lines above £100,000 (OFTO-related). We have confirmed that there has been no double counting of resources costs between those included in general development costs and those included in common costs as summarised in paragraph 5.3.

**Pinsent Mason**

- 6.73 The Developers have provided a breakdown of the Pinsent Mason legal costs of £[REDACTED], of which [REDACTED]% (£[REDACTED]) have been allocated to the Transmission Assets. There are no individual lines above £100,000.

- 6.74 Although the Developers have provided a breakdown of the DEVEX costs, which we have reviewed as described above, we have not been provided with any further detail (supporting documentation or explanations). As such, we have been unable to substantiate DEVEX costs and therefore recommend that Ofgem should discuss these costs with the Developer prior to finalising the ITV.

***Allocation rates***

- 6.75 The majority of DEVEX costs have been allocated to the Transmission Assets using the 25% allocation ratio being utilised for shared costs as detailed at paragraph 5.24.2.
- 6.76 We note that £[REDACTED] of DEVEX costs have been allocated to the Transmission Assets at [REDACTED]%, ie an OFTO-amount of £[REDACTED]. These costs mainly comprise Atkins Limited costs in relation to Engineering Consultancy of £[REDACTED] (£[REDACTED] OFTO-related). We have not been provided with an explanation in relation to this [REDACTED]% allocation rate, and therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

## 7 OFFSHORE SUBSTATION

7.1 The OSS costs are comprised as follows:

### CR2 - OFFSHORE SUBSTATION COSTS

Contract Overview	Reference	£
<b>Babcock – RO-1061 Offshore Substation Structure</b>		
2. Project Management & Engineering	-	
3.1 Offshore Substation Jacket – Fixed Cost Items	-	
3.2 Offshore Substation Topside – Fixed Cost Items	-	
Pricing Schedule Balance	-	
Variations	7.7	
Settlement Agreements	7.8	
	7.6	
<b>Scaldis –RO-1098 Offshore Substation Installation</b>		
1. Project Management	-	
2. Marine Logistics and Equipment	-	
3.1 Installation of Jacket in Autumn 2016	-	
3.2 Installation of Topside in March 2017	-	
Variations	7.17	
	7.17	
<b>ABB – RO-1051 Onshore and offshore substations</b>		
2. Project Management (OFTO)	7.25	
4.X Offshore Substation	7.25	
5. Commissioning (OFTO)	7.25	
Offshore completion works	7.26	
	-	
<b>Other costs</b>		
OSP Design	7.27	
OSP Completion	7.28	
OSP Completion Jack Up	7.45	
Electrical Systems Completion	7.52	

**BABCOCK – RO-1061 OFFSHORE SUBSTATION STRUCTURE**

- 7.2 Competitive tendering was used for the supply of the Offshore Substation Structure as set out in Section 4. For the offshore substation structure, seven companies submitted tenders. The tender prices were evaluated and adjusted for various cost elements. The evaluated tender prices for the seven companies were as follows:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- 7.3 The basis for recommendation was an evaluation model focusing on financial parameters (price, payment terms, and net present value) and non-financial parameters (technical compliance, delivery terms, and quality risks).
- 7.4 The technical evaluation process was split into a two-stage assessment to review compliance with the Employers technical requirements, and was accompanied by a series of tender clarifications to increase the compliance level of each tender submission. On completion of this assessment, a list of technical deviations and risks were identified for each supplier, with a mitigation cost applied to each deviation. There was no clear technical reason to reject most bids, however [REDACTED] was missing several pieces of information in its tender submission, and its partner company [REDACTED], both subsidiaries of [REDACTED], was banned from providing goods and services to E.ON following allegations of bribery on a previous E.ON project. The table below details the summary scores received by the various bids:

Tenderer	Overall score
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- 7.5 A joint review was subsequently undertaken based on the independent commercial proposition, and three bidders ([REDACTED]) were shortlisted and invited to interviews. A round of tender meetings was held to discuss bid submissions and scope in further detail with further tender clarifications as required. The nature of the scope had changed somewhat and [REDACTED] was unable to meet the schedule at this point, therefore a BAFO request was issued for [REDACTED] and [REDACTED]. The Developers have provided us with details in relation to [REDACTED]
- BAFO:

EX-ANTE COST REVIEW OF RAMPION OFFSHORE WIND FARM TRANSMISSION  
ASSETS

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RO-1061 BAFOs

	£	£
Project Management		
Offshore Substation Jacket Fixed Costs		
Offshore Substation Topside Fixed Costs		
Provisional Items		
Commissioning		
Load out		
OPTIONS		
T&I		
Transport barges (provisional)		
Accelerated schedule		

- 7.6 Following this process, based on its ability to meet the tender evaluation requirements, Babcock was identified as the preferred contractor. On 8 May 2015, the Developers entered into a contract with Babcock for the provision of the OSP for £[REDACTED], which we have agreed to the contract. There have been <sup>43</sup> variations to this contract, totalling £[REDACTED] (see paragraph 7.7 below) and a settlement agreement of £[REDACTED] (see paragraph 7.8 below), leading to total costs of £[REDACTED].
- 7.7 A breakdown of the variations to the contract, totalling £[REDACTED], is set out at **Appendix 2**. We have agreed the nine amounts over £100,000, totalling £[REDACTED], to variation orders.

43 [REDACTED]

7.8 [REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

7.9 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

7.10 [REDACTED]:  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

7.11 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**SCALDIS – RO-1098 OFFSHORE SUBSTATION INSTALLATION**

- 7.12 Competitive tendering was used for the supply of the Offshore Substation Installation as set out in Section 4. For the offshore substation structure, five companies submitted tenders. The tender prices were evaluated and adjusted for various cost elements. The evaluated tender scores for the five companies were as follows:

**RO-1098 Initial tenderers**

Tender scores	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- 7.13 The basis for recommendation was an evaluation model focusing on costs, terms and conditions, and technical solution, with the weighting for this tender being █% price, █% terms and conditions, █% technical score.
- 7.14 █ withdrew prior to E-auction and █ was excluded after the first clarification round<sup>44</sup>. The prices for the three remaining companies were as follows:

**RO-1098 – Tender scores**

Tenderer	Base Case £	Alternative Scenario 1 £	Alternative Scenario 2 £	Overall Score (out of 50)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

- 7.15 Following this process, Scaldis was identified as Preferred Contractor based on its final overall weighted score, as set out in the table below:

**RO-1098 – Final weighted scores**

Weight	Saipem – weighted score	Scaldis – weighted score	SHL – weighted score
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

- 7.16 Subsequently, on 1 October 2015, the Developers entered into a contract with Scaldis for the OSS installation at a total cost of £█, which we have agreed to the contract. We note that the costs included in the CAT in relation to RO-1098 total £█, ie an additional £█. This is a result of the Developers including “project management” costs of this amount in the CAT. We have not looked into this amount further.

<sup>44</sup> The rationale for █'s exclusion has not been provided however, we note that they were the most expensive option

- 7.17 There have been [REDACTED] variations to the contract, totalling £[REDACTED], as detailed at **Appendix 3**, leading to total costs included in the CAT in relation to the Scaldis contract of £[REDACTED]. We have agreed the five amounts over £100,000, totalling £[REDACTED], to supporting documentation.

### **ABB – RO-1051 ONSHORE AND OFFSHORE SUBSTATIONS**

- 7.18 Competitive tendering was used for the supply of the substations as set out in Section 4. For the onshore and offshore substation structures, four companies submitted tenders. The received tender prices were evaluated and adjusted for various cost elements. The initial bid prices for the four companies were as follows:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

- 7.19 After four stages of tender assessment and a series of tender negotiations designed to shortlist the number of bidders and increase the compliance level of each tender submission to original technical specifications, a number of small technical deviations remained outstanding, and the costs of mitigating these deviations are shown in the table below:

#### **RO-151 Tenderers**

	Total cost of achieving technical compliance £	Total Risk cost associated with technical deviations £
[REDACTED]		
[REDACTED]		

- 7.20 Improved Bid prices and BAVFOs (Best and Very Final Offers) for the remaining two tenderers were as follows:

#### **RO-151 Tenderers – Improved Bid prices and BAVFOs**

Tenderer	Improved Bid (including provisional and options and technical adjustment and programme risk) £	BAVFO (including provisional and options and technical adjustment and programme risk) £
[REDACTED]		
[REDACTED]		

- 7.21 Subsequently, on 6 March 2015, the Developers entered into a contract with ABB for the design, manufacture, erection, installation, testing and commission (including the remediation defects) of the onshore and offshore substations. The contract sets out a total price of £[REDACTED], of which £[REDACTED] is OFTO related (and therefore should be included in the CAT), as set out in the table below:

**ABB (RO-1051) contract costs**

	OFTO costs £	Non-OFTO costs £	Total costs £
2a - Project Management: OFTO	[REDACTED]		
2b - Project Management: Non – OFTO		[REDACTED]	
3.1 Onshore Substation Fixed Costs	[REDACTED]		
3.2 Onshore Substation Provision Sum Items		[REDACTED]	
4.1 Offshore Substation Fixed Costs	[REDACTED]		
5 Commissioning	[REDACTED]		
	[REDACTED]		

- 7.22 The ABB costs are included in the CAT within CR2, CR5 and CR7. However, the Developers explained that when completing the CAT an old pricing schedule was used in relation to the ABB contract. The table below sets out a breakdown of the costs included in the CAT, along with a summary of the required adjustments in order to reflect the OFTO costs as per the contract of £[REDACTED]<sup>45</sup>.

**ABB (RO-1051) costs per CAT – summary of adjustments**

	Ref	Cost per CAT £	Adjustment £	Revised £
CR2 – Offshore substation	7.25	[REDACTED]		
CR5 – Onshore substation	10.4	[REDACTED]		
CR7 – Connection costs	11.4	[REDACTED]		
		[REDACTED]		

- 7.23 A detailed breakdown of the costs per CR category and the required adjustments is set out in each of the relevant sections of the report.
- 7.24 The ABB costs in relation to the offshore substation of £[REDACTED] include £[REDACTED] of project management costs (being total project management costs of £[REDACTED] of which [REDACTED]% has been allocated to the OSP<sup>46</sup>) and £[REDACTED] of commissioning costs (being total commissioning costs of £[REDACTED] of which [REDACTED]% has been allocated to the OSP<sup>47</sup>).

<sup>45</sup> We note a difference of £[REDACTED] to the revised ABB costs set out in the table of £[REDACTED] however we have not looked to amend this small difference

<sup>46</sup> Along with [REDACTED]% (£[REDACTED]) to the ONSS (CR5 – paragraph 10.1) and [REDACTED]% (£[REDACTED]) to connection costs (CR7 – paragraph 11.1)

<sup>47</sup> Along with [REDACTED]% (£[REDACTED]) to the ONSS (CR5 – paragraph 10.1))

- 7.25 We confirm the following adjustments proposed by the Developers to reflect the ABB contract costs (in relation to the offshore substation):

#### ABB adjustments

	Cost per CAT £	Adjustment £	Revised £
2. Project Management (OFTO)			
4.1 Offshore Substation (Transformers)			
4.1 Offshore Substation (HV Switchgear)			
4.1 Offshore Substation (Reactive Equipment)			
4.1 Offshore Substation (Other scope)			
4.3 Offshore Substation (Water Mist System)			
5. Commissioning (OFTO)			

- 7.26 We have not been provided with any supporting documentation in relation to the £ offshore completion works and therefore have been unable to substantiate these costs. As such, we recommend that Ofgem should obtain an update from the Developers before finalising the ITV.

## OTHER COSTS

### OSP Design

- 7.27 A breakdown of the OSP design costs included in the CAT, totalling £, is set out in the table below. As there are no individual costs above £100,000 we have not looked into these costs further.

#### OSP Design

	£
Atkins Ltd - OSP Engineering	
Garrad Hassan & Partners Ltd (DNV) - Owners Engineer	
Bureau Veritas - Offshore Foundation Certification	

## OSP Completion

7.28 OSP completion costs included in the CAT, totalling £[REDACTED], comprise the following:

### OSP Completion

	Ref	Total per CAT £	Paid to date £	Difference £
Palfinger Marine GmbH - Supply of Davit Cranes	7.30	[REDACTED]	[REDACTED]	[REDACTED]
ECS Ltd - Export Cable Manipulation Trial	-	[REDACTED]	[REDACTED]	[REDACTED]
IMES International Limited - Transport and Hire of 5Te Waterbag	-	[REDACTED]	[REDACTED]	[REDACTED]
JECS - OPS Jacket Scaffolding	-	[REDACTED]	[REDACTED]	[REDACTED]
MCC - Fabrication Works	7.31	[REDACTED]	[REDACTED]	[REDACTED]
JECS - Scaffolding	7.32	[REDACTED]	[REDACTED]	[REDACTED]
Longitude - Design Services	-	[REDACTED]	[REDACTED]	[REDACTED]
LV Shipping - Agency Services	7.33	[REDACTED]	[REDACTED]	[REDACTED]
Clarksons - Agency Services	-	[REDACTED]	[REDACTED]	[REDACTED]
Boulting Group Ltd - Lighting, HVAC, Other LV systems	7.34	[REDACTED]	[REDACTED]	[REDACTED]
OTEAC - Fire Suppression System	7.35	[REDACTED]	[REDACTED]	[REDACTED]
Victor Marine - Commission Oily Water Separation	-	[REDACTED]	[REDACTED]	[REDACTED]
GeckoTech Solutions Ltd - Rope Access	7.36	[REDACTED]	[REDACTED]	[REDACTED]
Interdam - Fire Wall Protection	-	[REDACTED]	[REDACTED]	[REDACTED]
Thermoplant - Heat Ventilation & Air Conditioning	7.37	[REDACTED]	[REDACTED]	[REDACTED]
Hydrasun - Commission fuel transfer system	-	[REDACTED]	[REDACTED]	[REDACTED]
MML - 33kv Doors	7.38	[REDACTED]	[REDACTED]	[REDACTED]
Wood Group - Corrosion projection works	7.39	[REDACTED]	[REDACTED]	[REDACTED]
TBC - DNV, LOC, JECs, LV, Elmer Ridge Cables, Mainbrace Marine, Driver Trett, SgurrEnergy	7.40	[REDACTED]	[REDACTED]	[REDACTED]
MPI - Painting Jackup	7.41	[REDACTED]	[REDACTED]	[REDACTED]
TBC - Painting	7.42	[REDACTED]	[REDACTED]	[REDACTED]
Optimus - J-Tube Design	-	[REDACTED]	[REDACTED]	[REDACTED]
Optimus - J Tube Supply	7.43	[REDACTED]	[REDACTED]	[REDACTED]
James Fisher - J Tube Installation	7.44	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]	[REDACTED]

7.29 For each of the 15 costs above £100,000 (totalling £[REDACTED]) the Developers have provided an invoice breakdown of the costs paid to date (which total £[REDACTED]). We have obtained individual invoices exceeding £100,000 and further explanations for the costs as detailed below.

7.30 The Developers note that the Davit Cranes were ordered through a supplemental agreement to the Palfinger contract. In relation to 'Palfinger Marine GmbH – Supply of Davit Cranes' costs included in the CAT of £1[REDACTED], the Developers have provided us with three invoices. The invoices paid to date sum £[REDACTED] (€[REDACTED]<sup>48</sup>). We do not propose an adjustment to the difference to the costs included in the CAT of £[REDACTED].

<sup>48</sup> Converted at the spot rate of [REDACTED]

- 7.31 Included in the CAT are costs of £[REDACTED] payable to MCC Fabrications Ltd for completion works in relation to OSP topside. The Developers have provided us an invoice breakdown, totalling £[REDACTED] along with copies of invoices that exceed £100,000. The Developers have also provided a spreadsheet, which details the type of work anticipated or completed, by MCC Fabrications works, with a total estimated cost of £[REDACTED]. We note a difference of £[REDACTED] between the costs included in the CAT and the evidence provided. We have not looked into this difference further.
- 7.32 The Developers have provided a spreadsheet detailing the invoices paid to date, along with copies of the invoices exceeding £100,000, in support of 'JECS – Scaffolding' costs included in the CAT of £[REDACTED]. This invoice breakdown amounts to £[REDACTED]. The Developers note that further scaffolding work will be required over the summer and that the CAT amount is a reasonable estimate of what the outturn is likely to be. We have not looked into the difference of £[REDACTED] further.
- 7.33 In relation to the 'LV Shipping – Agency Services' costs included in the CAT of £[REDACTED], we have been provided with the framework agreement for vessel and port services between ROW and LV Shipping Limited. The Developers have provided us with a spreadsheet setting out all invoices paid to date, which totals £[REDACTED]. There are no invoices over £100,000. The Developers note costs will continue to be incurred until the MPI Resolution leaves the offshore substation later this year. We have not been provided details of these future costs. As such, we propose an adjustment to increase the costs in the CAT by £[REDACTED] for the additional invoiced (and paid) costs, and also recommend that Ofgem should obtain an update from the Developers of the total paid to LV Shipping Limited prior to finalising the ITV.
- 7.34 We have been provided with the contract between ROW and Boulting Group Limited, along with a spreadsheet setting out all invoices paid to date, which corresponds to the cost included in the CAT of £[REDACTED]. We obtained copies of the invoices over £100,000 and no issues were noted.
- 7.35 The CAT includes costs of £[REDACTED] in relation to 'OTEAC – Fire Suppression System'. The Developers have provided to us with a spreadsheet setting out all invoices paid to date, which totals £[REDACTED], along with copies of the invoices over £100,000. We understand from the Developers that the paid to date sum covers all work completed in 2017. The Developers note that a small amount of work is expected to be completed during 2018, and this is included within the CAT value of £[REDACTED]. However, the Developers have not provided us with supporting information in relation to the further work. As such, we have not been able to substantiate the difference of £[REDACTED]. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

- 7.36 In support of the 'GeckoTech Solutions Ltd - Rope Access' costs included in the CAT of £[REDACTED], we have been provided with and reviewed work instructions one to six, which state that the contractor shall be reimbursed on a time-charge basis in accordance with the rates set out in the Schedule of Rates. The Developers have provided a spreadsheet detailing invoices paid to date. There were no invoices over £100,000 and the total breakdown agrees to the amount included in the CAT of £[REDACTED].
- 7.37 In relation to the 'Thermoplant – Heat Ventilation and Air Conditioning' costs included in the CAT of £[REDACTED], we have been provided with and reviewed, work instructions one to eight, which state that the contractor shall be reimbursed on a time-charge basis in accordance with the rates set out in the Schedule of Rates. The Developers have provided a spreadsheet detailing invoices paid to date. There were no invoices over £100,000 and the total breakdown amounts to £[REDACTED]. The Developers note that the paid to date amount covers work completed in 2017. They explain that further work with a value of around £[REDACTED] is expected to take place during 2018, which is included within the CAT value of £[REDACTED]. We have not looked into the difference of £[REDACTED] further.
- 7.38 The Developers have provided us with an early works agreement between ROW and MML Marine Limited, signed on 26 February 2018. This contract related to the procurement of module doors associated with the OSP and included as Appendix 1 of the agreement is a quotation for costs of £[REDACTED]. We note that total costs paid to date, relating to two invoices, are £[REDACTED]. The Developers explained that further doors on the substation will need to be replaced, and therefore they consider the CAT costs of £100,000 for 'MML – 33kv Doors' to still be a reasonable estimate. No further information has been provided, and as a result, £[REDACTED]<sup>49</sup> of costs remain unsubstantiated. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 7.39 The CAT includes costs of £[REDACTED] payable to the Wood Group that relates to the provision of corrosion protection services and scaffolding services. We have been provided with a framework agreement between ROW and Wood Group Industrial Services Limited, signed on 8 September 2017. The Developers have provided us with the breakdown of invoices totalling £[REDACTED], along with the invoices over £100,000. No issues were noted. The Developers note that this covers work up to the end of September 2017 but that outturn is likely to be near £[REDACTED], which will include payment for work completed in October 2017 and settlement of disputed amounts. We have not been provided with further information in relation to the work that was due to be completed in October 2017 and note that this work is in dispute. As such, we are unable to substantiate the difference of £[REDACTED] and therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

<sup>49</sup> [REDACTED]

- 7.40 In relation to the 'TBC - DNV, LOC, JECs, LV, Elmer Ridge Cables, Mainbrace Marine, Driver Trett, SgurrEnergy cost' included in the CAT of £[REDACTED], the Developers have stated that it is unlikely that any information can be provided in support of this cost. As a result, we are unable to substantiate this cost. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 7.41 The Developers have provided us with the time charter party for offshore service vessels, between MPI Offshore B.V and ROW, with a date of delivery on 14 April 2018. The period of hire is set for 180 days, the lump sum for the mobilisation is set as £[REDACTED], the lump sum for the demobilisation is set as £[REDACTED] and the charter hire is set as £[REDACTED] per day. Hire costs as per the evidence provided are therefore £[REDACTED]<sup>50</sup>. The Developers note that the £[REDACTED] included in the CAT for 'MPI – Painting Jackup' costs was pre-negotiation but that it also accounts for a number of variable costs, which either will, or are likely to be incurred, such as: fuel, lubes and charter extension. Furthermore they refer to charter extension, which allows for up to 45 days of additional hire, being £[REDACTED] at the daily rate of £[REDACTED]. However, we have not seen reference to the 45 days in the time charter party document provided<sup>51</sup>. We have not been provided with further information and therefore are unable to substantiate the remaining £[REDACTED]6 of costs included in the CAT. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 7.42 In support of the costs included in the CAT of £[REDACTED] for 'TBC – Painting', we have been provided with the agreement for corrosion protection and scaffolding services between ROW and Venko Offshore Limited, which was entered into on 25 April 2018. Within this agreement, we have located the schedule of rates and have agreed a total of £[REDACTED] of costs to the agreement. The Developers state that the figure in the CAT was an estimate before the work was tendered, and that the outturn of the tender process produced a much lower cost than originally anticipated. However, they further note that the work is ongoing and subject to variation and added complication from the west cable replacement works. The Developers have not provided any further information to support their initial estimate and as such, we are unable to substantiate £[REDACTED] of the costs included within this line in the CAT. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.
- 7.43 The CAT includes costs payable to Optimus for the design, supply and delivery of a single export cable J-Tube. We have been provided with the Form of Agreement, dated 1 March 2018, between ROW and Optimus (Aberdeen) Limited. The contract price includes engineering and project management, fabrication, the supply and delivery of J-tube and third party cost mark-up and amounts to £[REDACTED], which agrees to the figure in the CAT.

<sup>50</sup> [REDACTED]

<sup>51</sup> Clause 1(b) in relation to the Charter Period refers to the Charterers having the option to extend the Charter Period for direct continuation for the period stated in Box 10 (i). However, this box does not make reference to the 45 days stated by the Developers

- 7.44 In relation to the 'James Fisher – J-Tube installation' costs included in the CAT of £[REDACTED], we have been provided with the agreement for the installation of an additional J-Tube on the Offshore Substation, between ROW and James Fisher Marine Services Limited, dated 8 March 2018. The total target fee is estimated at £[REDACTED]. The Developers explain that the value in the CAT was an estimate before the contract was placed. However, the Developers note that in practice, the work turned out to be challenging for a number of reasons, and further scope was added to the contract. The Developers explain that the final sum payable could be up to £[REDACTED]. The Developers have provided an invoice breakdown, detailing paid to date amounts of £[REDACTED], along with the invoices that exceed £100,000. We therefore propose an adjustment to increase the costs in the CAT by £[REDACTED]<sup>52</sup> to reflect the current position on this cost and also recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

### OSP Completion – Jack Up

- 7.45 'OSP completion – Jack Up' costs included in the CAT, totalling £[REDACTED], comprise the following:

#### OSP Completion Jack Up

Description	Ref	Total per CAT £	Paid to date £	Difference £
Longitude - Jackup Vessel Gangway Design	-	[REDACTED]		
Bluewater Shipping – Jackup Agency Services – Pacific Osprey	7.47	[REDACTED]		
Swire Blue Ocean – OSP Jackup Vessel	7.48	[REDACTED]		
Van Oord – Jackup Standing Pads	7.49	[REDACTED]		
MPI – OSP Jackup Vessel	7.50	[REDACTED]		
		[REDACTED]		

- 7.46 For each of the four costs above £100,000 (totalling £[REDACTED]) the Developers have an invoice breakdown of the costs paid to date (which total £[REDACTED]). We have obtained individual invoices exceeding £100,000 and further explanations for the costs as detailed below.
- 7.47 The CAT includes 'Bluewater shipping – Jackup Agency Services – Pacific Osprey' costs of £[REDACTED]. We have been provided with the framework agreement for vessel and port services between ROW and Blue Water Shipping A/S, in relation to procuring vessel and port agency services. The Developers have provided us with a breakdown of invoices in relation to the total paid to date of £[REDACTED] (€[REDACTED]<sup>53</sup>), which the Developers advise is the final contract amount. We do not propose an adjustment for the difference of £[REDACTED].

<sup>52</sup> [REDACTED]

<sup>53</sup> Converted at a spot rate of [REDACTED]

- 7.48 We have been provided with a Time Charter Party for Offshore Service Vessels, Swire Blue Ocean A/S and ROW, for Pacific Osprey (Vessel). Within this charter, the period of hire is set for 121 days, the lump sum for the mobilisation is set as £[REDACTED], the lump sum for the demobilisation is set as £[REDACTED] and the charter hire is set as £[REDACTED] per day. Hire cost as per the evidence provided is therefore £[REDACTED]<sup>54</sup>. The CAT includes OSP jackup vessel costs relating to the Swire Blue Ocean contract of £[REDACTED]. The Developers have provided us an invoice breakdown, along with copies of invoices over £100,000. The breakdown amounts to £[REDACTED] and the Developers have stated that this is the final amount. However, we do not propose an adjustment for the difference of £[REDACTED].
- 7.49 In relation to the 'Van Oord – Jackup Standing Pads' costs included in the CAT of £[REDACTED], we have been provided with agreement for Supply and Installation of Rock Pads for the Rampion Offshore Wind Farm Project, between Van Oord UK Limited and ROW, which was signed on 5 April 2017. The Developers have provided us with the breakdown of invoices paid to date, along with copies of invoices exceeding £100,000, which totals the CAT amount of £[REDACTED].
- 7.50 The Developers have provided us a breakdown of paid invoices in support of the 'MPI – OSP Jackup Vessel' costs included in the CAT of £[REDACTED]. We understand that the MPI Discovery replaced the SBO Pacific Osprey during the 2017 offshore substation completion campaign. The Developers note that it was deployed as part of wider charter agreement which saw the vessel perform other non OFTO works on the project. A total of 75 days were used from the charter agreement to support the OSP works.
- 7.51 We have been provided with the daily vessel reports between 3 October 2017 and 17 December 2017. The vessel charter rate at this point was €[REDACTED] per day. We have been provided with the invoice breakdown, as well as the accompanying invoices (where cost exceeded £100,000). In total, the invoice breakdown amounts to €[REDACTED] (for 91 days), of which we understand €[REDACTED] (75 days) relates to the OSP. The Developers have converted this into sterling at the spot rate of [REDACTED], resulting in the amount for the MPI included in the CAT of £[REDACTED].

<sup>54</sup> [REDACTED]

## Electrical Systems Completion

- 7.52 'Electrical Systems Completion' costs included in the CAT, totalling £[REDACTED], comprise the following:

### Electrical Systems Completion

	Ref	Total per CAT £	Paid to date £	Difference £
Aggreko UK Limited – 2 x 60kVA generators (OSP)	7.53	[REDACTED]	[REDACTED]	[REDACTED]
Uniper – Substation engineering and commissioning support	7.55	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]		

- 7.53 The CAT includes costs payable to Aggreko UK Limited for two 60kVA generators of £[REDACTED]. We have been provided with the letter of acceptance between ROW and Aggreko UK Limited, dated 3 August 2016, along with the conditions of contract for hire of plant, which details the day rates and an expected hire period ranging from December 2016 to September 2017.
- 7.54 The Developers have also provided a breakdown of invoices in relation to costs paid to date, amounting to £[REDACTED]. We note there are no individual invoices over £100,000. The Developers explained that the paid to date value covers hire of the equipment up to the end of May 2018 and the £[REDACTED] difference between the amount in the CAT and the paid to date figure relates to remaining spend currently authorised on the PO. The Developers state that costs are variable, but are typically £[REDACTED] and £[REDACTED] per month at present, which would provide five to six months of additional equipment hire. This equates to the end of October 2018, which is when, according to the Developers, most works on the offshore substation should be completed.
- 7.55 In relation to the 'Uniper – substation engineering and commissioning support' costs included in the CAT of £[REDACTED], the Developers have been unable to provide us with supporting documentation corroborating this amount. We therefore recommend that Ofgem should obtain an update from the Developers prior to finalising the ITV.

## 8 SUBMARINE CABLE SUPPLY AND INSTALLATION

8.1 The submarine cable supply and installation costs are comprised as follows:

### CR3 - SUBMARINE CABLE SUPPLY AND INSTALLATION COSTS

Contract Overview	Reference	£
LS Cables - RO-1047 Offshore Export Cable Supply	-	██████
VBMS - RO-1067 LS Export Cable Installation	-	██████
VBMS - RO-1433 Export Cable Repair	-	██████
Other Costs Associated with LS Cables	-	██████
GMSL - RO-1444 Fibre Optic Supply and Install	-	██████
VolkerInfra - RO-1450 Fibre Optic HDD	-	██████
<b>Total costs for the initial cable supply and installation – to potentially be disallowed by Ofgem</b>	<b>8.2 - 8.6</b>	<b>██████</b>
Van Oord - RO-1518 Float Pit Backfill	8.7	██████
Hellenic - RO-1395 Replacement East Export Cable Supply	8.9	██████
Hellenic - RO-1519 West export cable replacement supply	8.11	██████
VBMS - RO-1532 East export cable replacement installation	8.14	██████
ASSO - RO-xxxx West export cable replacement installation	8.15	██████
Other Costs Associated with Hellenic Cables	8.16	██████
		██████
		██████

### OFFSHORE EXPORT CABLE SUMMARY

- 8.2 LS Cable and System Limited (LS Cables) was contracted by ROW to design, manufacture and supply the two parallel export cables (cable 1 and cable 2) to connect the Wind Farm to the UK grid. VBMS (UK) Limited (VBMS) would then install the cables.
- 8.3 However, issues with cable 1 were identified during installation and the cable had to be laid in two sections, which led to the Developers making the decision to order a spare cable (cable 3) from Hellenic Cables S.A. Hellenic Cable Industry S.A. (Hellenic) as a contingency.

- 8.4 Damage was also identified after the installation of cable 2 (similar to that noted in cable 1) and following testing by DNV-GL (on both cables), the Developers ordered a second replacement cable from Hellenic (cable 4). Additionally, due to the potential for faults in the integrated fibre optic cables (FOC)<sup>55</sup> of cable 1, in December 2016, the Developers decided to tender for the supply and installation of a further cable, a dedicated fibre optic cable.
- 8.5 The “Reinstatement plan” to replace both of the LS Cables was approved by the ROW Board in October 2017.
- 8.5.1 The installation work for cable 3 was carried out by VBMS (see paragraphs 8.9 to 8.10 below), the original installation contractor and the cable was laid in February 2018. Following jointing, testing and commissioning works, cable 3 transmitted electricity from the Wind Farm in April 2018
- 8.5.2 The installation work for cable 4 is to be carried out by ASSO divers (see paragraph 8.15 below), with installation expected in August 2018 and transmission expected during September 2018. This was actually achieved November 2018.
- 8.6 We understand that the Developers have submitted an insurance claim to AXA in relation to the damaged LS Cables. In addition, there is a potential litigation claim. As such, Ofgem has advised that it plans disallow the supply and installation costs for cables 1 and 2 and all associated costs. Ofgem is also considering removing the costs of the dedicated fibre optic cable. As such, as set out in the table at paragraph 8.1 above, the potential disallowed costs for CR3 total £56,169,671.

### VAN OORD – RO-1518 FLOAT PIT BACKFILL

- 8.7 We have been provided with the agreement between ROW and Van Oord UK Limited, dated 17 November 2017, for ‘Backfill of flotation pits’ at a cost of £[REDACTED]. The CAT includes total costs in relation to this contract of £[REDACTED], split equally between the east and west float pit backfill (ie £[REDACTED] each). The Developers have explained that the total value of ‘Van Oord – RO-1518 Float Pit Backfill’ is made up of the following:

#### RO-1518 Float Pit Backfill

	£
Original SAP authorised value (as per contract)	[REDACTED]
Additional SAP authorised value	[REDACTED]
Planned further authorisation	[REDACTED]
	[REDACTED]

<sup>55</sup> The FOCs had a dual purpose, to control and/or communicate with the wind turbines and the OSP and to measure the internal temperature of the cable (distributed temperature sensing)

- 8.8 We have agreed the original SAP value authorised amount to the contract provided and the Developers have provided us a SAP screenshot which shows the additional SAP authorised value of £[REDACTED]. The Developers note that they are unable to provide us any further detail in relation to the additional £[REDACTED] additional authorised value and the £[REDACTED] planned further authorisation included within the CAT. As we have not been provided with any information in support of the additional costs included in the CAT of £[REDACTED]<sup>56</sup>, we recommend that Ofgem should obtain an update from the Developers before finalising the ITV.

### **HELLENIC – RO-1395 REPLACEMENT EAST EXPORT CABLE SUPPLY**

- 8.9 As noted in paragraph 8.3 above, due to various issues identified during the installation of the LS Cables cable (cable 1) and given that a cable manufacturing slot was available on the market, in October 2016, the Developers made the decision to purchase a spare cable, originally as a contingency only. The Developers explained that in this case a tender process was not followed as offshore export cables have a lead time of approximately 18 to 24 months to be delivered after the order date. The manufacturing slot available at Hellenic was immediate and enabled the cable to be delivered in April 2017, prior to Hellenic manufacturing cable for other clients.
- 8.10 On 17 November 2016, the Developers entered into a contract with Hellenic Cables S.A. Hellenic Cable Industry S.A. (Hellenic), to supply (including the remediation of defects) subsea export cable (cable 3) and accessories, for £[REDACTED]. We have agreed this cost to the contract.

### **HELLENIC – RO-1519 WEST EXPORT CABLE REPLACEMENT SUPPLY**

- 8.11 As noted in paragraph 8.4 above, due to faults in the original LS Cables, a second replacement cable (cable 4) was required. In October 2017, it was decided that the supply of this cable was also a single tender to Hellenic. The Developers explained that this decision was made owing to restricted options in the market along with advice from Ofgem that it would be sensible to replace the cables before the OFTO ITT process for ROWF began, rather than trying to tender faulty assets.
- 8.12 On 24 January 2018, the Developers entered into a contract with Hellenic Cables S.A. Hellenic Cable Industry S.A., to supply (including the remediation of defects) subsea export cable and accessories, for £[REDACTED]. We have agreed this cost to the contract.

### **VBMS – RO-1532 EAST EXPORT CABLE REPLACEMENT INSTALLATION**

- 8.13 As noted at paragraph 8.5.1 above, VBMS was selected to install the east export cable replacement (cable 3). The contract was awarded to VBMS, the original installation contractor, as a single tender.

<sup>56</sup> Being £[REDACTED] for each of the east and west float pit backfill

- 8.14 On 13 December 2017, the Developers entered into a contract with VBMS, to supply (including the remediation of defects) the subsea export cable. The Developers have provided us with a breakdown of invoices relating to this contract and as detailed on payment notice 11, the contract currently stands at £[REDACTED]. The Developers note that the amount included in the CAT of £[REDACTED] should be adjusted to this figure, though note that a further variation to this value could occur. As such, we propose an adjustment to decrease the CAT by £[REDACTED]<sup>57</sup>.

### **ASSO – RO-XXXX WEST EXPORT CABLE REPLACEMENT INSTALLATION**

- 8.15 The CAT includes £[REDACTED] in relation to the installation of the west export cable replacement (cable 4) by ASSO divers (ASSO). We understand that installation of cable 4 was competitively tendered and in March 2018, the ROW Board approved the contract with the preferred bidder, ASSO. However, we have not been provided with any supporting documentation in relation to this cost<sup>58</sup> and as such we recommend that Ofgem should obtain an update from the Developers before finalising the ITV.

<sup>57</sup> £[REDACTED]

<sup>58</sup> The Developers note that they have not had the original contract back from ASSO

**OTHER COSTS ASSOCIATED WITH HELLENIC CABLES**

8.16 Other costs associated with Hellenic Cables, totalling £[REDACTED], comprise the following:

**Other Costs Associated with Hellenic Cables**

	Ref	Amount per CAT £	Agreed to supporting doc £	Difference £
Garrad Hassan & Partners Ltd (DNV) - Owners Engineer	8.17	[REDACTED]	[REDACTED]	
BPP Cables Ltd - 3rd Party analysis of CPS design	-	[REDACTED]	[REDACTED]	
James Fisher - HDD duct and diving services	8.18	[REDACTED]	[REDACTED]	
DNV - HV Electrical Testing	8.25	[REDACTED]	[REDACTED]	
EDS - Jointing & OSP	8.25	[REDACTED]	[REDACTED]	
Electricity Distribution Services- VO 14 Export Circuit Two Removal Works	-	[REDACTED]	[REDACTED]	
Wind - Cable Storage	8.25	[REDACTED]	[REDACTED]	
HOP - TJB Engineering		[REDACTED]	[REDACTED]	
? - Landfall Civils	8.25	[REDACTED]	[REDACTED]	
Mitie - Security Extension (20/12/17 - 01/09/18)	9.17	[REDACTED]	[REDACTED]	
Speedy Hire (Brooklands) - Drainage pumps and misc hire plant (20/12/17 - 01/09/18)	-	[REDACTED]	[REDACTED]	
Welfare Hire Nationwide Ltd - Site & Security Office (20/12/17 - 01/09/18)	-	[REDACTED]	[REDACTED]	
VolkerInfra - HDD	8.25	[REDACTED]	[REDACTED]	
James Fisher - SW Outfall Removal	8.19	[REDACTED]	[REDACTED]	
VBMS - Bentoniting x3 (option to be taken up)	8.25	[REDACTED]	[REDACTED]	
OrdTek - UXO Consultancy	8.20	[REDACTED]	[REDACTED]	
N Sea - Boulder Clearance for East replacement	8.21	[REDACTED]	[REDACTED]	
N Sea, James Fisher - UXO & Boulder Clearance	8.25	[REDACTED]	[REDACTED]	
Deep BV - Survey Support/Geophysical Survey	8.22	[REDACTED]	[REDACTED]	
Van Ord - Dredging or Floatation Pits Digging	8.23	[REDACTED]	[REDACTED]	
CCI - Cable Consultancy	8.25	[REDACTED]	[REDACTED]	
Cablesure - Cable Testing During Loadout	-	[REDACTED]	[REDACTED]	
Global Maritime - MWS	6.41	[REDACTED]	[REDACTED]	
VBMS, Deep O, GMSL, ASSO - Post Lay Burial for Second Ends only	8.25	[REDACTED]	[REDACTED]	
N Sea, James Fisher, Fugro - Cable protection (Rock Bagging/Dumping)	8.25	[REDACTED]	[REDACTED]	
Earthing Risk Management - Diving Near Live HV Cables Study	-	[REDACTED]	[REDACTED]	
Prodiv - Diving Consultancy	8.25	[REDACTED]	[REDACTED]	
N-Sea, DSMC, JFMS - Divers	8.24	[REDACTED]	[REDACTED]	
		[REDACTED]	[REDACTED]	

8.17 We have been provided with the consultancy services agreement between ROW and Garrad Hassan and Partners Limited, dated 16 April 2014. As the contract is on a time and materials basis, the Developers have provided supporting calculations, detailing the invoices allocated to the OFTO, which total the amounts included in the CAT of £[REDACTED].

8.18 The Developers have provided the agreement between ROW and James Fisher Marine Services Limited, for HDD (Horizontal Directional Drilling) diving works. This agreement was entered into on 18 October 2017 and the agreement includes a total lump sum of £[REDACTED], relating to mobilisation of vessel, demobilisation of vessel and PM&E Fee. The agreement also includes day rates for personnel. However, the Developers have not provided any further information in support of how the amount included in the CAT of £[REDACTED] has been derived. As such we are unable to substantiate £[REDACTED] of the costs included in the CAT and recommend that Ofgem should obtain an update from the Developers before finalising the ITV.

- 8.19 In relation to the 'James Fisher – SW Outfall Removal' costs included in the CAT of £[REDACTED], the Developers have provided us the Form of Agreement between ROW and James Fisher Marine Services Limited, which was entered into on 1 May 2018. The contract cost amounts to £[REDACTED]. We do not propose an adjustment for the difference of £[REDACTED].
- 8.20 The Developers have provided us with an agreement between ROW and Ordtek Limited, which was entered into on 12 February 2018. As the contract is on a time and materials basis, the agreement sets out personnel hourly rates, rather than a fixed price. The Developers have not provided any further information in support of how the amount included in the CAT of £100,000 has been derived. As such we are unable to substantiate these costs and recommend that Ofgem should obtain an update from the Developers before finalising the ITV.
- 8.21 In relation to 'N Sea – Boulder Clearance for East Replacement' costs included in the CAT of £[REDACTED], we understand from the Developers that the N-Sea contract was initially been set up to complete rock bagging work in relation to the array cables. The contract was varied to complete the boulder clearance work necessary to enable the installation of the replacement east offshore export cable. The Developers have provided us with two invoices for this work which total £[REDACTED]. The Developers note that this is the final amount and therefore confirm an adjustment to decrease the amount included in the CAT by £[REDACTED].
- 8.22 We have been provided with the Form of Agreement, entered into on 28 February 2018, between ROW and Deep B.V., in relation to consultancy services. We understand from the Developers that the work has now completed, and an invoice for £[REDACTED], in relation to geophysical investigation has been provided to us. The Developers confirm an adjustment to decrease the amount included in the CAT of £[REDACTED] by £[REDACTED].
- 8.23 In relation to the 'Van Ord – Dredging or Flotation Pits Digging' costs, the Developers have provided us with the contract variation order, issued on 21 March 2017, for the excavation of a new flotation pit for the installation of an offshore export cable, The amount of the variation order agrees to the figure of £[REDACTED] included within the CAT.
- 8.24 In relation to 'N-Sea, DSMC, JFMS – Divers' costs included in the CAT of £[REDACTED], the Developers explained that diving works were unspecified at the time the CAT was compiled and that subsequently, the majority of diving works were incorporated into the James Fisher J-tube installation contract RO-1549. We have not been provided with any further information from the Developers and therefore are unable to substantiate these costs. We recommend that Ofgem should obtain an update from the Developers before finalising the ITV.
- 8.25 In the table below we set out the costs, totalling £[REDACTED], for which no supporting documentation or explanations have been provided by the Developers. Together with the unsubstantiated costs detailed at paragraphs 8.18, 8.20 and 8.24 above, this results in a total of £[REDACTED] included in the CAT which we have been unable to substantiate. As such, we recommend that Ofgem should obtain an update from the Developers in relation to the below before finalising the ITV:

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**Other Costs Associated with Hellenic Cables – unsubstantiated costs**

	Ref	Unsubstantiated costs £
DNV - HV Electrical Testing	-	
EDS - Jointing & OSP	-	
Wind - Cable Storage	-	
? - Landfall Civils	-	
VolkerInfra - HDD	-	
VBMS - Bentoniting x3 (option to be taken up)	-	
N Sea, James Fisher - UXO & Boulder Clearance	-	
CCI - Cable Consultancy	-	
VBMS, Deep O, GMSL, ASSO - Post Lay Burial for Second Ends only	-	
N Sea, James Fisher, Fugro - Cable protection (Rock Bagging/Dumping)	-	
Prodiver - Diving Consultancy	-	
James Fisher - HDD duct and diving services	8.18	
OrdTek - UXO Consultancy	8.20	
N-Sea, DSMC, JFMS - Divers	8.24	

## 9 LAND CABLE SUPPLY AND INSTALLATION

9.1 The land cable supply and installation costs are comprised as follows

### CR4 - LAND CABLE SUPPLY AND INSTALLATION COSTS

Contract Overview	Reference	£
<b>Carillion</b>		
Project Management	-	
Engineering	-	
150kV Cable	-	
Fibre Optic Cable	-	
Cable Installation	-	
Commissioning	-	
Variations	9.9	
Variations Pending	9.10	
	9.7	
<b>VolkerInra</b>		
Project Management	-	
Engineering	-	
Ducting Accessories	-	
Site Establishment and Duct Installation	-	
Testing	-	
Variations	9.14	
Settlement Agreement	9.16	
	9.13	
<b>Other Costs</b>		
Network Rail – Provision of services by Network Rail	-	
MITIE – Landfall security	9.17	
Speedy Hire – Drainage pumps and misc hire plant	-	
Welfare Hire – Landfall welfare facilities	-	
Reinstatement work	9.21	

### CARILLION – RO-1053 ONSHORE CABLES

9.2 Competitive tendering was used for the supply and installation of underground onshore cables, as set out in Section 4. For the onshore cables, six companies submitted tenders. The initial tenderers were as follows:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 9.3 All six tenders underwent a commercial review and technical assessment (Stage 1 Assessment). The key tender areas covered by the technical assessment were HSSE, Programme, Technical, Consents and QA/QC.
- 9.4 Following completion of the Stage 1 Assessment, [REDACTED] was excluded from the tender due to its inability to provide a suitable sized aluminium cored cable to meet the projects requirements and also a fundamental non-compliance with respect to the detail in their tender programme which prevents any meaningful assessment being carried out.
- 9.5 [REDACTED] all proceeded to Stage 2 Assessment. Meetings were set up with the remaining bidders in order for the companies to present and explain the logic behind their intended programme and for ROW to raise any concerns or observations. Tender clarifications were sent to the bidders seeking to address minor inaccuracies or non-conformities within tenders from a consent perspective, along with a tender clarification being sent to [REDACTED] to address shortcomings with respect to QA/QC within its tender.
- 9.6 A summary of tender returns is set out in the table below:

**Tender returns - onshore cable supply and installation**

Tenderers	Submitted Case £	Technical Price Deviation £	Commercial Price Deviation £	Total Price of Bid £
[REDACTED]				
[REDACTED]				
[REDACTED]				
[REDACTED]				
[REDACTED]				

- 9.7 Subsequently, on 15 May 2015, the Developers entered into a contract with Carillion for the provision and installation of underground onshore cables at cost of £[REDACTED], which we have agreed to the contract. There have been nine variations to the contract, totalling £[REDACTED] (see paragraph 9.9 below) and pending variations of £[REDACTED] (see paragraph 9.10 below), leading to total expected costs of £[REDACTED].
- 9.8 We note that during the delivery of the contract, Carillion went into liquidation and failed to complete its full scope, as such, the contract has now been terminated. We understand that Ofgem and the Developers are in discussions in relation to the final position for Carillion RO-1053 (and VolkerInfra RO-1066) and we recommend that Ofgem should obtain an update from the Developers before finalising the ITV.
- 9.9 A breakdown of the [REDACTED] to the contract, totalling £[REDACTED] is set out at **Appendix 4**, of which we have agreed £[REDACTED] to the variation orders.

9.10 Pending variations, totalling £[REDACTED], comprise the following:

Variations pending		
	Ref	£
VRE-001 Duct installation JB22 to interface point	-	[REDACTED]
VRE-002 Onshore-Offshore end to end HV test	9.11	
VRE-003 Fibre Optic Microwave Link Connection	9.11	
VRE-004 TJB variation	-	
VRE-005 Brooklands compound	9.11	
VRE-006 Type test Ilijin 1000mm cable	-	
VRE-007 Substation fibre optic works and design	-	
VRE-008 Additional HV/PD requirements	-	
VRE-009 Link Box cable protection/ dummy covers	-	
		[REDACTED]

9.11 We asked the Developers to provide supporting documentation in relation to the three pending variations over £100,000, totalling £[REDACTED]. The Developers note these variations are no longer applicable and therefore we propose an adjustment to decrease the CAT by these three amounts.

9.12 As the other six pending variations, totalling £[REDACTED], are individually below £100,000 we have not discussed these with the Developers. However, on the basis that the Developers have confirmed VRE2, 3 and 5 are no longer applicable and that, as noted at paragraph 9.8 above, the Carillion contract has been terminated, we consider it likely that these also need be adjusted for. We therefore recommend that Ofgem confirm the removal of these costs (along with the overall position in relation to the Carillion contract costs) with the Developers prior to finalising the ITV.

### **VOLKERINFRA – RO-1066**

9.13 On 19 August 2015, the Developers entered into a contract with VolkerInfra, for the design and installation of major Horizontal Directional Drills associated with the installation of onshore cables, for £[REDACTED], which we have agreed to the contract. Together with variations of £[REDACTED] (see paragraph 9.14 below) and [REDACTED] (see paragraph 9.16 below), total costs included in the CAT in relation to the VolkerInfra contract are £[REDACTED].

9.14 There have been six variations to the contract, totalling, £[REDACTED], as set out below:

**VolkerInfracore variations**

	Ref	£
Settlement and Variation Agreement 11 December 2015	9.15	[REDACTED]
VO-002 Option for Enhanced Thickness at Construction Compound	-	[REDACTED]
VO-003 Southern Water Survey	-	[REDACTED]
VO-004 Supply of Guard Vessel	-	[REDACTED]
VO-005 Duct Transportation	-	[REDACTED]
VO-006 Additional Design for Drill Profiles	-	[REDACTED]
		[REDACTED]

9.15 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].

[REDACTED]  
9.16 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED].

## OTHER COSTS

### MITIE – Landfall security

- 9.17 The CAT (CR4) includes £[REDACTED] in relation to a contract (RO-1425) with MITIE for landfall security at the Brooklands site. We note that the overall MITIE contract costs are included in the CAT in both CR4 (£[REDACTED]) and CR3 – ‘Mitie – Security Extension 20/12/2017 – 01/09/2018’ (£[REDACTED]), see table at paragraph 8.16, ie a total of £[REDACTED].
- 9.18 The Developers have provided us with a Letter of Acceptance dated 20 December 2016. We note the contract price of £[REDACTED] and that, as per the contract, the services were due to commence on 16 January 2017, for a period of 39 weeks, to 14 October 2017.
- 9.19 The Developers explained that the CAT figure of £[REDACTED] was to cover the original estimated amount of landfall security to be provided until the end of 2017 but owing to cable issues, the service extended over a longer period than previously envisaged. The estimated follow on costs of £[REDACTED] have been included in the CAT in CR3 (see paragraph 8.16). The Developers have provided us a breakdown of invoices, totalling £[REDACTED], for work up to the end of May 2018. There are no individual invoices above £100,000. We do not propose an adjustment to increase the costs in the CAT by the difference of £[REDACTED]<sup>60</sup>.
- 9.20 The Developers note that invoices are typically around £[REDACTED] per month and on the assumption that the security will be in place until the end of October 2018, ie an additional five invoices, the Developers estimate the overall cost to be around £[REDACTED]<sup>61</sup>. As noted at paragraph 9.17 above, the total MITIE costs included in the CAT is £[REDACTED]. As such, the Developers have confirmed that an adjustment to reduce the CAT is required and propose that the ‘security extension’ cost included in CR3 is reduced by £[REDACTED]<sup>62</sup> (see paragraph 8.16).

<sup>60</sup> [REDACTED]

<sup>61</sup> [REDACTED]

<sup>62</sup> [REDACTED]

## Reinstatement work

- 9.21 Costs included in the CAT in relation to reinstatement work of £[REDACTED] comprise the following:

Reinstatement work					
	Ref	Total per CAT £	Agreed to supporting documentation £	Difference £	Adjustment £
Three Shires – Reinstatement civil work and planting	9.23	[REDACTED]			
Miles Drainage – Reinstatement drainage	9.24				
TBC – Other reinstatement work	9.25				
		[REDACTED]			

- 9.22 Reinstatement works for the land cable route were originally going to be undertaken by Carillion. However, as it went into liquidation, Carillion did not commence these works, and ROW is now overseeing the onshore cable reinstatement works, which are ongoing through 2018. Contracts have been placed with two of Carillion's sub-contractors, Three Shires (see paragraph 9.23 below) and Miles Drainage (see paragraph 9.24 below). Other costs associated with delivery of the reinstatement works (likely to be spread over a number of contracts of varying sizes) have also been included in the CAT (see paragraph 9.25 below).
- 9.23 The Developers have provided us with the contract, dated 2 May 2018, between ROW and Three Shires Limited in relation to land reinstatement. The contract sets out the anticipated cost for the full programme of works, which totals £[REDACTED]. We have also been provided with the latest payment certificate, Payment Notice Number Four, dated 13 July 2018, which details additional costs of £[REDACTED], leading to total costs of £[REDACTED]. The Developers have explained that the final costs will only be known once the work has been completed, and as such, we have not been provided with further information in support of the remaining costs included in the CAT of £[REDACTED]. We recommend that Ofgem should obtain an update from the Developers regarding the expected total costs payable to Three Shires before finalising the ITV.
- 9.24 The Developers have provided us with the contract, dated 27 April 2018, between ROW and Miles Drainage Limited, in relation to post construction drainage. The 'Bill of Tender Six for Post Construction drainage' sets out total costs of £[REDACTED], for work for the four months April to July 2018. The Developers have agreed an adjustment to reduce the costs included in the CAT of £[REDACTED] to this figure, ie a reduction of £[REDACTED].

- 9.25 The Developers have stated that the 'TBC – Other reinstatement work' costs included in the CAT of £[REDACTED] relates to contract staff, hire of an office and other unspecified items. The Developers have provided us with a lease agreement (for annual rent of £[REDACTED]), various purchase orders that relate to survey equipment, waste collection, cleaning services (totalling £[REDACTED]) and work instructions submitted to various contractors, however the latter includes only daily rates. As such, we have only been able to agree £[REDACTED] to supporting documentation. We therefore recommend that Ofgem should obtain an update from the Developers in relation to the remaining costs included in the CAT of £[REDACTED] before finalising the ITV.

## CR5 - ONSHORE SUBSTATION COSTS

Contract Overview	Reference	Total per CAT £
<b>ABB</b>		
Project Management (OFTO)	-	
Onshore Substation	-	
Commissioning (OFTO)	-	
	10.2	
Variations	10.3	
<b>Other costs</b>	10.5	

## ABB – RO-1051 ONSHORE AND OFFSHORE SUBSTATIONS

10.3 There have been ten variations to the contract (in relation to the ONSS) totalling £[REDACTED], as set out at **Appendix 5**, leading to total ABB costs in relation to the ONSS of £[REDACTED]. We have agreed the seven variations over £100,000, with a net value of £[REDACTED]<sup>65</sup> to the variation orders.

65 [REDACTED]

- 10.4 As detailed in paragraph 7.22 above, the Developers explained that when completing the CAT an old pricing schedule was used in relation to the ABB contract. As such, the costs included in the CAT are incorrect and need adjusting. We have confirmed the following adjustments proposed by the Developers to reflect the ABB contract costs (in relation to the onshore substation):

**ABB adjustments**

	Cost per CAT £	Adjustment £	Revised £
2. Project Management (OFTO)			
3.1 Onshore Substation - Civil Works & BoP			
3.1 Onshore Substation - Reactive Equipment			
3.1 Onshore Substation - Transformers			
3.1 Onshore Substation - HV Switchgear			
3.1 Onshore Substation - LV Switchgear			
3.2 Onshore Substation (Harmonic filters)			
3.2 Onshore Substation (PD monitoring)			
3.3 Onshore Substation (Diesel Generator)			
5. Commissioning (OFTO)			

**OTHER COSTS**

- 10.5 Other costs of £[REDACTED] comprise the following:

**Other costs**

	Ref	£
R Collet & Sons (Transport) Ltd - Transport Survey	-	
E.ON Energy Solutions Limited - Electricity Supply for Commissioning Works	10.6	
West Sussex County Council - Verge repairs on Wineham Lane	-	
BT Global Services - Rampion - Provision of Comms To Bolney	-	
Uniper Technologies Limited - Operational Noise Management Plan	-	
ÅF Hansen & Henneberg - Harmonic Filter Design Review	-	
Uniper - Substation engineering and commissioning support	10.6	
SE Water - South East Water Connection to Twineham	-	
Bunzl - Safety equipment	-	
Electrocom Networks Ltd - Fibre Cable	-	
Active Training Team - Health and safety behavioural training	-	
Count- up - Testing permits	-	
Reece Safety Products - Locks	-	
Alcomet - Bolney earthing equipment	-	

- 10.6 The Developers have not been able to provide us with supporting documentation in relation to the 'E.ON Energy Solutions Limited - Electricity Supply for Commissioning Works' costs of £100,000 or the 'Uniper - Substation engineering and commissioning support' cost of £[REDACTED]. As we have not been provided with sufficient information to substantiate these costs we recommend that Ofgem should obtain an update on these costs from the Developers before finalising the ITV.



# 1 SUMMARY OF COST MOVEMENTS AND UNSUBSTANTIATED COSTS

## Summary of cost movements

Project cost category	Per CAT £	Adjusted value £	Total adjustment £	Breakdown £	Adjustment in relation to	Unsubstantiated costs £
Offshore substation					ABB - Project Management (OFTO) ABB - Offshore substation (Transformers) ABB - Offshore Substation (HV Switchgear) ABB - Offshore Substation (Reactive Equipment) ABB - Offshore Substation (Other scope) ABB - Offshore Substation (Water Mist System) ABB - Commissioning (OFTO) LV Shipping - Agency Services James Fisher - J Tube Installation	
Submarine cable supply & install					LS Cables - RO-1047 Offshore Export Cable Supply (disallowed by Ofgem) VBMS - RO-1067 LS Export Cable Installation (disallowed by Ofgem) VBMS - RO-1433 Export Cable Repair (disallowed by Ofgem) Other Costs Associated with LS Cables (disallowed by Ofgem) GMSL - RO-1444 Fibre Optic Supply and Install (disallowed by Ofgem) VolkerInfra - RO-1450 Fibre Optic HDD (disallowed by Ofgem) Installation East Global Maritime - MWS Mitie security N Sea – Boulder Clearance for East Replacement Deep BV - Surbey Support/Geophysical Survey	
Onshore cable supply & install					Carillion -VRE-002 Onshore-Offshore end to end HV test Carillion -VRE-003 Fibre Optic Microwave Link Connection Carillion - VRE-005 Brooklands compound Miles Drainage - Reinstatement drainage costs	

## Summary of cost movements

Project cost category	Per CAT £	Adjusted value £	Total adjustment £	Breakdown £	Adjustment in relation to	Unsubstantiated costs £
Onshore substation					ABB - Project Management (OFTO) ABB - Onshore Substation - Civil Works & BoP (includes civil works, 150 kV cable tails etc.) ABB - Onshore Substation - Reactive Equipment ABB - Onshore Substation - Transformers ABB - Onshore Substation - HV Switchgear ABB - Onshore Substation - LV Switchgear ABB - Onshore Substation (Harmonic filters) ABB - Onshore Substation (PD monitoring) ABB - Onshore Substation (Diesel Generator) ABB - Commissioning (OFTO)	
Connection costs					ABB - Project Management (OFTO) ABB - Onshore Substation - 400kV Cables to Bolney Substation	-
Common costs					Boulder and UXO clearance costs (disallowed by Ofgem) Rix Shipping Co Ltd - CTV Charter - Rix Tiger George Johannes Limited - Guard Vessel Charter - George Johannes Rix Shipping Co Ltd – Charter of CTV Rix Panther Global Maritime Consultancy Ltd - MWS for export cables Uniper Technology - Document Management System (ThinkProject!)	
Total capital costs (exc. IDC)	362,726,188					

2 BABCOCK – RO-1061 VARIATIONS

Babcock variation orders

	Agreed to supporting documentation	£	Description

### Babcock variation orders

Agreed to supporting documentation		£	Description

### 3 SCALDIS – RO-1098 VARIATIONS

## Scaldis variation orders

Agreed to supporting documentation	£	Description

## Carillion variation orders

\_\_\_\_\_

## 5 ABB – RO-1051 VARIATIONS

## ABB variation orders

Agreed to supporting documentation		£	Description



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