



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

**Report of Grant Thornton UK LLP  
dated 19 June 2018**

## **CONTENTS**

<b>1</b>	<b>Executive Summary</b>	<b>1</b>
<b>2</b>	<b>Introduction</b>	<b>7</b>
<b>3</b>	<b>The DOWL ex-post review</b>	<b>10</b>

## **APPENDICES**

<b>1</b>	<b>Invoice testing</b>
<b>2</b>	<b>STDL invoice review</b>
<b>3</b>	<b>ABB invoice review</b>
<b>4</b>	<b>VBMS invoice review</b>
<b>5</b>	<b>A2SEA invoice review</b>
<b>6</b>	<b>Carillion invoice review</b>
<b>7</b>	<b>Indirect costs review</b>
<b>8</b>	<b>Movements between the cost templates</b>

# 1 EXECUTIVE SUMMARY

- 1.1 Grant Thornton UK LLP (Grant Thornton / We) have been instructed by the Office of Gas and Electricity Markets (Ofgem) to carry out a review of the ex-post cost information, prepared by Statoil ASA (Statoil), for the transmission assets (the Transmission Assets) of the Dudgeon Offshore Wind Farm (DOWL / the Wind Farm), in accordance with our instructions set out in paragraph 1.3 below.
- 1.2 The Wind Farm is owned by affiliates of Statoil (35% shareholder), Abu Dhabi Future Energy Company PJSC (35% shareholder) and a consortium of China Resources and CNIC (30% shareholder) (collectively the Developers).
- 1.3 The review has sought to determine whether the Developers have procedures in place for managing directly and indirectly incurred costs, and to carry out certain testing on whether the Developers' latest assessment of the costs of the Transmission Assets have been incurred as stated. Our review and this report is based upon the costs recorded in the cost assessment template (CAT) provided to Ofgem on 19 December 2017 (the 19 December 2017 CAT). Further detail of our work is set out in Section 3, supplemented in **Appendices 1 to 8**, and is summarised as follows:
- establish the processes and policies undertaken by the Wind Farm for making payments for directly and indirectly incurred costs;
  - in relation to directly incurred costs, for selected contracts, trace expenditure through the purchasing and payments system and reconcile the costs included on the invoice schedule to the 19 December 2017 CAT;
  - in relation to indirectly incurred costs, for a sample of transactions, trace expenditure through the accounting system, and confirm the amount allocated has been correctly applied in accordance with the stated allocation methodology, using appropriate metrics in respect of the costs between transmission and generation; and
  - compare the costs at 19 December 2017 to the Indicative Transfer Value at April 2017 (ITV), and obtain explanations for significant variances arising between the costs at the two dates.
- 1.4 This report reflects the 19 December 2017 CAT together with information and explanations received by Grant Thornton up to and including 1 February 2018. Our report does not therefore reflect any information or the outcome of discussions held after that date.

- 1.5 The Developers have prepared cost templates setting out its assessment of the costs of the Transmission Assets throughout the development of the Wind Farm project We reviewed an earlier version of the cost template dated 15 February 2017 (the ex-ante review) which culminated in the submission of our report on 14 December 2017. Our report was considered by Ofgem in establishing the project's ITV<sup>1</sup>.
- 1.6 The Developers have submitted the 19 December 2017 CAT to Ofgem setting out its current assessment of the costs incurred in the development of the Wind Farm's Transmission Assets and it is this cost template that has been used in our work. The 19 December 2017 is summarised below:

#### Breakdown of Transmission Assets costs

	CAT Reference	April 2017 ITV £	19 December 2017 CAT £	Movement £
Project common costs	CR2	████████	████████	████████
Offshore Substation	CR3	████████	████████	████████
Submarine cable supply & installation	CR4	████████	████████	████████
Land cable supply & installation	CR5	████████	████████	████████
Onshore substation	CR6	████████	████████	████████
Other cost	CR9	████████	████████	████████
<b>Total capital costs</b>		████████	████████	████████
Interest during construction		████████	████████	████████
		<b>310,900,495</b>	<b>305,109,954</b>	<b>(5,790,540)</b>

- 1.7 The 19 December 2017 CAT reflects a decrease in the cost of the Transmission Assets of £5.79 million from the April 2017 ITV. The principal reasons for the overall decrease are:
- a £9.42 million decrease in the main contract costs as the allowances for variation orders and risks have been reduced to reflect the final cost of the contract (with the majority of costs now invoiced and paid as agreed in **Appendix 1**);
  - a £1.11 million decrease in internal resources costs as estimated hours have now been updated for actuals;
  - a £2.66 million decrease in Pre-DG3 development costs as a result of a recalculation of the costs by the Developers;
  - a £0.60 million decrease due to two insurance claims; and
  - a £0.47 million decrease in interest during construction.

<sup>1</sup> Letter from Ofgem to Dudgeon Offshore Wind Limited dated 24 April 2017 "Indicative Transfer Value for the Dudgeon project"

- 1.8 The above decreases (totalling £14.26 million) have been partially offset by increased costs (totalling £8.49 million) as a result of:
- various delays to the project costing £4.88 million;
  - an additional contract for export cable spares at a cost of £3.31 million; and
  - legal costs relating to land of £0.30 million not included at ITV.
- 1.9 The full analysis of the above variances is presented at **Appendix 8**.

## **SUMMARY OF FINDINGS**

### **The Wind Farm's payment processes**

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

### **Directly incurred costs**

- 1.12 Ofgem has instructed us to carry out certain procedures (as detailed at paragraph 3.15 below) on the costs payable by the Wind Farm to:
- Siemens Transmission Distribution Limited (STDL) for the supply of the Electrical System Infrastructure for the Wind Farm;
  - ABB AB (ABB) for the supply of the submarine export cable;
  - Visser & Smit Marine Contracting (VBMS) for the installation and burial of the subsea cable;
  - A2SEA for Vessel Time Charter Party costs (floatel during offshore hook-up and commissioning); and
  - Carillion Utility Services (Carillion) for the supply and installation of the onshore export cables.

1.13 These five contracts amounted to £[REDACTED] million and represent [REDACTED]%<sup>2</sup> of the total capital costs. These procedures have been carried out as required and a summary of findings is set out below:

**Summary of direct costs testing**

	Invoices paid £	Accrued amounts £	Amounts not submitted in 19 December 2017 CAT £	Costs double- counted in 19 December 2017 CAT £	Total per 19 December 2017 CAT £
STDL	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%
ABB	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%
VBMS	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%
A2SEA	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%
Carillion	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%
<b>Total</b>	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%	[REDACTED] [REDACTED]%

1.14 We have verified that invoices totalling £[REDACTED] million have been paid, representing 98.6% of the selected contracted costs included in the 19 December 2017 CAT.

1.15 Accrued amounts represent the remaining costs payable in relation to the two contracts that remain open, STDL and Carillion.

1.15.1 Accrued amounts in relation to the STDL contract comprise £[REDACTED] and €[REDACTED] (£[REDACTED]), of which £[REDACTED] was invoiced in January 2018 (and is due to be paid in February 2018). The remaining amount of £[REDACTED]<sup>3</sup> has not been invoiced (or paid). The Developers have explained they are still discussing the final account for STDL and they expect this to be invoiced in February and paid in March<sup>4</sup>.

<sup>2</sup> [REDACTED]

<sup>3</sup> [REDACTED]

<sup>4</sup> The Developers provided an update in March 2018 following the final account being agreed with Siemens. The final two accrued amounts, now invoiced, have been updated to €[REDACTED] (an increase of €[REDACTED] (£[REDACTED])) and £[REDACTED] (an increase of £[REDACTED] above the £[REDACTED] not previously invoiced). We understand that Ofgem are aware of these adjustments and these have been reflected in the final CAT

1.15.2 An accrued amount of £[REDACTED] in relation to the Carillion contract has not been invoiced or paid. Carillion went into compulsory liquidation in January 2018 and therefore is not in a position to complete the contract. The Developers have advised that they will have to subcontract the remaining scope of the contract to one of Carillion's subcontractors by entering into a separate contract/ purchase order and therefore the final amount is currently unknown. As the accrued amount is not considered significant to the overall value of the Transmission Assets, we have not performed any further work in relation to this amount.

1.16 Amounts not submitted in the 19 December 2017 CAT comprise £[REDACTED] paid to STDL and £[REDACTED] paid to ABB. We propose that the CAT is increased by these two amounts.

1.17 Costs of £[REDACTED] in relation to the STDL contract have been double counted in the 19 December 2017 CAT. An invoice for £[REDACTED] (net), allocated to the Transmission Assets at [REDACTED]%, ie £[REDACTED], relates to familiarisation studies and has been included in both CR9 (Pre-DG3 Development) costs and CR3 costs, in error. As such, we propose that the CAT is decreased by this amount.

1.18 Additionally, the final variation order in relation to the submarine export cable contract with ABB for £[REDACTED] has not yet been invoiced (or paid) or accounted for in the 19 December 2017 CAT. We have agreed this commitment to the final statement of account and therefore propose that the CAT is increased by this amount.

**Indirectly incurred costs**

1.19 Ofgem has instructed us to carry out certain procedures (as detailed in paragraph 3.22 below) in relation to a sample of indirect costs payable by the Wind Farm:

**Summary of indirect costs testing**

	Invoice currency	OFTO Cost NOK	OFTO Cost £	Agreed to invoice	Agreed to ledger	Agreement to bank
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
		[REDACTED]	[REDACTED]			

1.20 Our work in relation to these costs is summarised below.

***Project management support services costs***

1.21 We have been provided with a breakdown of project management support services costs and carried out a test of these costs to underlying records. Costs have been allocated to the Transmission Assets based upon the time spent between the transmission and generation businesses by Statoil's staff and the external contractors who worked on the Wind Farm development.

- 1.22 Shared resource costs have been allocated to the Transmission Assets using the four allocation rates of 100%, 50%, 20% and 0% (on an employee-by employee basis) as described in paragraphs 5.14 and 5.15 of our ex-ante report<sup>5</sup>.

## CONCLUSIONS

- 1.23 Our review of the Wind Farm's processes and procedures has indicated that it has suitable policies for the approval and payment of goods and services received, including for the allocation of costs where appropriate between the Transmission and Generation Assets.
- 1.24 On the basis of our review of the information and the explanations received to date in relation to the sample of directly and indirectly incurred costs that we have been asked to review, we can confirm that they are
- 1.24.1 supported by invoices, ledgers and bank statements that indicate that they have been incurred or are due; and
- 1.24.2 that the relevant cost is included within the 19 December 2017 CAT.
- 1.25 This is subject to the cost of the Transmission Assets being reduced by £[REDACTED]<sup>6</sup> in relation to the STDL contract and increased by £[REDACTED] in relation to the ABB contract<sup>7</sup>, ie a net increase to the 19 December 2017 CAT of £[REDACTED].
- 1.26 We also recommend that Ofgem should discuss the costs of £[REDACTED] included in the 19 December 2017 CAT in relation to export cable spares (see paragraph 3.31 below for further detail) further with the Developers for an update of the situation and to take a view regarding the level of spare parts in the FTV (Final Transfer Value).

Grant Thornton UK LLP

**Grant Thornton UK LLP**

**London**

19 June 2018

<sup>5</sup> Grant Thornton report on the Ex-Ante Cost Review of Dudgeon Offshore Wind Farm Transmission Assets dated 14 December 2017

<sup>6</sup> Being the net effect of an increase to the CAT of £[REDACTED] as per paragraph 1.16 and a decrease to the CAT of £[REDACTED] as per paragraph 1.17

<sup>7</sup> Being an increase to the CAT of £[REDACTED] as per paragraph 1.16 and a further £[REDACTED] as per paragraph 1.18



## 2 INTRODUCTION

### INSTRUCTIONS

- 2.1 Grant Thornton has been instructed by Ofgem to prepare a report on our review of the cost information and 19 December 2017 CAT for the Transmission Assets of the Wind Farm, prepared for Ofgem by the Developers (the ex-post review). This review is limited to the procedures set out in more detail in Section 3, and in particular to a sample of costs which have been selected by Ofgem.
- 2.2 Throughout the development of the Wind Farm, Ofgem has required the Developers to submit cost templates which set out both the estimated and actual costs that will be or have been incurred in relation to the Transmission Assets.
- 2.3 In March 2017, we conducted reviews of the cost templates for the Transmission Assets prepared between 30 June 2016 and 15 February 2017 (the ex-ante review). At this stage, as the project was operational and the CAPEX at an advanced stage, an adjustment to remove the contingency provision of £[REDACTED] million<sup>8</sup> submitted in the 15 February 2017 was proposed in our ex-ante report and no contingency was included in the ITV.
- 2.4 Further to the ex-ante review, Ofgem set the ITV in April 2017. This was based upon the Transmission Assets costs included in our draft report, and adjusted for particular issues that had been highlighted in our draft report as follows:

#### Reconciliation of ex-ante report to ITV

	CAT Reference	Grant Thornton ex-ante report £	Grant Thornton ex-ante adjustments £	Ofgem ex-ante adjustments £	April 2017 ITV £
Project common costs	CR2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Offshore Substation	CR3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Submarine cable supply & installation	CR4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Land cable supply & installation	CR5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Onshore substation	CR6	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Other costs	CR9	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total capital costs		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Interest during construction		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		352,973,513	(27,923,544)	(14,149,475)	310,900,495

- 2.5 This report reflects the 19 December 2017 CAT together with information and explanations received by Grant Thornton up to and including 1 February 2018. Our report does not therefore reflect any information or the outcome of discussions held after that date.

<sup>8</sup> [REDACTED] % of the pre-contingency Transmission Asset capital costs = [REDACTED]

- 2.6 The construction of the Transmission Assets is complete and the Wind Farm became fully operational in October 2017.
- 2.7 The main purpose of the ex-post review of the Wind Farm's Transmission Assets is to determine whether a sample of items, selected by Ofgem, which have been included within the 19 December 2017 CAT prepared by the Developers for the Transmission Assets, are appropriately stated, and whether selected costs not directly attributable to either the generation or transmission businesses have been allocated to the Transmission Assets on a reasonable basis. In particular we have been asked to:
- establish the processes and policies undertaken by the Wind Farm for making payments to suppliers for directly and indirectly incurred costs;
  - in relation to directly incurred costs, for selected contracts, trace expenditure from the cash flow schedule to the contract, the invoice, the accounting ledgers of the Wind Farm, and to the bank statements, and reconcile the costs included on the invoice schedule to the 19 December 2017 CAT;
  - in relation to indirectly incurred costs, for a sample of transactions, trace from the 19 December 2017 CAT to journal entries made on the accounting system, and confirm the amount allocated has been determined as prescribed in the cost allocation methodology that the Developers have indicated, using appropriate metrics in respect of the allocation of costs between transmission and generation; and
  - compare the costs at December 2017 to the ITV and obtain explanations for variances between the costs at the two dates.
- 2.8 If further information is produced and brought to our attention after service of this report, we reserve the right to revise our opinions as appropriate.
- 2.9 This work does not constitute an audit performed in accordance with Auditing Standards.
- 2.10 Except to the extent set out in this report, we have relied upon the documents and information provided to us as being accurate and genuine. To the extent that any statements we have relied upon are not established as accurate, it may be necessary to review our conclusions.
- 2.11 The report has been prepared using Microsoft Word and Microsoft Excel. The report may contain minor rounding adjustments due to the use of computers for preparing certain calculations.

## **RESTRICTION ON CIRCULATION**

- 2.12 Grant Thornton does not accept or assume responsibility, duty of care, liability or other obligation to any third party other than Ofgem who as a result, either directly or indirectly, of disclosure of the whole or any part of this report by Ofgem receives, reads or otherwise obtains access to this document. Any party relying on this report does so entirely at their own risk.
- 2.13 In the preparation of 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 (i) Ofgem is fully entitled to disclose such information to us for inclusion within our report, free of any third party rights or obligations and (ii) Ofgem will only permit circulation of this report in accordance with any rights to confidentiality on the part of any third party. Any objections to the inclusion of the material should be addressed to Ofgem. Accordingly, Grant Thornton acknowledge no duty or obligation whatsoever to any party in connection to the inclusion in the report of any material referring to any third party material or the accuracy of such material.

## **DISCLOSURES OF INTEREST**

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

## **FORMS OF REPORT**

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

### 3 THE DOWL EX-POST REVIEW

#### INTRODUCTION

- 3.1 The 402MW Wind Farm (built with 67 Siemens 6MW WTGs) is situated 32km off the coast of Cromer in North Norfolk. The onshore licencing body is National Grid Electricity Transmission plc (NGET) and the Wind Farm's Transmission Assets connect the 400kV NGET via a new onshore substation in Necton, Norfolk.
- 3.2 The Transmission Assets consist of an offshore substation supported by a jacket foundation, two 42km subsea export cables, two 47km onshore export cables, an onshore substation and a Transmission Assets dedicated Supervisory Control and Data Acquisition (SCADA) system.
- 3.3 The Wind Farm is owned by affiliates of Statoil, Abu Dhabi Future Energy Company PJSC and a consortium of China Resources and CNIC. Statoil is the Manager of DOWL performing the general management for the company both in the construction and the operational phase and has the role as manager for the facility project during the construction phase.

#### INFORMATION PROVIDED

- 3.4 Grant Thornton has relied upon the following information in reviewing the cost assessment for the Wind Farm's Transmission Assets:
- the 19 December 2017 CAT, which includes actual costs incurred up to and including 30 November 2017 and accrued costs that will be incurred from that date up to the closing out of all contracts, together with a list of reconciling items between the April 2017 ITV (as detailed at paragraph 2.4 above) and the 19 December 2017 CAT;
  - schedules of invoices prepared for the contracts selected for review by Ofgem, together with copies of contract documentation, invoices, bank statements and ledgers showing payments of the invoices recorded;
  - schedules providing supporting information for the internal project management costs with copies of invoices and bank statements showing payments of the related invoices; and
  - information and explanations provided to us by the Developers. This included a visit to Statoil's offices on 11 January 2018 to discuss the Transmission Assets, and subsequent email correspondence with staff responsible for the preparation of the 19 December 2017 CAT.

## EX-POST REVIEW

- 3.5 The main purpose of the ex-post review is as set out in Section 2.
- 3.6 The 19 December 2017 CAT for the Transmission Assets of the Wind Farm is summarised below:

### Breakdown of Transmission Assets costs

	CAT Reference	April 2017 ITV £	19 December 2017 CAT £	Movement £
Project common costs	CR2			
Offshore Substation	CR3			
Submarine cable supply & Installation	CR4			
Land cable supply & installation	CR5			
Onshore substation	CR6			
Other cost	CR9			
<b>Total capital costs</b>				
Interest during construction				
		310,900,495	305,109,954	(5,790,540)

## THE WIND FARM'S FINANCIAL PROCESSES

### Accounting systems

- 3.7 The Developers confirmed that there have been no changes in its accounting system since our ex-ante review.
- 3.8 All costs of the Wind Farm are posted to a Work Breakdown Structure (WBS) code in the accounting and cost control systems. Costs have been grouped dependent on the cost activity that they relate to and whether they relate entirely to Transmission or Generation Assets, or to the Wind Farm as a whole (shared costs).
- 3.9 Shared costs are typically indirect costs which are for the general benefit of the overall project and include:
- general project management and administration;
  - project support functions e.g. procurement, cost control, health and safety, contract coordinator and IT coordinator;
  - general consultants e.g. legal/environment and consent;
  - technical and engineering disciplines eg studies and surveys;
  - marine coordination and vessel representatives;
  - offices; and
  - SCADA equipment benefiting both the Transmission and Generation Assets.

- 3.10 As identified in our ex-ante report, resource costs not directly attributable to either the transmission or generation businesses<sup>9</sup> (shared costs) have been assigned to the Transmission Assets using two allocation rates, ■■■% and ■■■%. The rate of ■■■% is used for employees working on construction of both the transmission and generation businesses in relatively equal proportion, whilst the rate of ■■■% is used for employees who are contributing or performing supporting work on the Transmission Assets. The rates have been applied on a line-by-line basis using the judgement of the project management team.
- 3.11 The Developers have also applied the same allocation methodology used for resources costs in relation to other costs within the CAT, such as marine installation costs, studies and verifications and asset studies and other costs. Shared costs have been updated in the 19 December 2017 CAT as the OFTO<sup>10</sup> allocation rates (as at ITV) have been applied to the actual costs<sup>11</sup>.

### **Process for making payments**

- 3.12 The main process used by the Developers for making payments for both directly and indirectly incurred costs is set out below:
- as identified in our ex-ante report, one of the tools used by the Wind Farm in achieving value for money is the use of a competitive tendering process which was reviewed in that report;
  - once the contract has been signed, a purchase order is set up in both the SAP accounting system and in the PIMS cost system by either the Procurement Manager or the Contract Manager;
  - all payments are approved in the SAP system. Each contractor can send one invoice per currency per month. The invoice will include the agreed contract amount and if relevant, any variations. The invoice is sent to the designated SAP email address;
  - the invoice is scanned into SAP and the approval process is managed through the workflow system;
  - the first approver is the Project Controller, who will review the invoice, comparing the progress to the monthly report and against milestones and adding remarks to the system as required;
  - after first approval has been completed, the invoice is sent in SAP to the second approver for final approval for payment. This is undertaken by the Contract Manager, who has the authority to pay any amount within the current commitment.

<sup>9</sup> Costs directly attributable to the transmission business are “allocated” at 100% and those directly attributable to the generation business are “allocated” at 0%

<sup>10</sup> Offshore Transmission Owner

<sup>11</sup> Compared to the booked PO value at ITV

- after final approval is obtained, the invoice is returned to the Project Controller, who performs a Service Entry in SAP and forwards the invoice to the Central Accounts Payable (CAP) (The Payment Department);
- if, at either stage, the invoices have not been approved, SAP will send automatic reminders to the approvers. Additionally, the SAP co-ordinator performs manual checks of the status in workflow;
- CAP releases the payment, to be paid when the time is due. In Statoil, this is within 30 days of receipt (ie when entered into SAP);
- all payments are paid in the currency stated on the invoice from a bank account set up with this currency<sup>12</sup>. For the purposes of recording the costs in SAP, any costs not in GBP, the 'local currency' in SAP for this project, are translated at the spot rate on the 'cleared' date, being the day that the invoice is approved by the second approver (and therefore released for payment);
- in some cases, the 'cleared' date differs from the payment date per the bank statement by a few days, for example if the 'clearing date' is on a weekend or another day where the bank is not open, or if the payment is delayed a couple of days to be paid as a batch payment. However, we note that the difference in costs if invoices are converted to the spot rate on the date of payment as per the bank statement is insignificant;
- for payments in EUR and NOK between June 2016 and November 2017, when DOWL had hedging agreements for these currencies in place, the costs are recorded using the applicable monthly hedged rate.

### **Contract variations**

- 3.13 The Developers have confirmed that the process for payment of contract variations is the same as for the general invoice system set out above.

<sup>12</sup> With the exception of the first nine ABB invoices. These early SEK invoices were paid in GBP (translated at the spot rate on the payment date) as the SEK bank account had not yet been set up

## REVIEW OF DIRECTLY INCURRED COSTS

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

### Summary of directly incurred costs selected for testing

	CAT Reference	19 December 2017 CAT £	% of total Transmission Asset capital costs <sup>13</sup>
STDL	CR3/ CR6	██████████	██████%
ABB	CR4	██████████	██████%
VBMS	CR4	██████████	██████%
A2SEA	CR3	██████████	██████%
Carillion	CR5	██████████	██████%
		██████████	██████%

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

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

3.16 Our detailed testing in relation to these contracts is set out in **Appendices 1 to 6**, and our findings are summarised in the following table:

### Summary of direct costs testing

	Invoices paid £	Accrued amounts £	Amounts not submitted in 19 December 2017 CAT £	Costs double-counted in 19 December 2017 CAT £	Total per 19 December 2017 CAT £
STDL	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%
ABB	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%
VBMS	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%
A2SEA	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%
Carillion	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%
<b>Total</b>	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%	██████████ ██████%

<sup>13</sup> Total Transmission Asset capital costs (as set out in the table at paragraph 3.6 above) = £██████████



### **Invoices paid**

- 3.17 Our review of invoices paid by DOWL, relating to the five contracts selected by Ofgem, confirmed payment to the contractor and raised no areas of concern.

### **Accrued amounts**

- 3.18 Our review of accrued amounts in relation to the STDL and Carillion contracts raised no areas of concern. Further details in relation to these amounts are set out in **Appendix 1**.

### **Adjustments required to the 19 December 2017 CAT**

#### ***Amounts not submitted in 19 December 2017 CAT***

- 3.19 Our review of invoices highlighted that one invoice paid to STDL for £[REDACTED] (as detailed in **Appendix 1** paragraph 1.10) and two invoices paid to ABB totalling £[REDACTED] (as detailed in **Appendix 1** paragraph 1.19) have not been included in the 19 December 2017 CAT. As such, we propose that the CAT is increased by these two amounts.
- 3.20 Further to the adjustments included in the table at paragraph 3.16 above), our review of the final statement of account for the ABB contract highlighted that the last variation order in relation to the ABB contract for £[REDACTED] (as detailed in **Appendix 1**, paragraph 1.20) has not yet been invoiced (or paid) or included in the 19 December 2017 CAT. We therefore propose that the CAT is increased to include this amount.

#### ***Costs double counted in 19 December 2017 CAT***

- 3.21 During our review the Developers explained that costs of £[REDACTED] relating to pre-DG3 development costs had been double counted in the 19 December 2017 CAT (as detailed in **Appendix 1** paragraph 1.9). As such, we propose that the CAT is decreased by this amount.

## REVIEW OF INDIRECTLY INCURRED COSTS

### Project management costs

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

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

3.23 Our detailed testing in relation to project management costs is set out in **Appendix 7**, and our findings are summarised in the following table:

#### Summary of indirect costs testing

	Invoice currency	OFTO Cost NOK	OFTO Cost £	Agreed to invoice	Agreed to ledger	Agreement to bank
██████████	█	██████████	██████████	✓	✓	✓
██████████	█	██████████	██████████	✓	✓	✓
██████████	█	██████████	██████████	✓	✓	✓
██████████	█	██████████	██████████	✓	✓	✓
██████████	█	██████████	██████████	✓	✓	✓
		██████████	██████████			

3.24 Our testing of project management support services costs has identified no areas of concern.

3.25 For the avoidance of doubt, we have not verified the suitability of the hourly rates charged to the project by Statoil.

## MOVEMENTS IN THE COST ASSESSMENT

3.26 The movements between the ITV set in April 2017 and the most recent cost assessment of December 2017 are summarised in the following table:

### Breakdown of Transmission Assets costs

	CAT Reference	April 2017 ITV £	19 December 2017 CAT £	Movement £
Project common costs	CR2	████████	████████	████████
Offshore Substation	CR3	████████	████████	████████
Submarine cable supply & Installation	CR4	████████	████████	████████
Land cable supply & installation	CR5	████████	████████	████████
Onshore substation	CR6	████████	████████	████████
Other cost	CR9	████████	████████	████████
<b>Total capital costs</b>		████████	████████	████████
Interest during construction		████████	████████	████████
		310,900,495	305,109,954	(5,790,540)

3.27 The principal reasons for the £5.79 million decrease in costs between the April 2017 ITV and the 19 December 2017 CAT are

- a £9.42 million decrease in the main contract costs as the allowances for variation orders and risks have been reduced to reflect the final cost of the contract (with the majority of costs now invoiced and paid as agreed in **Appendix 1**);
- a £1.11 million decrease in internal resources costs as estimated hours have now been updated for actuals;
- a £2.66 million decrease in Pre-DG3 development costs as a result of a recalculation of the costs by the Developers;
- a £0.60 million decrease due to two insurance claims; and
- a £0.47 million decrease in interest during construction.

3.28 The above decreases (totalling £14.26 million) have been partially offset by increased costs (totalling £8.49 million) as a result of:

- various delays to the project costing £4.88 million;
- an additional contract for export cable spares at a cost of £3.31 million; and
- legal costs relating to land of £0.30 million not included at ITV.

3.29 The full variance analysis of the above variances is presented at **Appendix 8**.

## IMPACT OF COST ASSESSMENT REVIEW

- 3.30 Following our review of the 19 December 2017 CAT, as detailed above, we consider that, other than a net increase to the Transmission Assets of £[REDACTED], for the net reduction to the STDL contract of £[REDACTED]<sup>14</sup> and increase in ABB costs of £[REDACTED]<sup>15</sup>, there are no further amendments to be made to the cost template.
- 3.31 As detailed in **Appendix 8** paragraph 8.10, the Developers have accrued costs of SEK [REDACTED] (£[REDACTED]<sup>16</sup>) in relation to cable spares in the 19 December 2017 CAT. The Developers advised that the contract with NKT for export cable spares had not yet been entered into and therefore no documentation is available to substantiate these costs. As such, we recommend that Ofgem should discuss these costs further with the Developers obtaining an update when the contract has been entered into and take a view regarding the level of spare parts in the FTV.

<sup>14</sup> Increased costs of £[REDACTED] as per paragraph 3.19 together with a decrease of £[REDACTED] to remove the double counted pre-DG3 development costs as per paragraph 3.21

<sup>15</sup> Increased costs of £[REDACTED] as per paragraph 3.19 together with a further increase of £[REDACTED] for the final variation order to the contract as per paragraph 3.20

<sup>16</sup> At an exchange rate of [REDACTED]

# 1 INVOICE TESTING

## STDL

- 1.1 The 19 December 2017 CAT includes an amount of £ [REDACTED] which was due to STDL for work carried out in respect of the supply of the Electrical System Infrastructure for the Wind Farm which is made up as follows:

	Ref	€	£	Total £
Invoiced amounts		[REDACTED]	[REDACTED]	[REDACTED]
Effective exchange rate (€:£)		[REDACTED]	[REDACTED]	[REDACTED]
Total invoiced amounts (£)	1.2	[REDACTED]	[REDACTED]	[REDACTED]
OFTO allocation rates	1.6	[REDACTED]	[REDACTED]	[REDACTED]
Accrued amounts (£)	1.8	[REDACTED]	[REDACTED]	[REDACTED]
Double counted pre DG3 costs	1.9			[REDACTED]
Invoice not included in the 19 December 2017 CAT	1.10			[REDACTED]
<b>Total STDL costs per 19 December 2017 CAT</b>				[REDACTED]

### Review of amounts paid

- 1.2 We obtained a schedule of all invoices received under the STDL contract which recorded 63 purchase invoices<sup>17</sup>. This is included at **Appendix 2**.

#### *Vouching to invoices*

- 1.3 We agreed all 63 invoices recorded on the schedule to the underlying invoice.

#### *Vouching to purchase ledger*

- 1.4 We agreed all 63 invoices to the purchase ledger.

#### *Vouching to bank statements*

- 1.5 We agreed the payment of all 63 invoices to bank statements.

#### *Allocation rates*

- 1.6 The Developers have allocated the STDL invoices to the Transmission Assets by applying an OFTO percentage to all invoices. All committed costs (ie original contract plus variation orders) have been allocated an OFTO percentage of either 0% or 100%<sup>18</sup> on a line by line basis to derive overall allocation percentages (as set out in paragraph 1.7 below). This exercise has been carried out for costs in Euros and Sterling separately.

<sup>17</sup> 35 invoices are in Sterling and 28 invoices are in Euros

<sup>18</sup> With the exception of the costs in relation to the termination equipment for infield submarine cables and export submarine cables of which 14.29% (2/14) been allocated to the Transmission Assets to reflect that of the 14 cables two are export cables

- 1.7 For amounts invoiced in Euros the allocation percentage to be applied is [REDACTED]% and for amounts invoiced in Sterling it is [REDACTED]%. We have reviewed the contract workings schedule<sup>19</sup> and confirm the calculation of these OFTO allocation percentages appears reasonable.

### Accrued amounts

- 1.8 Two amounts of € [REDACTED] (£ [REDACTED]<sup>20</sup>) and £ [REDACTED], of which £ [REDACTED] was invoiced in January 2018 (and is due to be paid in February 2018). The remaining amount of £ [REDACTED]<sup>21</sup> has not been invoiced (or paid). The Developers have explained that they are still discussing the final account for STDL and they expect this to be invoiced in February and paid in March<sup>22</sup>.

### Adjustments to the 19 December 2017 CAT

- 1.9 During our review the Developers explained that costs of £ [REDACTED] relating to pre-DG3 development costs have been double counted in the 19 December 2017 CAT. A Siemens invoice for familiarisation studies for a net amount of £ [REDACTED] has been included by the Developers in both CR9 (Pre-DG3 Development) costs and CR3 costs, in error. The invoice has been allocated to the Transmission Assets at [REDACTED]%, such that £ [REDACTED] has been incorrectly included in the 19 December 2017 CAT in CR3 costs. As such, we propose that the CAT is decreased by this amount.
- 1.10 Our review highlighted that one invoice paid to STDL for £ [REDACTED] has not been included in the 19 December 2017 CAT and therefore we propose the CAT is increased by this amount.
- 1.11 Together the two proposed adjustments would result in a net decrease of £ [REDACTED]<sup>23</sup> to the STDL contract costs, thereby reducing the total STDL costs included in the CAT to £ [REDACTED]<sup>24</sup>.

<sup>19</sup> Ofgem developer data room 3.1.3.1 "STDL Contract OFTO Cost\_2017.12.15.xlsx"

<sup>20</sup> At an exchange rate of [REDACTED]

<sup>21</sup> £ [REDACTED]

<sup>22</sup> The Developers provided an update in March 2018 following the final account being agreed with Siemens. The final two accrued amounts, now invoiced, have been updated to € [REDACTED] (an increase of € [REDACTED] (£ [REDACTED])) and £ [REDACTED] (an increase of £ [REDACTED] above the £ [REDACTED] not previously invoiced). We understand that Ofgem are aware of these adjustments and these have been reflected for in the final CAT.

The increase of € [REDACTED] (£ [REDACTED]) is as a result of a correction in the last invoice for an omission of € [REDACTED] from the December 2015 and March 2017 and an additional cost of € [REDACTED] to prolong the PCG throughout the warranty period.

The increase of £ [REDACTED] is due to £ [REDACTED] in relation to the prolonged PCG and £ [REDACTED] in relation to the transition joint bay insurance case

<sup>23</sup> [REDACTED]

<sup>24</sup> [REDACTED]

**ABB**

- 1.12 The 19 December 2017 CAT includes an amount of £[REDACTED] payable to ABB for work carried out in respect of the supply of the submarine export cable which is made up as follows:

	Ref	\$	SEK	Total £
Invoiced amounts		[REDACTED]	[REDACTED]	[REDACTED]
Effective exchange rate (\$/SEK:£)		[REDACTED]	[REDACTED]	[REDACTED]
Total invoiced amounts (£)	1.13	[REDACTED]	[REDACTED]	[REDACTED]
Invoices not included in the 19 December 2017 CAT	1.19			[REDACTED]
<b>Total ABB costs per 19 December 2017 CAT</b>				[REDACTED]

**Review of amounts paid**

- 1.13 We obtained a schedule of all invoices received under the ABB contract which recorded 48 purchase invoices<sup>25</sup> and one credit note. This is included at **Appendix 3**.

***Vouching to invoices***

- 1.14 We agreed all 49 documents recorded on the schedule to the underlying invoice/ credit note.

***Vouching to purchase ledger***

- 1.15 We agreed all 49 documents to the purchase ledger.

***Vouching to bank statements***

- 1.16 We agreed the payment of all 48 invoices to bank statements.
- 1.17 We note that the first nine SEK invoices were paid directly in Sterling. The Developers explained that the ABB contract is one of the earliest contracts for which payments were made and at the date these invoices were due for payment the SEK bank account was not yet available. The total amount paid in Sterling from the bank account is £16,431 greater than the Sterling amount included in the 19 December 2017 CAT in relation to these nine invoices. However, we do not propose any adjustment to the CAT for this insignificant foreign exchange difference.

***Allocation rates***

- 1.18 All ABB invoices relate 100% to the Transmission Assets.

**Adjustments to the 19 December 2017 CAT**

- 1.19 Our review highlighted that two invoices paid to ABB (NKT<sup>26</sup>) totalling £[REDACTED] (SEK [REDACTED]) have not been included in the 19 December 2017 CAT and therefore we propose the CAT is increased by this amount.

<sup>25</sup> 10 invoices are in US Dollars and 38 invoices (and the credit note) are in Swedish Krona

<sup>26</sup> We understand that in March 2017, NKT Cables acquired ABB and as a result of the vendor name changes these two invoices were initially missed from the schedule of ABB invoices included in the 19 December 2017 CAT

- 1.20 The Developers have provided the final statement of account for the submarine export cable contract and this includes SEK [REDACTED] (£[REDACTED]<sup>27</sup>) in relation to variation order 25. We understand that this last variation order has not yet been invoiced (or paid), nor have the costs been accrued in the 19 December 2017 CAT. As such, we propose that the CAT is also increased by this amount.
- 1.21 Together the two proposed adjustments would result in an increase of £[REDACTED]<sup>28</sup> to the ABB contract costs, thereby increasing the total ABB costs included in the CAT to £[REDACTED]<sup>29</sup>.

## VBMS

- 1.22 The 19 December 2017 CAT includes an amount of £[REDACTED] payable to VBMS for work carried out in respect of the installation and burial of the subsea cable which is made up as follows:

	Ref	£
Invoiced amounts	1.23	[REDACTED]
Effective OFTO allocation rate	1.27	[REDACTED]%
<b>Total VBMS costs per 19 December 2017 CAT</b>		[REDACTED]

### Review of amounts paid

- 1.23 We obtained a schedule of all invoices received under the VBMS contract which recorded 31 purchase invoices. This is included at **Appendix 4**.

#### *Vouching to invoices*

- 1.24 We agreed all 31 invoices recorded on the schedule to the underlying invoice.

#### *Vouching to purchase ledger*

- 1.25 We agreed all 31 invoices to the purchase ledger.

#### *Vouching to bank statements*

- 1.26 We agreed the payment of all 31 invoices to bank statements.

#### *Allocation rates*

- 1.27 The invoiced costs have been allocated to the Transmission Assets by applying OFTO allocation percentages based on the actual invoiced amounts on a monthly basis.

<sup>27</sup> At an exchange rate of [REDACTED] (rounded to 3 decimal places)

<sup>28</sup> [REDACTED]

<sup>29</sup> [REDACTED]



## A2SEA

- 1.28 The 19 December 2017 CAT includes an amount of £ [REDACTED] payable to A2SEA for Vessel Time Charter Party costs (floatel during offshore hook-up and commissioning) which is made up as follows:

	Ref	€
Invoiced amounts		[REDACTED]
Exchange rate (€:£)		[REDACTED]
Total invoiced amounts (£)	1.29	[REDACTED]
Effective OFTO allocation rate	1.33	[REDACTED]
<b>Total A2SEA costs per 19 December 2017 CAT (£)</b>		[REDACTED]

### Review of amounts paid

- 1.29 We obtained a schedule of all invoices received under the A2SEA contract which recorded nine purchase invoices and one credit note. This is included at **Appendix 5**.

#### *Vouching to invoices*

- 1.30 We agreed all 10 documents recorded on the schedule to the underlying invoice/ credit note.

#### *Vouching to purchase ledger*

- 1.31 We agreed all 10 documents to the purchase ledger.

#### *Vouching to bank statements*

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

#### *Allocation rates*

- 1.33 The invoiced costs have been allocated to the Transmission Assets by applying OFTO allocation percentages based on the actual invoiced amounts on a monthly basis.

## CARILLION

- 1.34 The 19 December 2017 CAT includes an amount of £ [REDACTED] payable to Carillion for work carried out in respect of the supply and installation of the onshore export cables which is made up as follows:

	Ref	£
Invoiced amounts	1.35	[REDACTED]
Accrued amount	1.40	[REDACTED]
<b>Total Carillion costs per 19 December 2017 CAT</b>		[REDACTED]

### Review of amounts paid

- 1.35 We obtained a schedule of all invoices received under the Carillion contract which recorded 38 purchase invoices. This is included at **Appendix 6**.

***Vouching to invoices***

1.36 We agreed all 38 invoices recorded on the schedule to the underlying invoice.

***Vouching to purchase ledger***

1.37 We agreed all 38 invoices to the purchase ledger.

***Vouching to bank statements***

1.38 We agreed the payment of all 38 invoices to bank statements.

***Allocation rates***

1.39 All Carillion invoices relate 100% to the Transmission Assets.

**Accrued amounts**

1.40 An amount of £[REDACTED] in relation to the Carillion contract has been accrued for by the Developers in the 19 December 2017 CAT. This amount has not been invoiced or paid.

1.41 Carillion went into compulsory liquidation in January 2018 and therefore is not in a position to complete the contract. The Developers have advised that they will have to subcontract the remaining scope of the contract to one of Carillion's subcontractors by entering into a separate contract / purchase order and therefore the final amount is currently unknown. As the accrued amount is not considered significant to the overall value of the Transmission Assets, we have not performed any further work in relation to this amount.





Invoice no.	Description	Invoice date	Date cleared for payment	Date paid	Net invoice value €	Exchange rate €/£	Net invoice value £	OFTO allocation %	OFTO cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
██████	████████████████████	██████	██████	██████	██████	██████	██████	██████	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	██████	██████	██████	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	██████	██████	██████	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	██████	██████	██████	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	██████	██████	██████	██████	✓	✓	✓
<b>Paid to date</b>					<u>██████</u>		<u>██████</u>		<u>██████</u>			





Invoice no.	Description	Invoice date	Date cleared for payment	Date paid	Net invoice value \$	Net invoice value SEK	Exchange rate \$/£	Exchange rate SEK/£	Net invoice value £	Agreed to invoice	Agreed to ledger	Agreed to Bank
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	✓	✓	✓
					<u>[REDACTED]</u>	<u>[REDACTED]</u>			<u>[REDACTED]</u>			





Invoice no.	Description	Invoice date	Date cleared for payment	Date paid	Net invoice value £	OFTO allocation %	OFTO cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
██████	████████████████████	██████	██████	██████	██████	████%	██████	✓	✓	✓
					<u>██████</u>		<u>██████</u>			
					<u>██████</u>		<u>██████</u>			

## 5 A2SEA INVOICE REVIEW

Invoice no.	Description	Invoice date	Date cleared for payment	Date paid	Net invoice value €	Exchange rate €/£	Net invoice value £	OFTO allocation %	OFTO cost £	Agreed to invoice	Agreed to ledger	Agreed to bank
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]%	[REDACTED]	✓	✓	✓
Paid to date					[REDACTED]		[REDACTED]		[REDACTED]			





## 7 INDIRECT COSTS REVIEW

### PROJECT MANAGEMENT COSTS

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

- employees register their time, usually on a weekly basis, with each timesheet entry being recorded as one line entry in SAP;
- the hours and associated cost are booked to the applicable “D” WBS code. There are several “D” WBS codes as there is one for each project management cost category. Contractor costs (such as IT costs, office costs etc) are also booked to one particular “D” WBS code;
- time is not directly booked to an OFTO / non- OFTO code, rather an OFTO allocation rate is applied to each of the “D” WBS codes;
- service work orders are in place between DOWL and Statoil ASA (invoice in NOK) and Statoil UK (invoice in GBP) as construction manager for the Wind Farm;
- an invoice is raised to DOWL for the resources costs posted to the “D” WBS codes each month<sup>30</sup> and the invoice is paid as part of the total monthly payment to the vendor (Statoil ASA or Statoil UK);
- the “D” WBS codes feed through into one of 12 “L” WBS codes<sup>31</sup> and these are the costs which are included in the CAT (using OFTO allocation rates based on those as applied to the “D” WBS codes);
- We have selected a sample of five individuals on which to test this process.

7.2 The Developers have provided details from these employees’ timesheet records. We have traced these to the invoices being raised, posted on the system and paid as set out in the table on the following page:

<sup>30</sup> One invoice is raised for each service work order each month, although prior to 2017, an invoice was raised for each WBS code each month

<sup>31</sup> With more than one “D” WBS code feeding into an “L” WBS code, such that there are more “D” WBS codes compared to “L” WBS codes. (We note that the total value of the “L” WBS codes will be greater as some amounts get posted to the “L” WBS code directly)

**Project management costs**

Employee	Invoice currency	Month	Total Hours	OFTO %	OFTO Hours	Rate NOK	Rate £	OFTO Cost NOK	OFTO Cost £	WBS Element	Total monthly cost per WBS NOK	Total monthly cost per WBS £	Monthly invoice total NOK	Monthly invoice total £	Agreed to invoice	Agreed to ledger	Date paid	Agreed to bank
██████████	████	████	████	████%	████	████	████	████	████	██████████	████	████	████	████	✓	✓	████	✓
██████████	████	████	████	████%	████	████	████	████	████	██████████	████	████	████	████	✓	✓	████	✓
██████████	████	████	████	████%	████	████	████	████	████	██████████	████	████	████	████	✓	✓	████	✓
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██████████	████	████	████	████%	████	████	████	████	████	██████████	████	████	████	████	✓	✓	████	✓
								████	████				████	████				

We note that ██████████ is a consultant and therefore the costs set out in the above table do not reflect his salary (which is accounted for as a procured item) but the associated IT, office costs.

## 8 MOVEMENTS BETWEEN THE COST TEMPLATES

8.1 We have been instructed to compare the total Transmission Asset costs as set out in the 19 December 2017 CAT with the total Transmission Asset costs included within the ITV at April 2017, and to obtain explanations for variances between the two dates. The movement is summarised in the table below:

### Breakdown of Transmission Assets costs

	CAT Reference	April 2017 ITV £	19 December 2017 CAT £	Movement £
Project common costs	CR2	████████	████████	████████
Offshore Substation	CR3	████████	████████	████████
Submarine cable supply & installation	CR4	████████	████████	████████
Land cable supply & installation	CR5	████████	████████	████████
Onshore substation	CR6	████████	████████	████████
Other cost	CR9	████████	████████	████████
<b>Total capital costs</b>		████████	████████	████████
Interest during construction		████████	████████	████████
		310,900,495	305,109,954	(5,790,540)

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

### PROJECT COMMON COSTS

8.3 Project common costs for third party services have decreased by a net amount of £████████. As this movement is not considered material to the value of the Transmission Assets, we have not performed any further work in relation to common costs.

### OFFSHORE SUBSTATION

8.4 Offshore substation costs have decreased by a net amount of £████████ million.

8.5 The largest decrease within this cost category relates to costs in relation to the STDL contract which have decreased by a total of £████████ million. The decrease comprises a £████████ million reduction in Preliminaries and System Engineering costs, a £████████ million reduction in offshore substation and platform costs and a £████████ million reduction in the offshore substation jacket costs. These reductions all relate to a reduced allowance for variation orders now that actual costs are known (as agreed in **Appendix 1** above).

8.6 A further decrease of £████████ million relates to internal costs for the Technical, Commissioning and Marine Team. The internal costs have decreased as the estimated hours at ITV have since been updated to reflect actual hours incurred.

8.7 Costs in relation to the SHL contract for the substation topside and jacket installation have decreased by £████████ million as the costs in the 19 December 2017 CAT have been updated to reflect the final cost of the contract (with all costs now invoiced and paid).



- 8.8 The above decreases (totalling £[REDACTED] million) have been partially offset by the following increase in costs (totalling £[REDACTED] million) which result from a seven month delay to the project:
- 8.8.1 an increase of £[REDACTED] million relates to additional Floatel (floating hotel vessel) costs incurred during offshore hook-up and commissioning in 2017;
  - 8.8.2 additional personnel transfer vessel (PTV) of £[REDACTED] million; and
  - 8.8.3 other Marine Installation Costs have increased by £[REDACTED] million due to the prolonged need for the offshore base due to the delay.

### SUBMARINE CABLE SUPPLY & INSTALLATION

- 8.9 Submarine cable supply and installation costs have decreased by a net amount of £[REDACTED] million.
- 8.10 The Developers have accrued costs of SEK [REDACTED] million (£[REDACTED] million<sup>32</sup>) in relation to cable spares. The Developers explained that due to internal faults with the cable fibre optics (and pushbacks during the Invitation to Tender (ITT)) there is the need to buy more cable as there are no spare cables of the required length. During our site visit<sup>33</sup>, the Developers advised that the contract with NKT for export cable spares had not yet been entered into and therefore no documentation is available in support of these costs<sup>34</sup>. As such, we recommend that Ofgem should discuss these costs further with the Developers and take a view regarding the level of spare parts in the FTV.
- 8.11 This increase in costs has been offset (to give an overall decrease in the total submarine cable supply and installation costs) by the following decreases (totalling £[REDACTED] million):
- 8.11.1 the main decrease relates to the VBMS contract for the subsea cable installation. Costs have decreased by £[REDACTED] million as the allowances for risks included at ITV have been reduced such that the costs in 19 December 2017 reflect the final cost of the contract (with all costs now invoiced and paid as agreed in **Appendix 1** above);
  - 8.11.2 a further decrease of £[REDACTED] million relates to internal costs for the Technical, Commissioning and Marine Team. As noted in paragraph 8.6 above, the internal costs have decreased as the estimated hours at ITV have since been updated to reflect actual hours incurred;
  - 8.11.3 costs in relation to the ABB contract for the supply of the subsea cable have also decreased, by £[REDACTED] million, as the 19 December 2017 CAT has been updated to reflect the final cost of the contract (as agreed in **Appendix 1** above); and

<sup>32</sup> At an exchange rate of [REDACTED]

<sup>33</sup> On 11 January 2018

<sup>34</sup> The Developers provided a copy of the signed NKT contract in March 2018. This sets out a contract price of SEK [REDACTED] million (£[REDACTED] million). We note a small difference of £[REDACTED] million above the accrued costs

8.11.4 an insurance claim in relation to storm damage to the export cable settled in June 2017. We have agreed the claim figures as per the Loss Adjustors Report and the corresponding reduction to costs included in the 19 December 2017 CAT of £[REDACTED] million.

## LAND CABLE SUPPLY & INSTALLATION

- 8.12 Land cable supply and installation costs have decreased by a net amount of £[REDACTED] million.
- 8.13 Onshore cable installation costs in relation to the Carillion contract have decreased by £[REDACTED] million due to reduced allowances for variation orders and risks included at ITV such that the costs in 19 December 2017 reflect the final cost of the contract (with all costs now invoiced and paid<sup>35</sup> as agreed in **Appendix 1** above).
- 8.14 There is an ongoing insurance claim<sup>36</sup> for damages to the export cable (due to sabotage) in the onshore Transition Joint Bay (TJB). We have reviewed the cost overview provided by the Developers in support of the reduction to costs included in the 19 December 2017 CAT of £[REDACTED] million.
- 8.15 The above two decreases (totalling £[REDACTED] million) have been partially offset by an increase in onshore cable procurement (supply) costs of £[REDACTED] million to reflect the final cost of the Carillion contract (with all costs now invoiced and paid as agreed in **Appendix 1** above).

## ONSHORE SUBSTATION

- 8.16 Onshore substation costs have decreased by a net amount of £[REDACTED] million.
- 8.17 A decrease of £[REDACTED] million relates to internal costs for the Technical and Commissioning Team. As noted in paragraph 8.6 above, the internal costs have decreased as the estimated hours at ITV have since been updated to reflect actual hours incurred.
- 8.18 Preliminaries and System Engineering costs in relation to the STDL contract have decreased by £[REDACTED] million due to a reduced allowance for variation orders now that actual costs are known (as agreed in **Appendix 1** above).
- 8.19 Site preparation costs in relation to enabling works for the onshore substation at Necton have decreased by £[REDACTED] million to reflect the final value of the works, ie estimated allowances have been updated to reflect actual costs incurred.
- 8.20 The above three decreases (totalling £[REDACTED] million) have been partially offset by an increase in onshore substation costs in relation to the STDL contract of £[REDACTED] million. The additional costs are because of delays resulting from interface issues with NGET and other company contractors.

<sup>35</sup> With exception of the accrued amount of £[REDACTED] million detailed in **Appendix 1** paragraphs 1.40 and 1.41 above

<sup>36</sup> Payment insurance event – Carillion variation order 18, 1 April 2017

## OTHER COSTS

- 8.21 Other costs have increased by £[REDACTED] million. The overall movement is not considered material to the value of the Transmission Assets however we have reviewed the cost category breakdown to identify any significant movements (which then offset one another).
- 8.22 Pre-DG3 development costs have decreased by £[REDACTED] million as a result of a recalculation of the costs by the Developers. At ITV, development costs incurred by the Developers following the acquisition of the Wind Farm in 2012, but prior to the final investment decision (FID) was made, were allocated to the Transmission Assets based upon the same effective allocation rates used for equivalent resources categories in post-DG3 costs. In the 19 December 2017 CAT, these pre-DG3 costs have now been allocated using specific OFTO allocation percentages<sup>37</sup> based on the individual invoices (on a line-by-line basis).
- 8.23 Asset team costs have increased by £[REDACTED] million as the estimated internal resource costs included at ITV have since been updated to actual costs, ie now reflect actual hours spent (as noted in paragraph 8.6 above).
- 8.24 £[REDACTED] million of legal costs relating to land from the lawyers Bond Dickinson have been included in the 19 December 2017 CAT. There were no such legal costs included at ITV. We have agreed £[REDACTED] million<sup>38</sup> of incurred costs to the ledger for Bond Dickinson [REDACTED] relating to 'CPO and consent discharge Dudgeon 2015'. This comprises several invoices dated between November 2014 and November 2017. The remaining costs of £[REDACTED] million has not yet been incurred. The Developers explained that £[REDACTED] million is for completing the Certificate of Title (COT) and the remainder is for completing agreements with landowners..
- 8.25 Other movements (which are not material to the value of the Transmission Assets) relate to asset studies (a decrease of £[REDACTED] million), studies and verifications (a decrease of £[REDACTED] million) and development costs (an increase of £[REDACTED] million).

## INTEREST DURING CONSTRUCTION

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

<sup>37</sup> 0%, 20%, 50% or 100%

<sup>38</sup> [REDACTED]



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