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Offshore Transmission: Cost Assessment for the Thanet transmission assets

Decision

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Overview:

This document sets out our cost assessment for the Thanet transmission assets and the key principles that we have applied in our cost assessment process for the second transitional tender round. The Authority has used the assessment of costs to determine the value of the Thanet transmission assets. The Authority has granted an offshore transmission licence to Thanet OFTO Limited, incorporated by Balfour Beatty Investments Limited.

Thanet OFTO Limited has incorporated the assessed transfer value as set out in this report into their tender revenue stream. The appendices published alongside this report are available on the Ofgem website. They include correspondence between Ofgem and the developer as part of the cost assessment process and external consultants' reports referred to in this document.

Context

Ofgem and the Department of Energy and Climate Change have developed a regulatory regime for offshore electricity transmission. A key part of this regime is that an offshore electricity transmission licence will be granted to an Offshore Transmission Owner (OFTO) following a competitive tender process run by Ofgem. The transitional tender regime has been designed for projects that were under development, in construction or constructed at the time of the announcement of the regime[1].

The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2010 (the Tender Regulations) provide the legal framework for the process which Ofgem run for the grant of offshore electricity transmission licences and apply to tender exercises that met the qualifying project requirements set out in the Tender Regulations by 31 March 2012. The Tender Regulations apply to the Thanet transmission assets.

The Tender Regulations set out the requirement for the Authority to calculate, based on all relevant information available to it, the economic and efficient costs which ought to be, or ought to have been, incurred in connection with developing and constructing the offshore transmission assets in respect of a project. The Tender Regulations provide for an estimate, followed by an assessment of costs in relation to offshore transmission assets.

Where the Authority has determined to grant an offshore electricity transmission licence to the successful bidder in respect of a particular project, the assessment of costs shall be used by the Authority to determine the value of the transmission assets to be transferred to the successful bidder. This value will be reflected in the revenue stream in the offshore electricity transmission licence granted to the OFTO.

This is the eleventh cost assessment report for offshore transmission published by Ofgem and the final (ninth) relating to the first transitional tender round.

Associated documents

- Kema report on benchmarking Link
- Ernst and Young report on Interest During Construction Link
- The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2010 Link
- Offshore Transmission: Tender Rules Link
- Interest During Construction for Transitional Tender Rounds Link
- Offshore Transmission: Guidance for Cost Assessment Link

[1] http://www.ofgem.gov.uk/Networks/offtrans/pdc/cdr/cons2009/Documents1/Main.pdf

Contents

Executive Summary

This document sets out Ofgem's assessment of the economic and efficient costs which ought to have been incurred in connection with the development and construction of the transmission assets for the Thanet offshore transmission project ("the Project"). It also details the cost assessment process we have undertaken.

The cost assessment process involved the key stages set out below:

- The initial calculation of costs based on the Developer's initial estimate was £189.0m ("the initial transfer value"). This was communicated to the Developer (Thanet Offshore Wind Limited) and published in the Preliminary Information Memorandum (PIM) in July 2009.

- The indicative estimate of costs was £163.1m ("the indicative transfer value"). The estimate was calculated as a result of further information regarding the development and construction of the Project being made available by the Developer and continuing analysis by Ofgem and its advisors. This updated calculation was communicated to the Developer in September 2009. The indicative transfer value (ITV) was published in the Project Information Memorandum and was the transfer value assumed for the purpose of Invitation To Tender (ITT) stage submissions.

- The Developer submitted costs amounting to a proposed transfer value of £167.4m in January 2013.

- The assessment of costs is £163.5m ("the assessed costs"). The assessment is the Authority's calculation of the costs which ought to have been incurred in connection with the development and construction of the Project. This is also the amount to be paid to the Developer by the OFTO for the transmission assets ("the final transfer value").

The key components of the initial, indicative and final transfer values are given in table 1 below, followed by a summary of the reasons for the main movements between the ITV and the FTV.

Table 1: Summary of cost components

Category	Initial Transfer Value: July 2009 (£m)	Indicative Transfer Value: September 2009 (£m)	Final Transfer Value: October 2013 (£m)
CAPEX	123.1	113.1	120.3
Development	46.8	34.6	26.7
Contingency	0.0	8.0	0.0
IDC	19.1	7.4	12.7
Transaction	0.0	0.0	3.8
Total	**189.0**	**163.1**	**163.5**

Capital expenditure (Capex)

The Capex component of the Final Transfer Value (FTV) increased by £7.2m since the ITV. This includes increases of:

- £7.3m for export cable supply and installation costs; and
- £3.1m for offshore substation costs.

These increases were offset by a number of reductions:

- £2.3m for the design and installation of harmonic filters not required; and
- £0.9m for cable storage, insurance costs and the cost of spares.

Development costs

The Project's development costs have reduced from £34.6m in the ITV to £26.7m in the FTV. The decrease is mainly due to:

- some development costs being re-allocated to generation costs;
- Operation and Maintenance (O&M) costs and duplicate costs being removed; and
- pre-consents costs being re-allocated to Capex.

This was partially offset by increases in project management time due to installation delays on both the cable and the offshore substation.

Contingency

The entire £8m contingency allowed in the ITV has been used in addressing Capex and transaction cost increases.

Interest during construction (IDC)

The IDC amount has increased by £5.3m as a result of:

- a lower post-tax IDC rate having been applied incorrectly when the ITV was set;
- an increase in the Project's Capex costs since ITV; and
- the project's duration being extended, thereby increasing the Project's period of entitlement.

Transaction costs

The transaction costs are composed of both internal and external resource costs arising from the Developer's participation in the tender process and the costs for a final survey. The transaction costs have been assessed to be £3.8m.

Capital Allowances

The Developer has confirmed that the incoming OFTO should be able to obtain the full benefit of all available capital allowances available under the updated tax legislation.

Final transfer value for Thanet transmission assets

In accordance with Regulation 4(2)(b) of the Tender Regulations, the assessed costs of the Thanet transmission assets are £163,525,238. We intend to use this assessment to determine a FTV of £163,525,238 when we determine to grant a licence to the successful bidder in respect of Thanet.

1. The cost assessment process

Chapter Summary

The Tender Regulations set out the requirement for the Authority to calculate, based on all relevant information available to it, the economic and efficient costs which ought to be, or ought to have been, incurred in connection with developing and constructing the offshore transmission assets in respect of a project. This chapter sets out the process that we followed in carrying out the cost assessment for the Project.

Overview of the cost assessment process

1.1. The Tender Regulations provide the legal framework for the process which Ofgem follows for the grant of offshore electricity transmission licences. This process includes calculating the economic and efficient costs of developing and constructing the offshore transmission assets to be transferred to the new OFTO.

1.2. The calculation of those costs shall be:

- where the construction of the transmission assets has not reached the stage when those transmission assets are available for use for the transmission of electricity, *an estimate* of the costs which ought to be incurred in connection with the development and construction of those transmission assets; and
- where the construction of the transmission assets has reached the stage when those transmission assets are available for use for the transmission of electricity, *an assessment* of the costs which ought to have been incurred in connection with the development and construction of those transmission assets.

Cost assessment principles

1.3. The cost assessment principles and overall process we have adopted in relation to various cost categories for transitional tender rounds and the reasoning for such principles can be found in the document 'Offshore Transmission: Guidance for Cost Assessment'[2] (hereafter "the Guidance").

1.4. We intend to apply these principles in our cost assessment process for all the transitional projects. However, we may need to review them where appropriate in light of the analysis undertaken in respect of project specific circumstances.

[2] Offshore Transmission: Guidance for Cost Assessment, Ofgem ref 183/12, Dec 2012

1.5. The remainder of this chapter describes some of the key elements of the cost assessment process. Chapter 2 provides the detail as to how these have been applied to the specifics of the Project.

Data collection

1.6. To undertake cost assessments we gather and review a range of information and supporting evidence. These relate to the forecast and actual costs of developing and constructing the transmission assets that will transfer to the OFTO. Detailed cost information is provided by developers in the form of cost reporting templates, contract values, asset cost schedules and cashflows. Developers also provide supporting evidence to substantiate their cost submissions including, amongst other things, contract documentation, supplier payment lists and invoices and receipts.

1.7. The data collection to inform the cost assessment process for all transitional projects commenced in December 2008 and continued through the assessment process. Throughout this period we have worked closely with developers, gathering information relating to the following cost categories in the development and construction of the transmission assets:

- Capital expenditure;
- Development costs;
- Contingency provisions;
- Interest during construction; and
- Transaction costs.

Process stages for cost assessment

1.8. The cost assessment process involves the key stages set out below.

Initial transfer value

1.9. The initial transfer value is based on cost submissions by the developer for the project. This value is made available to bidders at the Pre-Qualification (PQ) stage of the tender process. The letter we send to developers at this time indicates that the calculation might be updated as a result of any further information provided by the developer and our continuing analysis.

Indicative transfer value

1.10. We provide the ITV for the commencement of the Invitation to Tender (ITT) stage of the tender process. This value is used as an assumption underlying the tender revenue stream (TRS) bids submitted by bidders at the ITT stage. The letter we send to developers confirming the ITV indicates that the calculation might be updated as a result of any further information provided by the developers and our continuing analysis. For all transitional projects where the transmission assets were not yet available for the use of transmission

(being all projects other than Barrow), this letter provides comfort (subject to certain matters) that the minimum final transfer value the developer will receive for the transmission assets once their project is complete is 75% of the ITV.

Assessed costs

1.11. Once the transmission assets are complete or are close to completion and the developer indicates that they have documentation to support an assessment, we commence an exercise to determine the assessed costs.

1.12. Following this assessment exercise, Ofgem sends the developer a draft cost assessment report setting out the amount of the assessed costs. This gives the developer the opportunity to correct factual errors and propose redaction of commercially sensitive information.

1.13. The draft report is also sent to the preferred bidder, to allow it to incorporate the assessed costs into their estimate of the TRS payable to the OFTO. This TRS amount, incorporating the assessed costs, is published in a consultation pursuant to section 8A of the Electricity Act 1989, by which the Authority proposes modification to the standard conditions of the licence on a project specific basis ("the section 8A consultation")

1.14. The draft cost assessment report is published alongside the section 8A consultation. The report remains in draft form until conclusion of the section 8A consultation and the Authority has determined to grant an offshore transmission licence to the successful bidder.

Final transfer value

1.15. The assessed costs are used by the Authority to determine the FTV, which is confirmed once the Authority has determined to grant an offshore transmission licence to the successful bidder. After licence grant the final cost assessment report and supporting appendices is published on the Ofgem website.

1.16. Ofgem normally finalises the assessment of costs prior to commencement of the section 8A consultation, with the section 8A TRS accounting for 100% of the FTV.

Cost assessment analysis

1.17. We apply two tests when calculating the estimate and assessment of costs:

Test 1 - Assessing the accuracy and allocation of developer's cost submissions

1.18. As a first test, we check the accuracy of the data provided by the developer and the appropriateness of cost allocations, in particular, between the offshore generation and transmission assets. Throughout the cost assessment process developers provide cost information to us on an ongoing basis. Where we identify discrepancies in how the developer has allocated these costs we check with developers to assess if they have been allocated to the correct asset category and make adjustments accordingly.

1.19. To support the cost assessment process we undertake a forensic accounting investigation. The scope of this investigation is shared with the developer in advance. This investigation is based on the final costs that the developer provides to us and applies to a sample of contract costs. The actual sample for each project varies due to the different contracting strategies adopted by the developer and the specific needs of the project, but generally focuses on the most expensive contract and/or contracts which materially increase in cost.

1.20. The forensic accounting investigation scrutinises the cost allocations provided by developers. This may indicate the need for amendments to the developer's submissions to reflect, for example:

- the actual costs incurred (e.g. in respect of exchange rates on foreign currency payments); and
- more relevant metrics for the allocation of shared service costs.

1.21. Where amendments in our opinion are required and in the absence of further evidence from the developer to substantiate the original allocation, we incorporate the recommended changes from the forensic accounting investigation.

Test 2 - Assessing if developer's incurred costs are economic and efficient

1.22. Under the second test, we seek to assess, through appropriate analysis, whether the costs have been economically and efficiently incurred by the developer. Where possible, we apply benchmarking and where industry wide cost indices are unavailable we review data from projects in the transitional tender rounds. This analysis includes benchmarking across the projects and analysis in relation to funding interest rates. We consider such approaches to be an important tool in assisting us in determining what the economic and efficient costs should be.

1.23. To inform the cost estimate exercise to derive the ITV we undertake a benchmarking exercise. This was carried out using comparable costs across all transitional projects and any wider industry data to identify any cost outliers across the main cost categories. Any cost outliers we identify through the benchmarking exercise are subject to further review.

1.24. This benchmarking exercise informs our communication to the developer in our letter which sets out the ITV.

1.25. We also consider the procurement processes adopted by the developer to obtain economic and efficient transmission asset costs. We note the differing procurement approaches taken by developers for transitional projects. We will keep the efficiency of developer procurement and contract management approaches under close review for future cost assessments.

1.26. When undertaking the assessment of costs to derive the FTV, where Capex or development costs have increased since the ITV, developers are asked to provide supporting documentation to justify these increases. Depending on the nature of the increase, we may undertake a technical investigation which focuses on, for example, a particular cost increase in a contract or multiple increases across several contracts.

1.27. We would also ensure that IDC is being applied consistently with our published guidance[3] and the applicable rates[4]. The applicable IDC rate up until 30 November 2011 was capped at 10.8%. In July 2011, Ofgem consulted on the interest rate to be used to calculate the level of IDC for all transitional projects. We published our decision letter and explained that we will apply a capped rate of 8.5% from 1 December 2011.

[3] Offshore Transmission: Guidance for Cost Assessment, Ofgem ref 183/12, Dec 2012
[4] Decision on the interest during construction for offshore transmission assets letter dated 28 October 2011

2. Thanet Cost Assessment

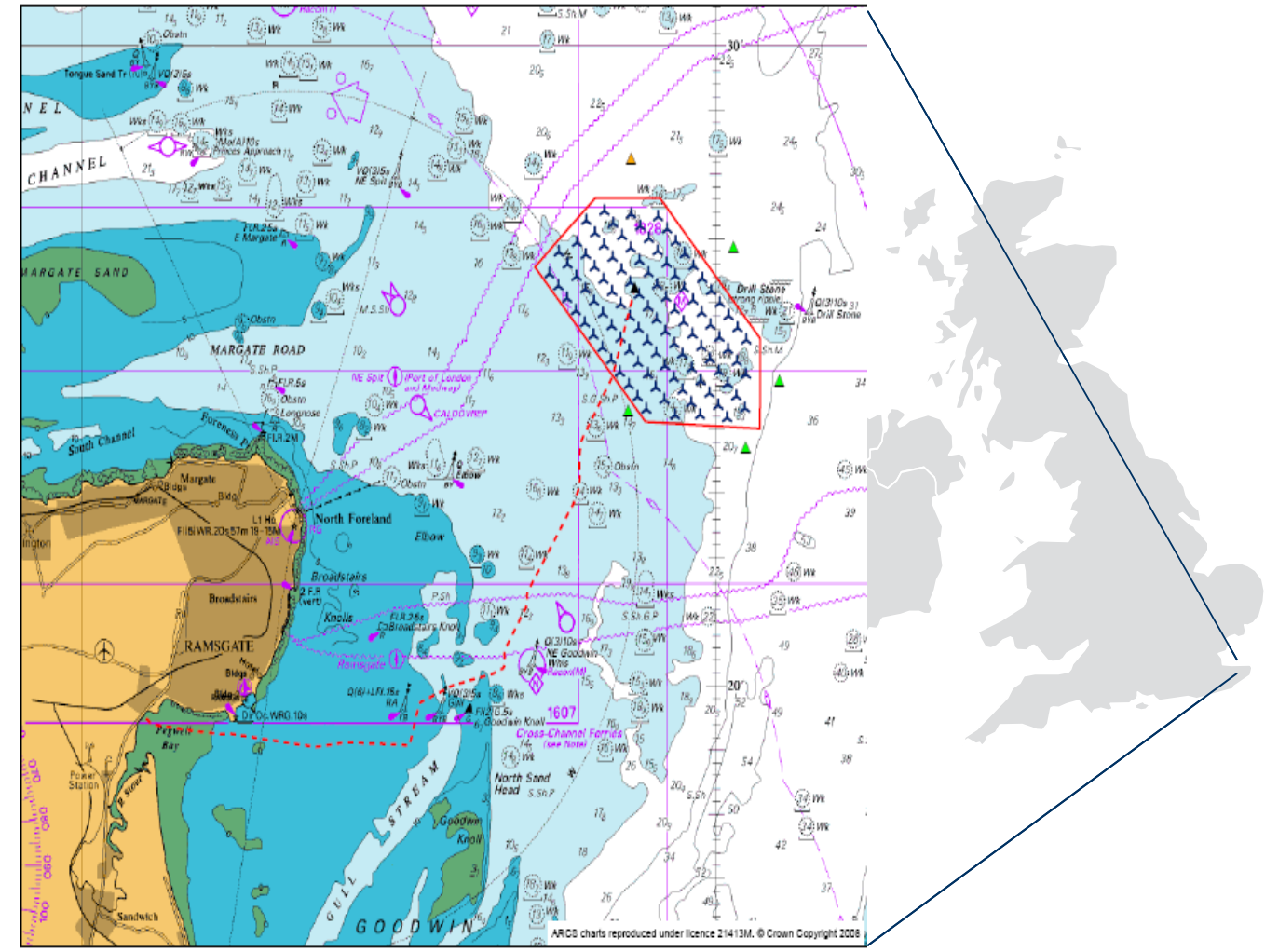
Chapter Summary

This chapter summarises how we have undertaken our cost assessment for the Thanet transmission assets from the initial transfer value to the final transfer value, with an emphasis on the difference between the indicative and final transfer value. It provides a breakdown of the key cost categories that we have considered and highlights the decisions that we have made.

Thanet Transmission Assets

2.1. The Thanet wind farm is located approximately 11km from North Foreland Point, off the north east Kent coast, as illustrated in Figure 1 below. The Thanet Wind Farm consists of 100 3MW wind turbine generators, with an installed capacity of 300MW. The Thanet transmission assets became fully operational in August 2010.

Figure 1 – Location of the Thanet Wind Farm and Transmission Assets



2.2. The Thanet transmission assets are presently owned by Thanet Offshore Wind Limited ("the Developer"), a wholly owned subsidiary of Vattenfall.

2.3. The Thanet transmission assets connect to the Thanet Wind Farm at an offshore platform. The transmission assets that are transferring to the OFTO comprise of:

- one offshore platform and associated substation;
- two subsea, 3 core 132kV cables of approximately 26.2km each;
- two 132kV onshore cables of approximately 2.4km each; and
- an onshore substation at Richborough.

2.4. The boundary points for the Thanet transmission system are defined below:

- Offshore: Located at the 'duresca' busbar terminations of the 33kV transformer incomer circuit breaker panels for the two 132/33kV transformers on the Offshore Platform; and
- Onshore: Located at the embedded transmission interface site at the conductor clamps between the aerial conductors and the AIS bushings associated with disconnectors 123 and 223 and associated 132kV surge arresters.

2.5. The spares included in the transmission assets that are transferring to the OFTO are:

- Lengths of subsea 630mm^2 and 1000m^2 cable;
- A length of 1000mm^2 onshore cable;
- Various repair joints (630-1000mm^2);
- Onshore click-fit joints; and
- Critical equipment spares.

Thanet cost assessment process overview

2.6. Since June 2009, we have worked with the Developer and our advisers to reach an assessment of the costs which ought to have been incurred in connection with the development and construction of the transmission assets. Set out below is an outline of the steps taken in the cost assessment process for the Project:

- December 2008: Developer Information Request ('DIR') sent to Developer.
- February/March 2009: Developer submitted completed DIR to Ofgem.
- March – July 2009: Ofgem analysis of Developer information and benchmarking.
- July 2009: Initial transfer value (£189.0m) published.
- August 2009: Further information received from Developer and analysed by Ofgem.
- September 2009: ITV (£163.1m) published.

- October 2009 – January 2013: Cost reporting updates performed with Developer over the course of the construction of the project, up to the final cost submissions.
- October 2012 – December 2013: Forensic accounting and technical investigations for FTV undertaken.
- October 2013: Developer provided final substantiating information to allow closure on issues raised by Ofgem and the forensic and technical consultants.
- September 2014: Draft cost assessment report released to the Developer for factual comment and to the preferred bidder for information.
- October 2014: Draft report published alongside a consultation on the licence under section 8a of the Electricity Act 1989.
- December 2014: Authority determines the transfer value when it determines to grant the licence to the successful bidder. Final cost assessment report will be published after licence grant.

Summary of Indicative Transfer Value determination

2.7. The initial transfer value calculated in July 2009 was £189.0m. This value was based on information received from the Developer at an early stage in the construction and development of the Project. A number of the Developer's contracts were in the process of being finalised at the initial transfer value stage and these were considered in greater detail when the ITV was set.

2.8. The ITV of £163.1m was calculated in September 2009, comprising of the estimated Capex, development and contingency costs of £155.7m and an IDC of £7.4m (calculated at the post tax rate[5]). The difference from the initial transfer value was due to cost changes arising from our assessment of the accuracy and allocation of the Developer's cost submissions and further detailed submission work by the developer as contracts were executed. This information was used to assess whether the Developer's costs were economic and efficient. Our assessment was supported by our technical advisors, Kema (now DNV-GL).

Process for determining the assessed costs

Accuracy and Allocation

2.9. The Project was constructed on a multi contract basis. A forensic accounting investigation was undertaken by Ernst & Young (E&Y) to ensure that the costs reported to us by the Developer were accurate, in that they represented the actual costs incurred by the Developer during the development and construction of the Project.

[5] The post tax IDC rate was originally used then changed to the pre-tax in later submissions by the Developer

2.10. This investigation considered the main contracts in respect of the transmission assets: (1) the export cable supply; (2) the export cable installation; and (3) the offshore substation. In addition to the contract analysis we asked E&Y to conduct a review of the internal project management costs.

2.11. We also checked that the costs were allocated to the correct asset category and that they had been allocated correctly between generation assets and transmission assets. To assess whether the costs were allocated correctly we took into consideration the following:

- metrics used when allocating costs between generation and transmission;
- the Developer's submissions using our cost reporting template;
- the findings of the forensic accounting investigation; and
- cashflow payments related to the transmission assets.

Efficiency

2.12. After costs had been appropriately identified and allocated, we performed an assessment of whether these costs had been incurred economically and efficiently.

Project specific issues

2.13. The Project experienced construction issues that have led to increased costs being incurred, mainly in relation to the cable installation process. In determining the assessed costs for the Project we have discussed in detail with the Developer:

- the causes of additional costs being incurred in connection with the cable and offshore platform installation process;
- the decisions and actions that were taken by the Developer in light of the cable and offshore platform related issues; and
- the project development activities related to the cable installation process.

2.14. Set out below is a summary of these project specific issues:

- There were a number of incidents of cable damage during the course of construction. The work to rectify this was covered by insurance claims. Where applicable, the insurance deductibles were included in the FTV.

- The Developer contracted Subocean Ltd for a number of work packages related to the subsea cable installation. During the course of the cable installation, Subocean went into administration. This resulted in the Developer having to find other contractors to complete the work, incurring additional costs.

- Some works already paid for had not been completed satisfactorily. This meant the Developer had to pay another contractor for the work to be completed. This related to:

  - Export cable jetting;
  - Additional cable burial work;
  - Inter-tidal joint burial;
  - Cable survey; and
  - Miscellaneous other work.

- Subocean also made claims against the Developer for additional work that the Developer settled. The Developer partially offset this by calling on a performance bond provided by Subocean.

- Additional costs were incurred for cable testing required after a cable fault. Testing was carried out after the cable was repaired. Extra costs were also incurred for guard vessels while the repair work was being carried out. This was to protect the cable from further damage by other vessels.

- The company constructing the offshore topside, SLP, also went into administration. This necessitated the topside being moved to another shipyard so it would be completed by the time the installation vessel was going to be available. Expediting this construction work incurred extra costs.

Summary of assessment

2.15. Following completion of the development and construction of the transmission assets, the Developer submitted costs amounting to £167.4m. The assessment of the economic and efficient costs which have been or ought to have been incurred has established a FTV of £163.5m. Table 2 below provides a breakdown of the cost categories for the Project at each stage and the reasons for change between the ITV and the FTV.

Table 2: Summary of cost categories

Category	Initial Transfer Value Jul 2009 (£m)	Indicative Transfer Value Sept 2009 (£m)	Final Transfer Value Oct 2013 (£m)	Reasons for change between Indicative Transfer Value and Final Transfer Value (£m)
Capex	123.1	113.1	120.3	Increase of: 7.3 for extra cable installation costs 3.1 for offshore platform installation Offset by decreases of: 2.3 for onshore substation harmonic filtering not required 0.9 for spares costs
Development	46.8	34.6	26.7	Increase of: 5.2 due to increases in project management costs Offset by decreases of: 7.5 for removal of O&M costs 3.3 for removal of costs related to generation assets 2.3 for re-allocation of costs to Capex
Contingency	0	8.0	0	The contingency allowed in the indicative transfer value has been used in addressing additional Capex and transaction costs
IDC	19.1	7.4	12.7	Increase due to 4.0 for correcting the lower IDC rate and the effect of Capex increases 3.3 for the extended construction period Offset by decreases of: 2.0 for the removal of pre-acquisition IDC
Transaction	0.0	0.0	3.8	Transaction costs now shown as a separate item and assessed at the end of the cost assessment process
Total	189.0	163.1	163.5	

2.16. The issues we have considered in setting the FTV are detailed below.

Capex

2.17. The Capex element of the FTV is £120.3m. Overall the Capex has increased by £7.2m from the ITV to the FTV.

2.18. Table 3 below provides an overview of the Capex costs submitted by the Developer for the purpose of the FTV and the Capex costs allowed in the FTV. This excludes costs for harmonic filtering that were thought to be required at the ITV, but subsequently not needed.

Table 3: Capex costs submitted, included and not included in the FTV

Category	Cost submitted by the Developer for final transfer value	Costs included in the final transfer value	Costs not included in the final transfer value
Export Cable	£50,373,622	£48,538,702	£1,834,920
Onshore Substation	£23,290,101	£23,290,101	£0
Onshore Cable	£5,817,492	£5,705,423	£112,069
Offshore Substation	£42,186,113	£42,186,113	£0
Other Capex costs	£609,800	£609,800	£0
Total Capex costs	£122,277,127	£120,330,138	£1,946,989

Accuracy and allocation of Capex costs

2.19. E&Y undertook a forensic investigation of the highest value Capex contracts. These accounted for 58% of the total Capex costs submitted by the Developer at the time the investigation was undertaken. The Capex contracts investigated were:

- Siemens (manufacture and supply of individual components of the offshore substation);
- SLP Engineering (manufacture and supply offshore substation topside);
- Seaway Heavy Lift (SHL) (provision of a vessel to transport and install the jacket and topsides);
- McNulty Offshore Construction (took over the manufacture and supply of the topside from SLP);
- Fugro (vessel hire) and Bactec (seabed ordnance survey);
- Prysmian – export cable supply; and
- Subocean – export cable installation.

2.20. For the majority of Capex costs incurred on the Project, it was clear whether they should be allocated to the transmission or the generation assets in their entirety. Where costs were shared between generation and transmission assets, the Developer allocated the percentage to the transmission assets using cost drivers,

which differ depending on the nature of the work undertaken. Only those costs related to the transmission assets were allowed in the initial, ITV and FTV.

2.21. In conducting our own analysis of these costs there were a number of items that were identified which we have discussed with the Developer. These items are set out below.

Export cable installation

2.22. The Developer submitted final costs for the subsea cable that were significantly higher than the values in the ITV. This led us to undertake further investigations to gain a better understanding of the issues associated with these cost increases. We used the results of our investigations to inform our views on whether the increase proposed by the Developer was economic and efficient. We have detailed below the main issues that were considered and how we have assessed these costs:

Cost re-allocations

2.23. The Developer carried out a cost reconciliation exercise and removed incorrectly allocated and unsubstantiated costs from the Capex values. These re-allocations accounted for £5.8m of the cost increase associated with the export cable.

Ofgem's view

2.24. We have reviewed these re-allocations and we agree with the Developer's treatment of these costs.

Export Cable repair insurance deductibles

2.25. The project's subsea export cables were damaged as a result of several incidents and required repairs. These were insurable events and the Developer claimed for these cable repairs under their Construction All Risk (CAR) insurance. This insurance covered the costs of the repairs except the additional cost of the insurance deductibles. The sum of deductibles incurred by the Developer as a result of these claims was £0.9m. Another £0.4m was incurred for insurance deductibles relating to incidents that occurred when construction was complete.

Ofgem's view

2.26. The costs of insurance deductibles can be allowed in the FTV, if the insurable event takes place during construction. We have analysed the details of the insurance claims and we have included the £0.9m cost of the deductibles related to the incidents that occurred during the course of construction.

2.27. Costs of the insurance deductibles related to claims made for the incidents that occurred after the transmission assets were operational have not been included in the FTV. They are considered to be operational costs. Only construction and

development costs can be considered for inclusion in the FTV. This has resulted in a reduction of £0.4m from the Developer's cost submission.

Design and installation of harmonic filters

2.28. At the ITV stage a cost of £2.3m was set aside for harmonic filtering equipment and a contingency allocation of £1.1m. These costs were removed from the final cost submission as they were not expected to be required and such requirement, should it arise, would not be known for some.

Ofgem's view

2.29. As the requirement for the harmonic filters was thought unlikely by the Developer, we agree with the treatment of removing the £2.3m cost of the harmonics equipment, and the associated contingency, from the Developer's final cost submission.

Replacement radio link for Supervisory Control And Data Acquisition (SCADA) equipment

2.30. The SCADA system is used to control and monitor both the generation and the OFTO assets. A SCADA system uses the fibers in the export cables to communicate information from the offshore equipment back to the communications hub in the onshore substation. During the installation of the subsea export cables, there were instances of the cables being damaged and consequently some of the fibres used in the SCADA were damaged. The Developer considered whether a replacement system was required. Subsequently the Developer and the preferred bidder came to the agreement that this system was not expected to be required as enough of the fibres were found to be in working order. However, the associated replacement cost of £1.0m was still included in the Developer's cost submission.

Ofgem's view

2.31. After discussing this issue with the Developer it was confirmed that the replacement system was not expected to be required and the cost should be removed from the Developer's cost submissions. Therefore, the FTV does not include the £1.0m cost of supplying and installing the replacement SCADA system.

Cable storage costs

The Developer's cost submission contained costs for the storage of spare export cable. During discussions with the Developer, they confirmed that £0.4m of this cost covers a period after the Project was operational.

Ofgem's view

2.32. We have analysed the dates associated with the cable storage and identified the costs that were associated with the cable storage after the project was operational. Therefore, we have removed the £0.4m from the FTV.

Spares costs

2.33. In the ITV, a cost of £1.5m was included for critical spares. As the project progressed, this value was reviewed by the Developer. The review lead to a final value of £0.6m being submitted by the Developer for the critical spares and the removal of a double count, a reduction in total of £0.9m.

Ofgem's view

2.34. Since the costs proposed at ITV were not incurred, we have only included £0.6m that was incurred for spares in the FTV.

Efficiency of Capex costs

Export cable installation

2.35. As noted in paragraph 2.22 (Export cable installation), the Developer submitted final costs for the subsea cable that were significantly higher than the values in the ITV. We have detailed below the main issues that were considered and how we have assessed these costs.

Cost increase due to the cable installer going into administration

2.36. The Developer contracted with Subocean Ltd for a number of work packages. These related to the subsea cable installation. During the course of the installation, Subocean went into administration and the Developer was forced to seek alternative contractors to complete the work. It also transpired that some work already paid for had not been carried out satisfactorily. Both of these issues caused extra costs to be incurred.

2.37. A number of claims were raised by Subocean for extra costs. These were finally settled, but at an additional cost. This cost was partially offset by the Developer calling on a performance bond provided by Subocean.

Ofgem's view

2.38. The Developer could not have reasonably foreseen that the subsea cable installer would go into administration. With Subocean going into administration, some of the work was not completed satisfactorily. This remaining work was then contracted out for a second time to a number of firms, incurring additional costs.

2.39. We have considered the Developer's submission and the level of their proposed cost increases relating to Subocean's administration. We agree that given the increased scale and complexity of the operation following the withdrawal of Subocean, it is appropriate for these additional Capex costs to be included in the FTV.

Cost increase due to in-scope work being delayed due to cable faults

2.40. In addition to the extra Capex costs incurred after Subocean's administration, there were cost increases due to delays caused by the cable faults. This was work that was originally in-scope and allowed for, but due to the cable faults, had to be done at a later stage or repeated.

2.41. There were additional costs for cable testing to be carried out after the subsea cable installation was complete. Because this testing was in progress for export cable one when it was damaged, it had to be re-done after the remedial works were completed. The result of this increased Capex costs by £0.2m.

2.42. There were additional costs incurred for guard vessels. These were needed to protect the export cable while the faults were being repaired and for in-scope work that was delayed, such as the cable burial work. The combined increase in Capex for the guard vessels and their fuel costs was £0.8m.

Ofgem's view

2.43. The Developer provided us with a detailed overview of the cable installation process. This showed that the cable faults during construction had a 'knock-on effect' on the Project and led to increased costs and delays to the Project's cable installation campaign. The Developer provided detailed information to substantiate the additional costs that were incurred. We also asked for clarity on the decisions and actions that were taken at the time. We have concluded that the incidents that took place were outside the Developer's control and that the Developer reacted in an appropriate way to mitigate the additional costs incurred. We have included the economic and efficient level of additional costs in the FTV.

Offshore substation cost increases

2.44. SLP were chosen by the Developer to construct the offshore substation platform (topside) as a sub-contractor to Siemens. SLP subsequently went into administration late in 2009 while the topside was in their yard and unfinished. It became evident that if no action was taken by the Developer, completion would not occur on time to meet the vessel that was going to install the topside.

2.45. The Developer had chartered the heavy lift vessel "Stanislav Yudin" operated by SHL to carry out the installation. As the "Stanislav Yudin" is a specialist vessel, it has to be booked well in advance and had other commitments outside of the charter slot that was booked for the operation on Thanet. It had been booked for a specific 2 week period at an additional cost. This charter was fixed and had to be paid whether the topside was ready or not, as there would have been little time for SHL to

mitigate this loss. In addition, waiting for another available slot for the vessel or a comparable vessel would have caused major delays to the overall project programme.

2.46. The Developer took the decision to move the topside to another contractor, McNulty's in South Shields, in order to complete as much of the construction of the topside as possible before installation. Although other options were considered, McNulty's was chosen as the most cost effective and because the yard was already fabricating the jacket (sub-station foundation). The Developer incurred additional cost for moving the topside from SLP in Lowestoft to McNulty's in South Shields. These costs included the load-out from Lowestoft, barge hire and moving other vessels in South Shields to make space available.

2.47. Moving the topside from SLP to McNulty's proved to be successful in that McNulty's made significant progress in the construction works and managed to make the topsides ready in time for the scheduled arrival of the "Stanislav Yudin". However, it was not possible to complete all the originally planned work before load-out. This meant that there was a significant amount of carry over work to be completed after the topsides were installed offshore. Due to the expensive nature of offshore work, this incurred higher costs, but the critical path on the project's timeline was maintained.

Ofgem's view

2.48. We note that the Developer was operating under a tight timeframe to meet the deadline for the heavy lift vessel and implemented an alternative installation methodology. The information provided by the Developer to substantiate the costs incurred gave us clarity on the decisions and actions that were taken at the time. We have concluded that the incidents that took place were outside the Developer's control, as they could not have foreseen that SLP would go into administration. The evidence presented to us suggests that the Developer took reasonable and prudent steps to minimise the additional costs and delays to the transmission elements of the Project. On this basis we have concluded that the additional £3.1m of expenditure should be included in the FTV.

Development costs

2.49. The assessed development cost for the Project is £26.7m. These are costs incurred by the Developer which were outside the scope of the main construction contracts. For the purpose of informing our cost assessment, E&Y investigated the Project's development costs. The main outcome of the investigation was to confirm the basis for cost allocation metrics between the transmission and generation assets. It also resulted in a reduction of £0.1m in the development costs submitted by the Developer.

Accuracy and allocation of development costs

2.50. When the ITV was set in September 2009, development costs were estimated at £34.6m. The Developer has submitted a final claim for development costs of £26.8m.

Allocation of development costs

2.51. For the ITV, the Developer used an allocation methodology to allocate shared costs between the transmission assets and the generation assets. At the FTV stage, the Developer has applied this ratio to some shared costs in their final cost submission. The allocation is based on the project manager's (Noble Denton) estimate of the time it spent project managing the Thanet transmission assets, as a proportion of the time it spent project managing the entire wind farm project.

2.52. Development costs have been allocated using a calculation based on the proportion of the total costs of the Thanet transmission assets in comparison to total estimated costs of both the Thanet transmission assets and the Thanet windfarm assets. These costs include legal costs, invoice processing costs and media costs.

2.53. Insurance costs were allocated on the basis of the value of the premium charged by the insurance company in relation to the Thanet transmission assets as a percentage of the total premium charged by the insurance company in relation to the entire wind farm project.

Ofgem's views

2.54. In conjunction with our advisors, we have reviewed and considered the rationale for these allocations for the FTV. We are satisfied that the costs have been appropriately allocated, on the basis of the detailed information supplied by the Developer.

Accuracy of development cost

2.55. The Developer proposed a development cost of £26.8m, which was £7.8m less than that at the ITV. As explained in paragraph 2.23 (cost re-allocations), the Developer carried out a review of all the costs in the project and made adjustments to the development costs. This involved applying an efficiency adjustment to the development costs and re-allocating £3.3m to generation costs. This was done as a result of the review carried out by the Developer on the allocation methodologies and applying a more robust metric to the development costs. At the same time as this adjustment was made by the Developer, they made several other adjustments. These were as follows:

- the removal of £7.5m of operating and maintenance costs. As these costs are not related to construction or development of the project, taking these costs out of the transmission costs was the correct treatment.

- £3.3m was moved out of development into the generation costs for duplicated land pre-consent and development costs for the grid connection.

- A reallocation of development costs in relation to foundation costs. These were initially included in the design costs rather than being allocated to the transmission assets. This and other minor adjustments moving costs to Capex reduced the development costs by £2.3m.

2.56. The cable faults on the project not only increased the Capex cost, but increased the development costs associated with the repairs. Some of the cost increases were directly related to project management costs for the repairs. Where possible the Developer included these additional project management costs within the relevant insurance claims and were not included in their final cost submission. Additional development costs were also incurred due to 'in-scope' work being delayed and additional work having to be carried out as a direct result of the cable faults. These costs were due to the extended construction timelines and additional contractual interfaces.

2.57. During the course of expediting the offshore platform installation, additional project management time was incurred to keep the project to its timescales. Ongoing commissioning work on the onshore substation also incurred significant project management time and additional expenditure. Overall, the additional costs for the cable faults, offshore substation and the commissioning works have increased the development costs by £5.2m.

2.58. The net effect of all the re-allocations was a reduction in the development costs of £7.9m from the figure submitted for the ITV.

2.59. Some of the additional project management costs were for activities that were associated with work that was delayed as a result of the cable faults after the transmission system was operational. We requested the Developer adjust the final project management total for the costs that were incurred as a result of the later cable faults. This has resulted in a reduction in development costs of £0.1m in the FTV.

Ofgem's views

2.60. In relation to the cost re-allocations, these costs were already included in the Developer's ITV and they were only corrections of errors and re-allocations of costs. We also reviewed and considered the rationale for these adjustments and consider that the costs have been appropriately allocated, on the basis of the detailed information supplied by the Developer. We therefore agree with the Developer's treatment of these costs. We also agree that given the increased scale and complexity of the operation following the withdrawal of Subocean and SLP, it is appropriate for the additional development costs incurred by the developer to be included in the FTV.

Efficiency of development costs

2.61. The development costs associated with the Thanet project have been compared to the equivalent costs for previous transitional round projects. The total project management costs for the Thanet project benchmarks in line with other transitional round projects at 16.3 per cent of total project costs, when considered in the context of the significant number of project specific challenges it faced.

Interest during construction

2.62. The total IDC calculated for the Thanet transmission assets in the FTV is £12.7m. This is based on the Developer's calculation of the IDC to completion of the assets over a period from December 2008 to the end of July 2010. The IDC value at the ITV was £7.4m.

2.63. The main changes from the ITV are as a result of a post-tax rate being used instead of the pre-tax rate. This rate was used at the ITV stage as it was not confirmed how capital tax allowances were going to be treated at that time. Further increases in the amount of IDC claimed were because of the inclusion of additional Capex arising from the cable installation process.

2.64. Our review of the Developer's cost submission resulted in a number of IDC changes. The net impact of these changes was a £1.8m reduction to the Developer's IDC claim mainly due to pre-acquisition IDC being removed.

Accuracy and allocation of IDC

Correction of the rate used to calculate the IDC

2.65. The Project's transmission assets were constructed over the period from December 2008 when Vattenfall purchased the project, up to July 2010. In the Developer's IDC submission they had initially used a post-tax rate. This was subsequently amended to the correct pre-tax rate and applied for the duration of the project. The result of this correction to the IDC rate was an increase of £4m.

2.66. Using the pre-tax IDC rate was the correct treatment by the Developer as this was correcting an error and this increase has been included in the FTV.

Duration and different Capex profile

2.67. The Developer submitted their planned Capex profile in September 2009. This was updated to the actual Capex profile in their final submission. The duration of the project had extended from planned February 2010 completion date to the actual completion date at the end of June 2010. The increase of 4 months was a result of the delays to the project around the cable installation. This increase in the project duration and the Capex profile being different to the planned profile, has resulted in an additional £3m IDC being claimed.

2.68. Our advisers have reconciled the actual spend on the project to the Developer's bank payments so we are satisfied that the submitted profile is correct and have include this additional IDC in the FTV. The reasons for the project delays increasing the duration of the project have already been discussed and we note that the Developer acted in an appropriate manner to mitigate the effects of these incidents, which were outside of the Developer's control.

2.69. In discussions with the Developer we concluded that IDC should end in June 2010, as discussed above. This position was informed by a construction programme that was provided at the time of our initial investigations. At a late stage in the assessment process, the Developer explained that this was an error as construction on the assets continued until August 2010.

2.70. Subsequently we confirmed that the transmission assets were completed in two stages. Export cable 2, the onshore substation and the offshore substation were completed in July 2010. For those assets, the IDC claim ended in June 2010 as indicated above in 2.68. Works on export cable 1 were completed in August 2010 and therefore those elements were eligible for an extra month's IDC (July 2010). We have accepted the Developer's position which is consistent with their revised construction programme. Therefore, we are allowing the additional £0.3m extra month of IDC costs in the FTV.

Pre-acquisition IDC

2.71. The Developer purchased the Thanet project from Christofferson, Robb & Co (CRC) in November 2008. The Developer's original IDC submission (Sept 2009), included a lump sum which was set against the first month of acquisition (Dec 2008). The lump sum represented the transmission element of the Developer's opening balance post-acquisition. IDC was then claimed from December 2008 onwards.

2.72. In subsequent cost submissions, the Developer disaggregated this lump sum into a cashflow dating back to December 2004. The backdated cashflow consequently picked up monthly IDC costs to the value of £2m over the project lifetime. In our discussions on the FTV, we explained our cost assessment guidance which states 'Where projects have been purchased from other Developers, we consider that the IDC should commence on the date of the acquisition. IDC is not applied to the period over which the previous Developer incurred costs because the purchase cost should reflect this.[6]'

2.73. In purchasing the project in November 2008, the Developer did not incur any expenditure on the project prior to that date and the price paid for the project should have reflected the previous owner's IDC. We have therefore not included this pre-acquisition IDC in the FTV, which has resulted in £2m being removed from the Developer's proposed IDC.

2.74. The Capex and project management reductions relative to the Developer's submission, as set out in previous sections, were all after the transmission assets

[6] Paragraph 2.58 in the document Offshore Transmission : Guidance for Cost Assessment

were operational. Therefore no IDC was incurred on these costs. This means that there is no correction needed to reflect these removed costs in the Developer's IDC claim.

Efficiency of IDC

2.75. The Developer's post tax rate was applied to the ITV and their final cost submission. Accordingly, we consider that the rates applied for the Developer's submission are acceptable.

Transaction costs

2.76. The published ITV did not contain any transaction costs as they were not known at the time. The Developer has subsequently submitted a firm estimate of the costs they expect to incur to asset transfer. The total of these items results in the transaction cost element of the submitted transfer value being £3.8m.

Accuracy and allocation of transaction costs

2.77. The Developer provided information regarding both internal and external costs. For their internal costs they provided information on the personnel who were involved and their day rate relating to the work undertaken and time spent on the tender process as opposed to the construction of the Project or generation activities. The external costs related to professional services in respect of the tender, e.g. legal, accountancy and technical. We have concluded that the costs provided by the Developer were allocated appropriately.

2.78. It should be noted that the Developer included the cost of the final survey on the subsea cable as a transaction cost. We have assessed this cost and have included the £0.9m in the transaction cost category as it was required before the assets could be transferred to the OFTO.

Efficiency of transaction costs

2.79. Transaction costs can only be provided to us by Developers to a reasonable degree of accuracy towards the end of the tender process. The transaction costs submitted by the Developer represent less than 2.3% of the total Capex and development costs. We have considered the types of resource costs incurred in relation to this Project's tender process and we have assessed that these transaction costs are economic and efficient.

Contingency

2.80. The assessed costs do not contain a separate contingency value. The contingency provision of £8.0m at the ITV stage has been utilised to deal with the additional Capex and transaction costs.

Confirmations in relation to tax benefits

2.81. The ITV was calculated on the basis that the purchaser would obtain the full benefit of all available capital allowances. If this was not the case for the FTV we would reduce the assessment of costs for an amount that reflects the value of the tax benefit retained by the Developer. For the FTV, the Developer has confirmed that they have not claimed capital allowances. The purchaser should be able to obtain the full benefit of all available capital allowances available under the updated legislation. Therefore it has not been necessary to reduce the final assessment of costs.

3. Conclusion

3.1. In conclusion, in accordance with Regulation 4 of the Tender Regulations, the Authority has assessed the economic and efficient costs which ought to have been incurred in connection with developing and constructing the Thanet transmission assets to be £163,525,238.

Appendices

Index

Appendix 1 - Glossary

A

Authority

The Gas and Electricity Markets Authority

C

Capex

Capital Expenditure

D

Developer

Thanet Wind Farm Limited

F

FTV

Final Transfer Value

I

IDC

Interest During Construction

ITT

Invitation to Tender

ITV

Indicative Transfer Value

M

MW

Megawatt

MVA

MegaVoltAmpere

O

OFTO

Offshore Transmission Owner

P

Project

The development and construction of the Thanet offshore transmission assets