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To all with an interest in offshore electricity transmission

Promoting choice and value for all gas and electricity customers

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Date: 28 March 2011

Dear Colleague,

Changes to the Offshore Transmission Owner (OFTO) availability incentive

On March 1 2011, we granted the first offshore electricity transmission licence (the licence) in the first transitional tender round (TR1). We are keen to learn lessons from our experiences in TR1 and have therefore been undertaking a review of the transmission system availability incentive[1]. This review has two elements: refinements within the existing framework and potential enhancements for future tenders. This letter sets out our proposed changes to the availability incentive for the first tranche of tender exercises in the second transitional tender round (TR2a). We intend to refine the incentive without changing its policy intent or substance. We welcome your views on these proposals by Friday 22 April 2011.

In summary:

- we are not considering changes to parameters of the incentive (ie the revenue at risk and availability target) or how we apply penalties;
- we propose a flat availability target instead of variable monthly targets; and
- credits will be paid out earlier.

We have attached an illustrative model to this letter to show how the proposals could work in practice. We intend to make these changes for licences granted under TR2a. If respondents identify issues that we are unable to resolve by early May, we intend to continue with the existing incentive structure for TR2a.

Our proposed refinements achieve the same policy intent as the existing structure, but we recognise that they are likely to have different commercial impacts. We want to ensure certainty for TR1 participants. Therefore any changes we make to the incentive following this consultation will not apply to licences granted under TR1.

Participants in TR1 have also raised a number of wider issues relating to the availability incentive. These include the delay in incentive payments to allow for charging calculations, information flows about outages and maintaining the incentive for the full 20 year revenue stream. We also outline these issues and would welcome views on how we could address them.

This consultation only considers changes to the licence relating to the availability incentive. It does not consider wider changes to the licence. We intend to make a number of

[1] The transmission system availability incentive is defined in Part A of Amended Standard Condition E12 – J4: Restriction of transmission revenue: Annual revenue adjustments of the OFTO licence.

housekeeping changes to other licence conditions for TR2a based on lessons learnt from the tender process and financial close in TR1 ahead of the ITT stages of TR2a.

Background

We recognise that offshore wind developers have a strong financial interest in the availability of offshore transmission assets. An outage is likely to disconnect them from the market. Disconnecting renewable generation is also detrimental to consumers. Therefore, in June 2008[2], we announced that OFTOs would face an incentive to ensure the prompt restoration of the wind farm connection in the event of an outage. This incentive has been subject to consultation over a number of years, and is now established as the incentive faced by OFTOs appointed through TR1. The first OFTO, TC Robin Rigg OFTO Ltd, is currently operating under the incentive.

Both offshore wind developers and potential OFTOs have identified commercial issues with the incentive. Therefore we have committed to look at the incentive as part of TR2 and ongoing work on the development of the offshore transmission regime. We have had extensive engagement with participants on the incentive as part of the TR1 tender and licence grant process. We are now looking to refine the incentive given this experience, further consideration of the mechanism and new evidence.

The incentive encourages the OFTO to maintain high levels of asset availability across the length of its 20 year revenue stream; it is not designed to compensate connected generators for lost generation. This would be disproportionate as OFTO revenues are significantly smaller than generation revenues. Therefore we identified a level of revenue at risk that would provide an incentive that can significantly reduce equity returns but does not mean that an OFTO is in danger of default on its lending agreements in the event of a lengthy outage.

The availability incentive

In TR1, we considered that the incentive should put 10 per cent of annual OFTO revenue at risk, substantially greater than similar incentives that apply to onshore networks. We also set a generic annual availability target of 98 per cent, which can vary on a project by project basis. This is based on the experiences of a number of interconnectors, sub-sea cables and other comparable assets. We announced our intent to consult on the parameters of the incentive in August 2010. We have commissioned work to explore these parameters further and we have undertaken our own analysis. Our initial view is that the evidence does not support making changes to parameters at this time. **Therefore we do not propose changes to the availability target or revenue at risk for TR2a.**

The 10 per cent revenue penalty is reached when availability falls to 4 per cent below the target. This means that OFTO revenue will be reduced by 10 per cent following an outage of around 22 days. Broadly speaking, **a one day outage leads to over 2 days of lost revenue for the OFTO.** To prolong the incentive on the OFTO, additional penalties earned in the same year are spread evenly over the next four years. Therefore one outage has a maximum impact of 50 per cent of a year's revenue. This is met after an outage of 80 days. There is a subsequent system of warnings to ensure that the OFTO restores asset availability. **Ultimately, the OFTO faces licence revocation for continued poor performance.**

[2] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=68&refer=Networks/offtrans/pdc/cdr/cons2008

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At its most basic level, the availability incentive penalises OFTOs by up to 10 per cent of annual revenue when availability falls below the target of 98 per cent. Further penalties are spread over the next 4 years. We do not propose to adjust the way in which OFTOs are penalised for poor performance for TR2a.

The incentive also contains additional mechanisms to ensure that the OFTO is incentivised to quickly repair outages under all circumstances. We now discuss how these mechanisms worked in TR1, and the changes we propose to make them more effective. We intend to implement the following changes for licences granted through TR2a.

Simplifying the weighting mechanism

Offshore developers are likely to have higher revenue at certain times of the year than others. This could be due to higher anticipated prices or a higher quantity of electricity generated. Therefore OFTOs face a weighted incentive so that they place a higher value on maintaining availability in the months that generators value it the most.

In TR1, this is achieved in two ways:

1. Availability targets differ on a project by project and month by month basis. This is informed by information about the reliability of projects' transmission assets and generators' preferences for planned outages (which informs the variable monthly targets).

2. The incentive is also weighted depending on the estimated generation revenues of the connected wind farm (which informs the incentive rate). This means the incentive is worth more in months with high forecast revenues and less in months with low forecast revenues.

In TR1, we populated nine draft project specific licences with weighted targets and incentive rates for the purposes of the invitation to tender stage of the tender process. This allows us to see how the weighting works in practice. In providing estimated information, it became apparent that developers plan outages in the months of lowest generation. This is because they already have a commercial incentive to plan outages when it will impact them least financially. Therefore we consider that having two weighting terms is unnecessarily complex and may give the wrong or conflicting signals.

There are two options: removing the incentive rate or removing variable monthly targets. Weighting on forecast revenues is a more objective measure of availability value and retains the overall incentive on a monthly basis. Therefore we propose simplifying the weighting mechanism keeping the incentive rate to weight the incentive and removing the monthly target term in favour of a flat, project specific annual target. Developers and bidders have also asked for greater flexibility to plan outages. Monthly targets may be too restrictive; removing them could provide this flexibility.

Question 1 - Does removing monthly availability targets lead to a simpler and better targeted incentive?

Replacing the credit banking mechanism

We originally designed the incentive to be asymmetric. It did not reward OFTOs that performed well with increased revenue. Instead, OFTOs gained credits for continued good performance which could be held for five years to offset future penalties. This allowed OFTOs to better manage the risk of future outages. However, during TR1 we recognised that an OFTO might be penalised even if it outperformed the availability target over the length of the revenue stream. For example, an OFTO that incurs a small penalty in the first year would be penalised even if it subsequently achieved 100 per cent availability.

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Therefore during TR1 we changed the incentive to reward OFTOs that outperform the target. At the time, we decided that the best way to do this was to use the existing mechanism to pay out credits that the OFTO still held after five years.

Following further consideration of the design of the incentive, we do not think that holding credits for five years before pay out adds value to the incentive. In fact, it adds significant complexity and requires a term to cover the payments that OFTOs would receive in years 21 to 25.

Therefore, we propose paying out credits earned in an incentive period in the relevant revenue year. The relationship between incentive period and relevant year is discussed in the section "timing of payments". This would sharpen the OFTO's incentive to outperform in the months and years following a major outage. It also removes the potential perverse incentives to accumulate credits to offset future penalties. It would also allow us to significantly simplify the algebra in the licence.

Question 2 - Would the incentive better meet its policy intent if we replaced the credit banking mechanism?

A simplified incentive

We have attached an illustrative availability model to this letter. This shows how our proposals might work in practice. To aid your understanding, annex 2 provides a step by step explanation of how the model works and there is further guidance in the model itself. This is a significant simplification of the model used in TR1 but we consider that it achieves the same intent. It has significant structural differences when compared to the TR1 model. Most calculations are now made in terms of percentage unavailability rather than MWh of availability. For simplicity, this is not a full OFTO revenue model – it only looks at the revenue impact of availability.

For comparison, you can find the TR1 illustrative revenue model, including the availability incentive, on the Ofgem website[3].

Other experiences from TR1

Bidders and offshore generators have raised a number of other issues following their experience with the incentive during TR1. We consider that addressing these issues could provide to greater clarity on the regulatory framework to tender participants. This additional clarity could lead to lower financing costs for both developers and bidders, and ultimately lead to lower costs for consumers. We now discuss these issues and request your views on how best to address them.

Timing of payments

An issue highlighted by both bidders and developers is when availability performance impacts revenue. Bidders are keen to understand when their revenue will change; developers want to know when there will be an impact on their charges.

In the OFTO licence, availability performance in a given revenue year does not impact revenue in the following revenue year. This is because the National Electricity Transmission System Operator (NETSO) needs time to use availability information to make Transmission Network Use of System (TNUoS) charging calculations. NETSO requires firm revenue information by the end of January of each year. At this point, there are still two months remaining in the OFTO's revenue year. To resolve this issue, the incentive defines two different time periods. An "incentive period y" is used to calculate incentive payments,

[3] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=5&refer=Networks/offtrans/pdc/cdr/Cons2011

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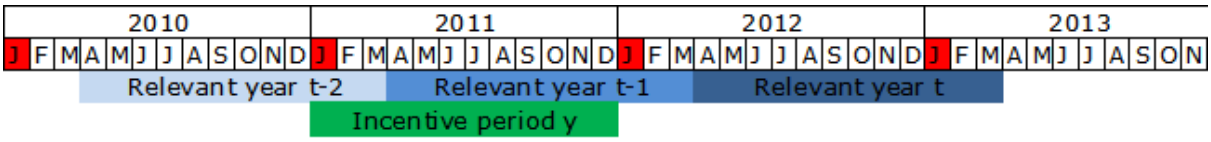
which are then paid out with the rest of the OFTO's revenue in "relevant year t". The diagram below shows the relationship between the two.



Deferring payments in this way could cause confusion, complexity and may dilute the effect of the incentive. We are looking into ways to synchronise these payments, and would appreciate your views on whether this has advantages. If so, we would like to know how you see us aligning payments to the end of March. We note that there are similar issues for onshore transmission owners.

A possible solution is to mirror the onshore approach. Onshore network companies face performance incentives that are calculated from April to March of each year and impact in the subsequent year. These are recorded up to the end of January and the additional impact is accounted for through their correction factor. They manage the risk of any future adjustments to revenue from performance in February and March. However, we recognise that OFTOs may face greater uncertainty as the revenue impact of incentives is greater than for onshore network companies.

Question 3 – what are the advantages and disadvantages of aligning availability payments to the end of March?

Information flows

As we have set out, offshore wind developers have a strong financial interest in the availability of offshore transmission assets. In the event of an outage, they want to know what the outage is, how long it is expected to last and what the OFTO is doing to return the transmission assets to full operation. At the moment, this flow of information is managed through the industry codes. Under the System operator – Transmission owner Code (STC), the OFTO has to provide this information to the NETSO. The NETSO then has to provide information about outages to affected generators under the Connection and Use of System Code (CUSC). OFTOs also have a set of reporting obligations as part of J4.

We would welcome views on whether this arrangement provides affected generators the information they require as readily as possible.

Question 4 – can we improve the flow of information about outages to developers within the existing industry framework?

Maintaining the incentive

We expect offshore wind projects to continue generating at the same rate across their lifespan. To reflect this, we want to ensure that OFTOs face the same incentive throughout their 20 year revenue stream. As we have set out previously, one outage can lead to penalties spread out over five years. This means that in the last few years of the revenue stream, the OFTO's incentive would be reduced as there are fewer than five years of the revenue entitlement left.

In TR1, we included a performance bond in the licence. This can be called upon to cover these later penalties. This keeps the incentive on parties to maintain assets appropriately and minimise outages. Bidders and funders have requested clarity on the mechanics of this security.

This is an issue we are looking to resolve as we recognise that it may be causing uncertainty in current and future tender rounds. We would welcome views on how best to

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ensure that all penalties are covered without putting an excessive financial burden on the OFTO in a given year. For example, we could require the OFTO to maintain an operational reserve of a given size to cover major repair works later in the revenue stream. If we were to use a performance bond, we would welcome views on how this bond should be called upon to cover future liabilities and who is best placed to call upon it.

Question 5 – how can we best ensure that the incentive is maintained for the length of the revenue stream?

Commissioning

The incentive applies once the transmission assets have been accepted on to the National Electricity Transmission System (NETS). Some bidders have asked whether or not the incentive should apply during commissioning of the connected generation to allow for testing of transmission assets at full capacity. We consider that the availability incentive should take effect from when the transmission assets transfer to the OFTO. However, we recognise that there may be some availability risk from further testing of transmission assets. We would welcome views on this issue.

Question 6 – how can we account for testing of transmission assets during wind farm commissioning?

Next steps

We recognise that the enduring regime offers new challenges for the design of the availability incentive. We expect to consult further on the incentives facing OFTOs under the enduring regime later in the year. As part of this work we will be looking at how the incentive might be improved, given the balance of commercial drivers between OFTOs and generators.

We will be holding a workshop on 4 April 2011 to discuss the issues raised in this letter and other issues relating to the availability incentive. If you would like to attend this workshop and have not registered your interest, please email offshoretransmission@ofgem.gov.uk by 30 March 2011.

We intend to implement the changes suggested in this letter for projects tendered in TR2a. To do this, we would encourage you to actively participate in the consultation process and to bring forward options for refining the availability incentive. Therefore we welcome responses regarding any of the issues raised in this letter by Friday 22 April 2011. We would welcome material responses to questions 1 and 2 by no later than Friday 8 April 2011. Please send your responses to offshoretransmission@ofgem.gov.uk. We will publish all responses on the Ofgem website unless marked as confidential.

If you would like to discuss any of the issues raised in this letter, please contact Sam Williams by email at sam.williams@ofgem.gov.uk or by phone on 0207 901 0532.

Yours faithfully,

Robert Hull
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Annex 1: The Illustrative Incentive Model

The availability incentive model aims to reflect the policy intent in a clear and concise manner. There are 6 tabs in the model; two for inputs, three for calculations and one for outputs.

Inputs

There are several parameters that vary from project to project such as monthly Weighting target (Wi,y), Transmission system Capacity (TC) and Base Revenue (BRy). These are recorded in the first of the inputs tabs. The second inputs tab records the Reported Unavailability (planned and unplanned) for month i in year y (RUi,y) in terms of MWh.

Calculations

There are three tabs for the calculations. The first sheet incorporates the weighting term (Wi,y) to the Reported Unavailability (RUi,y) to arrive at the Weighted Monthly Unavailability (MWUi,y).

The second sheet converts the availability from monthly to annual figures. The annual figure is then converted to the Total annual Unavailability (TUy) which is the total unavailability for year y expressed as a percentage of total possible availability.

The third sheet calculates how much penalty is paid out and in what year. The 5 year cap (TCAP) is imposed in the first instance so that the effect of an outage can not be felt more than 5 years after the outage occurred. The accrued unavailability (AUy) and any outstanding balance Brought Forward from the previous year (BFy) is then used to calculate the penalties to be Paid Out in that year (POy) and the Carry Forward (CFy) for the following years if the Annual Cap (ACAP) is reached.

Output

The one output tab takes the penalties to Pay Out (POy) and converts this percentage into the percentage impact on revenue. This is done by using the definitions of the annual cap on revenue impact, the target percentage and the annual cap on availability. This figure is defined as the Availability Factor (AFy). This is multiplied by the Base Revenue (BR) which gives the Availability Incentive term (AIy) which is the revenue impact in £m.

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Annex 2: Glossary of terms

Inputs

TA Target Availability. This is set at 98 per cent but can vary on a case by case basis.

BR Base Revenue. This is calculated in accordance with the formula specified in paragraph 4 of amended standard condition E12 – J2.

TC Total Capacity. This is the maximum capacity of the transmission system that the OFTO is required to deliver. This is the minimum of

(i) the aggregate Transmission Entry Capacity; and
(ii) the maximum system availability that the OFTO is capable of delivering by operating the transmission system at its technical limits.

These are expressed as the number of MW hours that could be achieved if the available capacity were fully utilised. This is defined as MTSA in the current licence.

RCAP Annual revenue impact cap. This is set at 10 per cent.

ACAP Annual availability cap. This is the maximum unavailability in percentage terms of the system that an OFTO can feel the effect of in any given year. This is set at 6%.

TCAP Total unavailability cap. This is the 5 year time out term which will be the ACAP multiplied by 5. This is set at 30%.

$W_{i,y}$ Monthly weighting term, expressed in percentage terms.

$RU_{i,y}$ Reported Unavailability as recorded in MWh.

Calculations

$MWU_{i,y}$ Monthly Weighted Unavailability in MWh: $MWU_{i,y} = RU_{i,y} \times W_{i,y}$

WU_y Weighted Annual Unavailability in MWh: $WU_y = \sum_{i=1}^{12} MWU_{i,y}$

MA_y Maximum weighted annual availability in MWh:

$$MA_y = TC \times 24 \times \sum_{i=1}^{12} (days\ in\ month\ i \times W_{i,y})$$

TU_y Total Unavailability in percentage: $TU_y = \frac{WU_y}{MA_y}$

AU_y Accrued Unavailability: $AU_y = minimum \begin{cases} TU_y \\ TCAP - BF_y \end{cases}$

BF_y Brought Forward unavailability: $BF_y = CF_{y-1}$ where $BF_1 = 0$

CF_y Carry Forward unavailability: $CF_y = AU_y + BF_y - PO_y$

PO_y Pay Out (amortised) unavailability: $PO_y = minimum \begin{cases} ACAP \\ BF_y + AU_y \end{cases}$

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AF_y Availability Factor: $$AF_y = -PO_y \times (100\% - TA) \times \frac{RCAP}{ACAP - (100\% - TA)}$$

AI_y Availability Incentive term: $$AI_y = AF_y \times BR$$

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