Making a positive difference
for energy consumers

Offshore wind farm developers,
interconnector developers and
other interested parties

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Dear Colleagues

**Open letter – Offshore electricity transmission and interconnector policy: proposed scope and timetable for review of interest during construction**

We are reviewing our treatment of interest during construction (IDC) for the offshore transmission regulatory regime. As part of this review, we are also developing a methodology for setting IDC for the cap and floor regime for regulated electricity interconnector investment for application to project NEMO, the proposed interconnector between GB and Belgium.

This open letter asks stakeholders to consider whether we have identified the relevant issues that should be considered as part of this review and sets our proposed timetable for conducting the review. We also set out initial options which could be considered in this review. This open letter has been informed by a stakeholder workshop held in London on 15 May 2013. **We invite stakeholders to provide initial views, with supporting evidence, on these questions (summarised in Annex 1) by 21 June 2013 and identify any other relevant issues we should consider**.

## Background information

What is IDC?

In this open letter, IDC is the allowance for the cost of financing the development and construction of electricity transmission assets. An allowance, in the form of an explicit or implicit rate, is provided for IDC by Ofgem in all three electricity transmission regulatory regimes: offshore transmission, regulated electricity interconnectors and onshore transmission.

We set out below the key differences for making transmission investments under the three regulatory regimes that are relevant for the consideration of IDC. We then give an outline of the IDC treatment in the offshore transmission regime that we seek to review, and the current thinking on IDC for interconnector project NEMO that we seek to further develop and establish. For completeness, we also give a brief description of the IDC treatment in the onshore transmission regime, although noting that onshore arrangements are out of scope for this review.

Current treatment of IDC across the three electricity transmission regulatory regimes

There are inherent differences in the characteristics of transmission investments carried out under the three regulatory regimes. These include:

- *drivers for the transmission project(s)* - the project need is determined by distinct commercial factors for the interconnector and offshore generation developer (offshore generator), whereas for the onshore TO it is mostly driven by network user needs as a whole;

- *number and nature of projects undertaken by a party* - the transmission assets are, or are part of, discrete projects in the interconnector and offshore regimes, whilst they are part of a meshed network in the onshore regime.

This, in part, results in structural differences between the regimes, for example (an outline is provided in Annex 3):

- *length of regulatory settlement periods* – in the offshore and interconnector regime the initial length of the control period is for 20 or more years. In the onshore regime the price control period is every 8 years;

- *potential for the regulatory revenue stream to vary* – certainty around baseline revenue, and the size and source of deviations from baseline revenue differs across the three regimes;

- *construction (capex) factors* – including the strength of the incentive to: spend efficiently; minimise project capex; and deliver the project on time, as well as capex complexity issues (for example, scale and technology used);

- *operational factors* – the impact on the operator of link unavailability post construction depends on whether the operator is exposed to asset utilisation risk, as with interconnectors, and the strength of any availability incentive.

The above factors have an important bearing on risks perceived by an investor under a particular regime during the construction phase of a project, their relative importance for its overall expected cash flows, and hence his investment decision. The different treatment of IDC in the three regulatory regimes in part reflects this and is summarised below.

i) Offshore transmission

Under the offshore transmission regime, for generator build projects, offshore generators are responsible for the development and construction of the transmission assets connecting the generator to the onshore transmission network. These transmission assets are then transferred to an Offshore Transmission Owner (OFTO) selected through a competitive tender exercise to operate those assets.

Under the Electricity (Competitive Tender for Offshore Transmission Licences) Regulations 2013[1] Ofgem determines the transfer value that is paid by the OFTO to the offshore generators based on our assessment of the costs of the completed offshore transmission assets that ought to have been economically and efficiently incurred. A component of the determined transfer value is IDC. Currently the allowed IDC is the lower of an **explicit capped**[2] rate and the rate submitted by the project offshore generator (subject to economic and efficient justification).

On occasion, we have reviewed and revised our approach to IDC under the offshore regime. Most recently in October 2011, we decided[3] that an IDC cap rate of 10.8% would continue to apply to expenditure incurred up to 1 December 2011 and a new IDC cap rate of 8.5% would apply to expenditure incurred from 1 December 2011 onwards. These reviews were supported by commissioned reports from financial advisers.

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[1] S.I. 2013/175
[2] We set these caps on a pre-tax nominal basis.
[3] "Decision on the interest during construction for offshore transmission assets", 28 October 2011, available at: http://www.ofgem.gov.uk/Networks/offtrans/pdc/cdr/Cons2011/Documents1/IDC%20decision%20letter%20-%20final%20version.pdf



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For generator build projects under the offshore regime, the final transfer value (FTV) for the transmission assets is set when the transmission assets are transferred from the offshore generator to the successful OFTO. The FTV is paid to the offshore generator in a one-off payment. At this point, ie post construction, the offshore generator is reimbursed the costs which were economically and efficiently incurred during the construction phase, ie both capex and IDC, in cash. Therefore, the funding and efficient and economic capex costs for construction are entirely reimbursed post construction at financial close (when the assets are transferred), and this allows capital to be recycled for an offshore generator.

To date, the IDC rate has been the lower of offshore generator's submission and the prevailing IDC cap which has been applied on a calendar basis (i.e. a change to the cap would be applied to the remaining period of an ongoing project). The IDC ceases when the transmission assets are able to transmit (first energisation) and only applies to costs that are deemed to be economically and efficiently incurred.

ii) Interconnectors (for NEMO)

Ofgem is developing a new regulatory regime, the cap and floor regime, for electricity interconnector investment for application to project NEMO, the proposed interconnector between GB and Belgium. This regime is being developed with Belgian regulator, CREG, and will be initially applied on NEMO.

As with the offshore transmission regime, under the proposed regime design for NEMO[4], Ofgem and CREG will allow NEMO to recover economic and efficiently incurred capital expenditure. It is envisaged this will be done following an ex-post cost assessment with an allowance in the form of an **explicit rate** for IDC provided. Ofgem has committed to develop a methodology to determine how the rate of IDC will be set, enabled by this review for NEMO.

As with the offshore transmission regime, the economically and efficiently incurred costs during the construction phase form the opening regulatory asset value (RAV). IDC is added to the capex costs as part of the RAV and this opening RAV is depreciated over the length of the regime. The level of depreciation feeds into the cap and floor levels for the regime. Provision for the funding, and efficient and economic capex costs for construction, to be fully reimbursed post construction over the length of the regime (20 or 25 years) is provided by the presence of the floor. The floor payment is only triggered if congestion revenues are below the floor for the assessment period in which case a top-up to the floor payment occurs.

As mentioned previously, enabled by this review, we will be developing a methodology to set IDC for NEMO. We proposed that IDC would cease to be payable when the cap and floor commences, ie the link is operational. The proposed methodology for calculating the cap and floor on returns for NEMO, ie applying in the operational phase, was published in March 2013.[5]

iii) Onshore transmission (RIIO-T1)

In the onshore transmission regime, under the Electricity Act 1989 and subsequent legislation, the incumbent transmission owners (TOs) have licence obligations to build, operate and maintain a meshed onshore network that meets network users' needs. Onshore TOs have ongoing capital expenditure requirements.

[4] The consultation outlining the proposed regime design and the methodology for setting the cap and floor on returns closed on 3 May 2013. The consultation can be accessed at: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=168&refer=Europe
[5] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=168&refer=Europe



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In carrying out its statutory functions, Ofgem must have regard to the need for TOs to finance their regulated activities. To meet these duties, Ofgem sets the allowed return for the TOs for the price control period, 8 years under RIIO, to cover both the construction and operation of these transmission assets. The magnitude and the split between capital expenditure and operating expenditure is taken into account when Ofgem determines allowed revenues. However, there is no separate IDC rate; the same allowed return is applied to built assets and those under construction.

For onshore transmission we use a notional capital structure. The notional annual funding cost for the construction phase of the project is therefore recovered as it is incurred as the assumed cost of construction is included in the RAV from which the allowed return is derived. This occurs at the start of each price control with the expected annual investment on numerous transmission projects being considered together. The notional expected annual funding costs are therefore recovered as they are incurred during construction, whereas the assumed capex costs are recovered over the period of the asset life, starting from the year after the expenditure is incurred. If actual expenditure varies from the assumed level there is an incentive mechanism to share any over or under spend with consumers.

An overview of the three regulatory regimes and decisions taken on IDC is outlined in Annexes 3 and 4. A summary of work done previously in this area is provided in Annex 2.

**Drivers for this review**

Offshore transmission

Our last review covered the period to the end of 2010 and we indicated a further review would occur as market conditions changed. Amongst the drivers for this review are:

- *changes in technical characteristics of forthcoming projects* - these are larger, more complex and may use new and relatively untried technology and thus have a different risk profile;

- *changes in project developers' composition and delivery mechanisms* - from predominantly large integrated energy companies to more complex consortiums with more partnerships (including suppliers) with varying funding structure (see point below);

- *changes in funding structure for construction* - to date this has used corporate funds. Increased pressure on corporate balance sheets may reduce the availability of corporate funding and/or increase its cost. As a result financing structures may encompass funding from the European Investment Bank (EIB), limited term bank loans, financing embedded within engineering, procurement and contracting (EPC) contracts and bonds with or without partial guarantees; and

- *establishment of a track record for the cost assessment process* - leading to greater clarity about how cost overruns in construction are dealt with, thus changing perception of construction risk.

Interconnectors (for NEMO)

In our consultation on the proposed regime design and methodology to set the cap and floor on returns for NEMO, we committed to develop a methodology to set IDC for NEMO[6].

[6] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=168&refer=Europe



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**Proposed scope of this review**

Through this review, we are proposing to look at the treatment of IDC in the following two areas:

1. *offshore electricity transmission* - review our approach to calculating and setting IDC for generator build projects;

2. *regulated electricity interconnector investment under the cap and floor regime for application to project NEMO* - develop a methodology for setting IDC for NEMO.

We will seek to maintain consistency of high-level principles underlying the treatment of IDC in all regulatory regimes, unless a difference is appropriate. However, as stated before, the specificities of RIIO-T1 is outside the scope of this review. The RIIO-T1 price control has recently commenced, on 1 April 2013, and will run until 2021 and relevant decisions have already been made after a thorough review of regime principles and an assessment of risk.

We held a stakeholder workshop for existing and interested electricity interconnector developers and offshore generators on 15 May 2013 in London. At the workshop, attendees were asked to identify the relevant issues that should be considered by this review. The workshop considered three broad areas:

- internal and external financial considerations;

- inclusion of risk pricing;

- evaluation criteria for methodology(ies).

The questions listed below seek to capture stakeholders' comments from the workshop, as well as our initial thinking. At this stage, we are seeking views, with supporting evidence, on the questions set out below. We are also seeking views on whether there are any other relevant issues we should consider.

**In responding to these questions, we invite you to give your views for both the offshore transmission regime and the regulated interconnector regime (for NEMO) as appropriate. Please provide details on where answers differ between regimes.**

<u>Risks during construction</u>

During the construction and development of transmission assets a developer may face various risks. For the offshore regime, the risks faced by future projects may differ in nature or in size from those seen in previous and/or current projects. Relevant considerations may include:

- *capex complexity* – increased complexity as projects becomes larger;

- *technology risk* – deployment of some technologies identified for use in future projects may not have been proven;

- *regulatory regime* – in both the offshore transmission and regulated interconnector regimes, our ex-post reviews reduce exposure to construction risk, including cost overruns and delays, where costs are economic and efficient;

- *financing* – in the offshore regime, the reimbursement of capex and IDC at asset transfer allows capital to be recycled for an offshore generator (and providing security to lenders in the process). This reimbursement is at an earlier point than for interconnectors;



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- *development* – for an interconnector, the entire project is the interconnector, therefore the developer faces development risk. For the offshore generator the transmission is enabling infrastructure for the generation. Therefore development risk attaches to the generation not the transmission as it is generator income over several years that provides the main element of the project return;

- *investment* - the impact of transmission construction spend on the total project returns will differ substantially between these two regimes.

**Q1: What risks should be reflected in our IDC methodology? We invite evidence on which risks should be included, and reasons why some risks are considered more important than others.**

<u>IDC calculation methodology</u>

The capital asset pricing model (CAPM) is the most widely used model to obtain the discount rate used to evaluate an investment project. To date, Ofgem has used the CAPM model to set allowed return for onshore regulatory settlements, for offshore IDC cap calculations and to set the proposed cap and floor on returns methodology for NEMO.
In the CAPM model:

- the discount rate reflects the required return for the project (its cost of capital);

- the required return is composed of the risk free rate of return and a risk premium and comes from the 'security market line';

- the risk premium is related to risk that cannot be avoided when holding the market portfolio, ie compensation is only provided for exposure to market (undiversifiable) risk and not for specific but diversifiable risk.

**Q2: What methodology should be used to price the relevant risks in calculating and setting the IDC? We invite evidence on the methods you have considered, and identification of their pros and cons.**

<u>Financing structure</u>

Developers can finance projects through different means, including corporate finance (balance sheet finance) or project finance.

- Under corporate finance the funding of the transmission assets would form part of the general borrowing of the company assets; the portfolio of assets are considered by lenders.

- Under project finance the finance is secured on that project and the lender has no recourse to the other assets of the company; the single asset is considered by lenders.

Debt and equity investors may tolerate different levels of risk around the expected return on this investment depending on the form of finance used; this may impact on lending decisions taken.

**Q3: How should financing considerations be reflected in the IDC calculation methodology such as CAPM?**

<u>Potential options</u>

In the next stage of our review, we will be considering various different options for IDC as part of this review. Some initial options identified in our stakeholder workshop covered two aspects.

*Aspect 1*: Should the IDC rate vary over the construction of a single project? Potential options include:

1. no variation - IDC fixed at the project financial investment decision (FID);

2. mechanistic approach – mechanism set with IDC but the rate will vary accordingly throughout construction of project;

3. rate fixed until the next Ofgem review.

**Q4: Do you have a preferred option for how an IDC rate should vary over the construction of a single project? We invite evidence on the pros and cons of the different options identified above, or any further options you identify, and the rationale behind your preferred option.**

*Aspect 2*: Stakeholders considered whether the IDC should be set within a range or fixed value. Potential options include:

1. a cap;

2. a cap and floor;

3. a fixed rate.

**Q5: Do you have a preferred option of whether IDC should be set within a range or as a fixed value? We invite evidence on the pros and cons of the different options identified, or any further options you identify, and the rationale behind your preferred option.**

Evaluation criteria

Going forwards, we intend to assess potential options for an IDC methodology against criteria. Potential assessment criteria, informed by the workshop, include:

- *transparency and predictability* – so that developers and funders understand how the rate is calculated.

- *risk reflection* – does the appropriately reflects risk borne by developers (under the regimes, risks are split between developers, consumers and OFTOs)?

- *flexibility* – ability to reflect changes in circumstance where appropriate.

**Q6: What assessment criteria should we use in evaluating IDC methodologies? We invite evidence on the relative importance of the criteria you identify, and any potential conflicts between different criteria.**

**Q7: We also invite views on how we ensure the IDC rate sets efficient funding costs in relation to suitable comparators for transmission delivery, such as an OFTO build model.**

**Q8: Have we identified all the key relevant issues which should be addressed by this review? We invite evidence on:**

- **whether there are further relevant issues, including why they are important; and**
- **whether we have included issues which do not need to be considered in this review?**



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## Next steps

Informed by stakeholders' response to the questions raised in this open letter, we will conduct internal analysis on the proposed treatment of IDC in the areas outlined. Our financial advisers, Grant Thornton, will assist us with this work. We intend to hold another workshop in July/August where we will share and seek stakeholder feedback on our initial findings.

Taking account of comments at the July/August workshop, we intend to issue an 8-week consultation document outlining our 'minded-to' position on the treatment of IDC in offshore transmission and our proposed methodology for setting IDC for NEMO. After reviewing responses, we intend to issue a decision letter outlining the treatment of IDC in offshore transmission and the methodology for setting IDC for NEMO before the end of 2013.

This timetable aligns with our intention to publish a decision document on the provisional levels of the cap and floor for NEMO, which the work on IDC will feed into, by the end of the year.

## How to respond to this open letter

If you wish to respond to the questions posed in Annex 1 of this open letter or provide comments, please respond to Duncan Innes, Head of offshore finance (Duncan.Innes@ofgem.gov.uk) and Phil Cope, Manager European electricity transmission (Philip.Cope@ofgem.gov.uk) by 21 June 2013. We will publish responses to this letter on our website unless clearly marked as confidential.

If you have queries on this letter, please contact Duncan Innes or Phil Cope.

Yours faithfully,

Min Zhu
Associate Director, Offshore Transmission


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**Annex 1: Open letter questions**

We invite stakeholders to provide initial views, with supporting evidence, on the questions below by 21 June 2013 and identify any other relevant issues we should consider for our IDC review.

**In responding to these questions, we invite you to give answers for both the offshore transmission regime and the regulated interconnector regime (for NEMO) as appropriate. Please provide details on where answers differ between regimes.**

Q1: What risks should be reflected in our IDC methodology? We invite evidence on which risks should be included, and reasons why some risks are considered more important than others.

Q2: What methodology should be used to price the relevant risks in calculating and setting the IDC? We invite evidence on the methods you have considered, and identification of their pros and cons.

Q3: How should financing considerations be reflected in the IDC calculation methodology such as CAPM?

Q4: Do you have a preferred option for how an IDC rate should vary over the construction of a single project? We invite evidence on the pros and cons of the different options identified above, or any further options you identify, and the rationale behind your preferred option.

Q5: Do you have a preferred option of whether IDC should be set within a range or as a fixed value? We invite evidence on the pros and cons of the different options identified, or any further options you identify, and the rationale behind your preferred option.

Q6: What assessment criteria should we use in evaluating IDC methodologies? We invite evidence on the relative importance of the criteria you identify, and any potential conflicts between different criteria.

Q7: We also invite views on how we ensure the IDC rate sets efficient funding costs in relation to suitable comparators for transmission delivery, such as an OFTO build model.

Q8: Have we identified all the key relevant issues which should be addressed by this review? We invite evidence on:

- whether there are further relevant issues, including why they are important; and
- whether we have included issues which do not need to be considered in this review?

## Annex 2: Associated documents

*Offshore transmission*

Decision on interest during construction for offshore transmission assets (October 2011)
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=41&refer=Networks/offtrans/pdc/cdr/Cons2011

Offshore transmission: Interest during construction for transitional tender rounds (July 2011)
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=28&refer=Networks/offtrans/pdc/cdr/Cons2011

Grant Thornton: Interest during construction for TR2A offshore transmission assets (March 2011)
http://www.ofgem.gov.uk/Networks/offtrans/pdc/cdr/Cons2011/Documents1/Grant%20Thornton%20-%20Interest%20during%20construction%20for%20offshore%20transmission%20assets.pdf

Ernst & Young: Interest during construction for TR1 offshore transmission assets (March 2010)
http://www.ofgem.gov.uk/Networks/offtrans/rott/rreaw/Documents1/Appendix%206-%20EY%20report%20on%20IDC.pdf

*Electricity interconnector investment*

Cap and floor regime for regulated electricity interconnector investment with application to project NEMO (March 2013)
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=168&refer=Europe

CEPA report: Financeability study on the development of a regulatory regime for interconnector investment based on a cap and floor approach (March 2013)
http://www.ofgem.gov.uk/Europe/Documents1/CEPA%20report%20-%20Financeability%20Study%20for%20Cap%20and%20Floor%20Regime.pdf

Preliminary conclusions on the regulatory regime for project NEMO and subsea electricity interconnector investment (December 2011)
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=99&refer=Europe

Cap and floor regime for regulation of project NEMO and future subsea interconnectors (June 2011)
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=67&refer=Europe

*Onshore transmission*

RIIO-T1: Final proposals for National Grid Electricity Transmission and National Grid Gas (December 2012)
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/4_RIIOT1_FP_Finance_dec12.pdf

RIIO-T1: Final proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd (April 2012)
http://www.ofgem.gov.uk/NETWORKS/TRANS/PRICECONTROLS/RIIO-T1/CONRES/Documents1/SPTSHETLFP.pdf

Decision on strategy for the next transmission and gas distribution price controls – RIIO-T1 and RIIO-GD1 financial issues (March 2011)
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/T1decisionfinance.pdf

**Annex 3: High level comparison of three electricity transmission regulatory regimes**

NB: The description of the cap and floor regime design for NEMO provided in the table is based on the proposed design outlined in the March 2013 NEMO consultation. **The final design is not finalised and is subject to change.** Our intention is, having reviewed stakeholders' responses to the consultation, to publish a decision document finalising the regime design for NEMO by the end of 2013.

| | **Offshore (Generator build)** | **Interconnectors, based on the proposed regime design for NEMO** | **Onshore (RIIO-T1)** |
|---|---|---|---|
| **General characteristics: parties involved and nature of projects; revenue stream** | | | |
| **Roles and responsibilities** | Offshore generator: constructs assets<br><br>OFTO: owns, operates, maintains, and decommissions assets<br><br>Ofgem: runs competitive tenders to appoint OFTOs for particular transmission assets and, as part of that, assessment of the efficient and economic costs that ought to be incurred in developing and constructing the transmission assets, the final transfer value and sets baseline revenue. | Interconnector developer: owns constructs, operates, maintains and decommissions assets<br><br>Ofgem: determines opening RAV and cap and floor (C+F) on allowed revenue bounds | Network company: owns constructs, operates, maintains and decommissions assets<br><br>Ofgem: determines RAV and baseline allowed revenue and appropriate incentive and uncertainty mechanisms |
| **Number of projects** | 13 transitional projects<br>Up to 9 in initial enduring tender rounds expected | NEMO the pilot for the regime, other projects expected by 2020 | Large number of new and replacement projects |
| **Types of owners of assets** | Offshore generators are integrated utilities and new entrants.<br>OFTOs, to date, have been new entrants to the market. | UK law prohibits the same person from holding both a transmission licence and an interconnector licence, although does not prohibit such licensees belonging to the same corporate group. Projects to date have come from TSO groups, but non TSOs also interested in bringing forward projects | Incumbent transmission owners (TOs) (three) |
| **Technology used to build pipeline of projects** | **Existing and new technology** Shorter links may use existing technology (offshore HVAC); longer links may use new technology (offshore VSC HVDC | **New technology.** Deployment of offshore VSC HVDC (again deployment at this scale rather than the technology that is new). | **Existing and new technology.** Existing technology (onshore HVAC) for most projects but new technology (HVDC) to be used on west and east bootstraps from Scotland |

| | **Offshore (Generator build)** | **Interconnectors, based on the proposed regime design for NEMO** | **Onshore (RIIO-T1)** |
|---|---|---|---|
| **Ex-ante baseline revenue stream** | Offshore generator: **Variable**. Dependent on market revenues plus subsidies (ROCs or CFDs) and volume of MW/hours<br><br>OFTO: **Fixed** through commercial competitive tender | **Semi-variable**. Asset utilisation risk within bounds.<br><br>Market congestion revenues (fully variable) earned from ongoing congestion auctions, driven by presence of price differentials between power markets, within pre-defined bounds (cap and floor levels set by regulatory settlement) | **Firm.** Regulatory settlement set for review period. This incorporates a number of incentives and uncertainty mechanisms. |
| **Size and source of deviations from baseline revenue**<br><br>NB These differ pre/post build | Offshore generator: deviations up to 100% as dependent on market<br><br>OFTO: Limited to +5/-10% in any one year, depends on performance against availability incentive | Cap and floor range. Dictated by differences in cap and floor on returns and performance against availability incentive (calibration being consulted upon) | Performance against output incentives and major projects (strategic wider works additionally authorised during the price control). Also varies with in-built uncertainty mechanisms with volume drivers on pre-set unit costs. |
| **Impact on revenue of link unavailability (post construction)** | Offshore generator: Cannot transmit power so forego revenue, assuming wind farm operational<br><br>OFTO: 50% of annual revenue at risk if link unavailable, spread over 5 years, in downside case unless licence conditions around availability thresholds breached for reasons not adequately justified. Ultimate enforcement action is licence revocation and so 100% of revenue at risk.<br><br>Forego uplift in revenue stream if no outperformance against availability target. | No redundancy. Forego congestion revenue and liable for imbalance costs (capped at the level of the floor over the assessment period) if sold capacity during the time of the outage.<br><br>Top-up to floor payment conditional on availability being above pre-defined thresholds in licence or NRAs being satisfied with explanation provided.<br><br>Unavailability reduces cap over assessment period if link availability below the target for an assessment period. | Redundancy in system so can largely mitigate impact. No market exposure so impact is only on reliability output. There are penalties for failure to meet reliability outputs and ultimately loss of licence for failure to meet licence obligations. |
| **Regulatory settlement period** | Initial length of control period (revenue stream) fixed for 20 years | Initial length of control period (20 or 25 years), expected to be 25 years for NEMO | Price control period (every 8 years) with provision for mid-period review |



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| | Offshore (Generator build) | Interconnectors, based on the <u>proposed</u> regime design for NEMO | Onshore (RIIO-T1) |
|---|---|---|---|
| **Current Treatment/development of IDC<br>Offshore – subject to review; Interconnectors – under development; onshore – out of scope for this review** | | | |
| **Recovery of funding cost for construction** | Generator reimbursed economically and efficiently incurred costs in final transfer value when assets are transferred to OFTO. | No contribution during construction, entirely reimbursed over the period of the cap and floor regime.<br><br>IDC is added to the asset value which is depreciated over the length of the regime through the cap and floor. | Recovered on a notional basis and an assumed cost as incurred. Assumed cost of construction included in RAV as assumed to be incurred. Variations from assumed cost and timing are subject to a sharing mechanism. |
| **Relevance of IDC rate set for investment decision** | Transmission spend a small part of total project spend in the construction phase (<20%) and returned at transfer of assets rather than over whole project life (ie circa 2 not 20 years. | Construction phase is expected to be for 3-5 years where as cap and floor regime is 20 or 25 years. IDC forms a proportion of one component, depreciation, which is computed when setting the level of the cap and floor. | Cost of capital applied uniformly pre and post build so impacts allowed return. No market exposure so cost performance essential and notional financing costs during construction are a small proportion because asset life is long relative to construction period. |
| **Allowance for IDC** | **Explicit capped rate.** IDC rate applied is lower of offshore generator submission or prevailing cap.<br><br>In operation phase, OFTO's tender revenue stream incorporates project desired internal rate of return. | **Explicit rate**. Methodology to be developed for construction phase.<br><br>In operation phase setting bounds on cap and floor on returns impacts level of cap and floor. | **No separate rate set for IDC.** Cost of capital rate set for price control period (and subject to annual indexation for the cost of debt element) for both construction and operation.<br><br>However, capex/opex split and magnitude taken into account in setting allowed return. |
| **Period IDC applied** | Until able to transmit (first energisation). Note that period can be curtailed if construction deemed inefficient. | Until cap and floor commences (when assets operational). Note that period can be curtailed if construction deemed inefficient. | No separate rate set for IDC. Allowed return applied on asset base which includes both built assets and assets under construction. |
| **IDC rate set** | **Calendar based** rather than project based so far. | **Project by project**. Methodology reviewed between projects and movement in rates between financial close (financial investment decision) on projects. | **One rate to cover entirety of portfolio of projects**. Rate set at the start of the price control with the cost of debt element (only) being amended according to cost of debt index. |
| **Changes in IDC rate during construction period** | **Yes.** Prevailing cap is periodically reviewed. | **No.** Rate locked down at financial close (financial investment decision). Ofgem reviews methodology between projects. | **Yes**. Cost of debt will change over price control period (8 years), and cost of capital reviewed for each price control. |
| **Restrictions on IDC being payable** | IDC not applied to inefficient or uneconomic expenditure (disallowed in ex-post review) | IDC not applied to inefficient or uneconomic expenditure (disallowed in ex-post capex review) | TO incentivised to keep expenditure below ex-ante target. Provision exists for ex-ante review. |



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| | Offshore (Generator build) | Interconnectors, based on the <u>proposed</u> regime design for NEMO | Onshore (RIIO-T1) |
|---|---|---|---|
| **Exposure to inflation risk when IDC rate set** | IDC set in nominal terms and capex is also contracted in nominal terms, all be it with commodity prices potentially indexed (to base commodity price). | Cap and floor set in real terms. | Allowed revenue, which includes an element for the allowed return, is indexed annually by RPI. |



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**Annex 4: Comparison of previous IDC or cost of capital decisions taken in three electricity transmission regulatory regimes**

NB: Numbers nominal unless stated otherwise

| | Offshore decision on IDC cap (April 2010) | Offshore decision on IDC cap (October 2011) | **Indicative levels** of cap and floor on returns, at GB end of link, **for NEMO**, during operational phase **based on proposed methodology*** | | RIIO-T1 regulatory settlement for National Grid Electricity Transmission |
|---|---|---|---|---|---|
| Returns set | **Nominal pre-tax** | **Nominal pre-tax** | **Real vanilla** | | **Real vanilla** |
| | | | Floor | Cap | Levels for 2013-14 |
| **Cost of debt** | | | | | |
| Risk-free rate (%) | 2.4 (real); 4.5 | 1.85 (real); 4.1 | Based on 20-day simple trailing average of index | n/a | Based on 10-year simple trailing average of index* |
| Debt premium | 1.3 | 1.8 | | | |
| Pre-tax cost of debt (%) | 3.7 (real); 5.8 | 3.7 (real); 5.9 | 1.52 (real); 4.82** | | 2.92 (real)^; 5.83** |
| **Cost of equity** | | | | | |
| Risk-free rate (real) (%) | 2.4 | 1.85 | n/a | 2.0 (real)** | 2.0 (real)** |
| Equity risk premium | 5.0 | 4.5 | | 5.0 | Not specified |
| Equity beta | 0.8 | 0.68 | | 1.28 | |
| Post-tax cost of equity | 6.4 (real); 8.5 | 4.9 (real); 7.2 | | 8.4 (real) | 7.0 (real) |
| D/D+E (%) | 16.7 | 33.3 | 50.0 | | 60.0 |
| Tax rate (%) | 28.0 | 28.0 | 23.0 (for 2013-14) | | 23.0 |
| **Weighted average cost of capital (WACC): regulatory settlement** | | | | | |
| Real vanilla (%) | | | **1.52** | **8.4** | **4.55** |
| Nominal Pre-tax (%) | **Cap: 10.8** | **Cap: 8.5** | | | |

* Current values, as at 22 Feb 13 for the floor and end of 2012 for the cap, based on **proposed** methodology. Under proposed methodology, actual values will be set at financial close (when financial investment decision taken).
** Nominal index value deflated by 10-year UK breakeven inflation rate to arrive at real rate
^ Value at start of RIIO-T1, to be updated annually