

All interested parties

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Dear Colleague

# **'EPC' Contract Principles for OFTO Build Tenders**

This letter provides guidance on the principles we consider should inform an "Engineering, Procurement and Construction (EPC)" style contract offered by an offshore generator developer (generator) as part of an OFTO build tender, to ensure the tender results in economic and efficient outcomes. This guidance is intended to support generators in preparing any "EPC" style contract under the OFTO build: Generator EPC tender option. The guidance is not intended to be prescriptive as we recognise that there may be a variety of ways in which contracts can be designed, based on the particular circumstances of a project and the generator's approach.

We expect generators to take this guidance into account when developing an EPC contract to use as part of an OFTO build: Generator EPC tender. Before commencing a tender we would review an EPC contract proposed by a generator against the principles set out in this guidance to ensure the appropriate balance of risks is achieved and the EPC contract is bankable.

### Context

In December 2014 we published 'OFTO build: Providing additional flexibility through an extended framework' (the December 2014 update). This introduced an extended OFTO build framework to provide flexibility to respond to both the current and future requirements of generators. We introduced a range of indicative tender options for OFTO build in relation to the roles of the generator and OFTO. This range of tender options allows generators and OFTOs to have greater or lesser degrees of control over procurement and construction management of offshore transmission assets, depending on the OFTO build option chosen by the generator.

In order to implement the OFTO build options across the framework, we updated the Tender Regulations and the new 2015 Tender Regulations came into force on 3 August 2015<sup>2</sup>. All the indicative OFTO build options introduced in the December 2014 update can

<sup>&</sup>lt;sup>1</sup> OFTO Build: Providing additional flexibility through an extended framework (December 2014) <a href="https://www.ofgem.gov.uk/publications-and-updates/ofto-build-providing-additional-flexibility-through-extended-framework">https://www.ofgem.gov.uk/publications-and-updates/ofto-build-providing-additional-flexibility-through-extended-framework</a>

<sup>&</sup>lt;sup>2</sup> The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015 were made on 11 July 2015 and came into force on 3 August 2015 <a href="http://www.legislation.gov.uk/uksi/2015/1555/made">http://www.legislation.gov.uk/uksi/2015/1555/made</a>

now be implemented, subject to a developer complying with the appropriate project qualification requirements and tender entry conditions.

To date, generators have been most interested in the 'OFTO build: Generator EPC' option. In this option, we proposed that a generator (or affiliated entity) carries out all supply chain procurement and manages construction of the transmission assets by entering into an "EPC" style contract<sup>3</sup> with the OFTO as asset owner.

Through our engagement with stakeholders, a number of parties have highlighted the similarities between the OFTO Build: Generator EPC option and the tender model used to appoint an Infrastructure Provider to deliver the Thames Tideway project<sup>4</sup>. We consider that while there are a number of important differences between the models, the comparison with Thames Tideway is relevant and useful for stakeholders to better understand the OFTO build: Generator EPC model.

### Overview of the OFTO build: Generator EPC tender option

As set out in our December 2014 update, under the OFTO build: Generator EPC option, an EPC contract for construction of the transmission assets would be offered by the generator to all bidders as part of the tender. Bidders would be expected to enter into this EPC contract, rather than procure a construction contract on the open market. The EPC contract would therefore be an important part of the tender specification, and the value of the EPC contract would form a large part of the OFTO's costs. As such we consider that, in addition to determining the value of the EPC contract offered by the generator, we have a role to review the EPC contract to ensure that it has an economic and efficient value, achieves the right balance of risk and would be considered bankable by OFTOs. This will be important to ensure that an OFTO build: Generator EPC tender attracts a sufficient number of bidders to be competitive and leads to economic and efficient costs for the construction, operation and maintenance of the transmission assets.

Bidders would have opportunities, arranged by Ofgem during the enhanced prequalification (EPQ) stage and before the submission of bids at the invitation to tender (ITT) stage of the tender, to comment on the draft EPC contract. Generators may choose to respond to these comments by updating the EPC contract and making it available to all bidders during the ITT stage. Although we would not require generators to make changes in response to bidder feedback, generators should consider the likely impact of not making changes on the tender revenue stream (TRS) that would be bid. The EPC contract should be in near final form when bidders make their ITT submissions, with no changes expected during the preferred bidder stage.

The OFTO's TRS would be finalised during the tender process and fixed at licence grant. This revenue would only change after licence grant if we agree that an event for which there is designated protection under the OFTO licence has occurred.

## EPC contract principles

In our December 2014 update we set out some high level principles that we would expect an EPC contract offered by a generator to follow. These are:

 the EPC contract should provide a robust set of terms, which will facilitate the delivery of a low cost of capital financing solution by the OFTO;

<sup>&</sup>lt;sup>3</sup> In this guidance we use the term "EPC" to refer to a construction contract put forward by the generator as part of the OFTO build tender. Whilst we recognise that the generator may choose to provide a traditional EPC contract, we do not intend to require that all the elements of such a contract are provided.

<sup>&</sup>lt;sup>4</sup> Further details on Thames Tideway can be found at the Ofwat website: <a href="http://www.ofwat.gov.uk/regulated-companies/improving-regulation/thames-tideway">http://www.ofwat.gov.uk/regulated-companies/improving-regulation/thames-tideway</a>

- the terms and conditions for the EPC contract should, as a starting point, look to align with traditional EPC contracts within the broader infrastructure sector against which long-term project finance debt has been raised;
- risks should be borne by the party best able to manage them and should be clearly
  allocated in the EPC contract between the generator EPC contractor (EPC contractor)
  and OFTO. As such there should be a clear relationship between the level of control
  and influence the OFTO is provided over construction by the EPC contract and the
  extent of the OFTO's construction liabilities (ie the extent to which any of the EPC
  contractor's liabilities are capped within the EPC contract should be proportionate to
  the amount of influence the OFTO has during construction). This would enable
  efficient pricing by bidders of any contingency or reserve financing they would
  require;
- construction activity should be undertaken economically and efficiently, to deliver value for consumers, in line with industry codes and standards; and
- criteria and arrangements for handover of any transmission works or assets from the EPC contractor to the OFTO should be clearly set out within contractual agreements between the parties and enable the OFTO to manage its liabilities and obligations under its licence.

In general we therefore expect that the EPC contract would cover most of the risk of cost overruns and delays during construction, except potentially for events which would typically be classed as force majeure, or for certain low probability but high impact events which cannot be economically and efficiently priced into the EPC contract or by bidders. Ultimately, however, the generator would still be exposed to these risks through transmission charges even where they are not borne by the generator in its role as EPC contractor.

We continue to consider that these high level principles are appropriate, but have since developed these principles in further detail in the annex to this document to provide additional guidance to generators and potential bidders. This process was informed by a workshop we ran in June to gather input from interested stakeholders. The annex to this document highlights specific features of the EPC contract we consider important and outlines our current expectations.

### Next steps

The EPC principles outlined in this letter reflect our current thinking. We do not currently plan to publish any further guidance on the EPC principles and expect generators to be able to take forward the development of an EPC contract if they are considering the OFTO build: Generator EPC tender option. We are happy to work, on a project by project basis, with generators who wish to discuss any such EPC contract with us, or who are considering any other OFTO build option.

We continue to welcome further engagement with generators and potential bidders around OFTO build.

If you have any questions, relating to this letter please direct them to Elizabeth Cooper, <a href="mailto:TransmissionCompetition@ofgem.gov.uk">TransmissionCompetition@ofgem.gov.uk</a> in the first instance.

Yours sincerely,

#### Steve Beel

### **Associate Partner, Electricity Transmission**

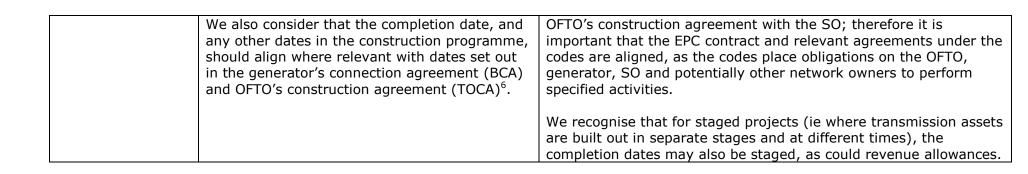
## **Annex: Further detail on EPC Contract Principles for OFTO Build Tenders**

This annex highlights some specific features of an EPC contract we consider important and outlines our expectations in these areas. It is not prescriptive about the EPC contract terms that must be included as we consider that these are most appropriately developed by the generator based on the particular circumstances of a project and the generator's contracting approach. Where we are specific, this is intended to illustrate our principles, rather than specify a detailed model that any contract must follow. This annex is not an exhaustive list of contractual terms and there are a number of terms not discussed in this guidance that we would expect an EPC contract would cover.

Responsibilities	Responsibilities and information sharing		
Area	Principle	Rationale	
Risks, roles & responsibilities	We expect the roles and responsibilities during construction to be clear for the EPC contractor, its subcontractors, the OFTO and the OFTO's lenders (as appropriate).  The risks borne by the EPC contractor and the OFTO should be clear.  In general we expect that the OFTO's role, and therefore exposure to risk, would be limited during construction as the EPC contractor would likely choose to be responsible for construction management, including project management and management of subcontractors.	Clarity on roles and responsibilities will enable bidders to identify what the OFTO would need to do during construction as well as which risks it must bear. This will allow bidders to competitively price their bid submissions and develop appropriate strategies for managing construction, operations and maintenance.  We expect the EPC contractor to try to minimise its exposure to risk by passing this down to subcontractors to manage where these risks are best managed by the subcontractors. We expect this would be reflected in the terms agreed between the EPC contractor and its subcontractors.	
Reporting & access to information	We expect the OFTO to have access to information specified in the EPC contract and receive regular updates from the EPC contractor.  We expect that for some critical elements of the construction process the OFTO may be given	The OFTO is legally responsible for regulatory reporting and must have access to sufficient information to be able to fulfil this obligation. The OFTO will also be required to report to its lenders to ensure that progress is on track.  The OFTO may also want to have some oversight of a few critical activities, such as cable installation as these may particularly affect	
	greater oversight and access to information.	the operation and maintenance of the assets.	
Compliance with consent conditions	We expect the EPC contractor should be responsible (on behalf of the OFTO) for	Although the OFTO will have legal accountability for these items, these would be effectively delegated to the EPC contractor as the	
& health and	ensuring compliance with relevant consent	party best able to manage compliance.	
safety executive	conditions during construction, particular	party boot able to manage compliance.	
(HSE)	installation or construction consents and HSE		
requirements	requirements.		

Area	Principle	Rationale
Design & specification	The technical specification, transmission asset design and related services should be clearly specified and at a level of detail sufficient to enable bidders to submit robust and competitive bids. The technical information should be able to demonstrate that regulatory compliance can be achieved, as well as specify the acceptance criteria to verify completion and handover of the assets.	The OFTO will be legally responsible for the construction, operation, maintenance and decommissioning of the transmission assets from the point of licence grant. As an OFTO build: Generator EPC tender removes the ability for bidders to specify and procure contracts themselves, the EPC contract must provide bidders with enough information (or protection) to know they will be able to meet their obligations under their licence and the industry codes and standards.
		The design of the transmission assets will also be used by bidders during the tender to determine their approach to operations and maintenance. Bidders need to have enough information to be able to determine the most economic and efficient approach.  The design specification is also important to ensure that the OFTO and EPC contractor can agree on the completion of milestones and construction, for example against EPC contract specifications, and to manage any variations during construction.
		For the avoidance of doubt, the EPC contract will not cover preliminary works <sup>5</sup> . The developer would transfer preliminary works to the OFTO at licence grant by separate, but related agreement.
Construction programme & completion date	We expect the EPC contract to specify a completion date when operational control of the transmission assets will be handed from the EPC contractor to the OFTO. This date should align with the date when an OFTO starts to	The point at which the OFTO is expected to take full operational control of the assets will impact, for example, the arrangements that an OFTO would put in place around operations and maintenance.
	receive its revenue stream – likely to be when its assets are available for use and accepted by the system operator (SO).	We expect that this date would align with the date from which the OFTO's revenue stream commences, as this is when the OFTO will become responsible for availability of the assets under its licence. This date would be reflective of electrical milestones under the

<sup>&</sup>lt;sup>5</sup> Preliminary works are the necessary works obtained by a generator in relation to the development of the proposed transmission assets before the grant of an offshore transmission licence to a successful bidder following an OFTO build tender. Preliminary works are formally defined in regulation 3(1) of the 2015 Tender Regulations.



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<sup>&</sup>lt;sup>6</sup> The Transmission Owner Construction Agreement (TOCA) is the agreement between the transmission owner and National Grid Electricity Transmission, the SO. The TOCA specifies the terms of the connection to the onshore grid, such as the design, construction and operation of the assets, specifications of interface sites and commissioning processes and will apply to the OFTO throughout the licence period. This agreement is backed off against the generators Bilateral Connection Agreement (BCA), which is between the generator and the SO.

Area	Principle	Rationale
Fixed price	<ul> <li>The EPC contract should have a fixed price. We consider that this price will include the following components:</li> <li>Costs associated with the delivery of subcontracts</li> <li>A fee for managing the EPC contract and constructing the transmission assets, including (if necessary) an amount to manage construction risk.</li> <li>We would only expect the fixed price to be subject to change under limited and clearly defined circumstances (see 'Variations').</li> <li>We are open to generators proposing appropriate risk sharing mechanisms between the EPC contractor and the OFTO where these reflect the ability to influence construction. This may, for example, provide some upside and downside risk for equity investors.</li> </ul>	The OFTO's TRS (and therefore, the allowed cost of the construction works the OFTO will be able to recover) will be fixed as far as possible at financial close and licence grant. We expect that a fixed price EPC contract would therefore be the most efficient contracting approach. This is particularly important under OFTO build: Generator EPC where we expect the generator (as EPC contractor) will be managing day to day construction and interactions with subcontractors and the OFTO would have limited influence over construction (and therefore cost) management.  Any amount included within the EPC contractor's fee to manage construction risk should relate to the risks which are held by the EPC contractor in coordinating the construction process and which cannot be passed down to subcontractors.
Payment structure	We expect a payment structure would be agreed between the EPC contractor and OFTO.  We anticipate the EPC contractor would propose a payment structure based on either milestone	A clear payment structure, based on clearly defined milestones where relevant, will maximise bankability for the OFTO and provide clarity to all parties on payment obligations.
	payments or payments at regular intervals.	
Security package	We expect the EPC contract to be supported by a comprehensive security package, provided by the EPC contractor, to manage construction risk.	The security package will be the key tool which the EPC contractor will use to manage construction risk. The list of measures included and the scope of the protection given to the OFTO should reflect the ability of the OFTO to manage risk within the construction period (ie the less involved the OFTO is in managing risk, the more protection it will need from that risk). A robust security package should allow OFTOs to obtain a lower cost of finance and speed up the tender process.

Area	Principle	Rationale
Variations – general	We expect the EPC contract to clearly set out the full specification of works, and given that the TRS is fixed through a tender, we do not expect variations to the EPC contract that would expose the OFTO to unmitigated cost increases.  However, we consider there may be certain limited circumstances where the EPC contractor requires a variation to proceed with construction. While we do not envisage that the OFTO would need to propose variations, we consider that there should also be a mechanism for this in the EPC contract.  We therefore expect either party to be able to propose variations to the EPC contract in certain limited circumstances. We expect these could only be implemented by mutual agreement. We also expect a robust process	A variation to the EPC contract, including the proposed completion date, fixed price or the design and specification of the assets, would impact the OFTO and/or the EPC contractor.  The OFTO will only be able to seek an adjustment to its TRS in limited circumstances set out in its licence. We therefore expect that the variations in the EPC contract will be similarly limited as the OFTO would only accept a variation which adjusts the price if either the OFTO can adjust its TRS under its licence or if the OFTO agrees to fund the price adjustment itself (eg if the OFTO has been able to price the risk during the tender process).  Therefore it is important that if a variation is required, both parties must agree to it before it can proceed.
	for agreeing the scope of any variation.	
Variations -leading to a price adjustment	As noted above we do not expect variations to the EPC contract, however we consider there may be circumstances were a variation is required. For a variation that leads to a price adjustment, we expect the EPC contract should include a mechanism to enable the parties to agree the level of the price adjustment.  We expect any agreed price adjustment to be paid for by the OFTO.	We consider that to be acceptable to a generator and bankable to OFTOs the EPC contract should be clear on the circumstances under which the OFTO is expected to compensate the EPC contractor, over and above the fixed price of the EPC contract. We expect these circumstances would be limited as the EPC contractor would bear all risks that it can reasonably manage during construction.  We expect the OFTO will only be able to seek an adjustment to its TRS in limited circumstances set out in its licence. We therefore expect that the OFTO will only accept price adjustments if either it can adjust its TRS under the licence or it agrees to fund the price adjustment itself (eg if the OFTO has been able to price the risk during the tender process).

Variations – leading to a change of completion date or to the construction	We expect that, as with any variation, there should be a mechanism in the EPC contract for both parties to propose variations to the scheduled completion date or construction programme, and a robust process for agreeing these.	Both parties may be affected by any change, therefore we expect that any proposed change to the completion date, could only be implemented by mutual agreement of both parties. Delay to the completion date will affect when the OFTO's revenue stream starts, as well as when the transmission assets are available for use by the generator.
programme	As we expect the completion date and construction programme to align with the BCA and TOCA, we consider that the mechanism in the EPC contract for variations to the construction programme or scheduled completion date should align with any relevant mechanisms in these agreements.	In practice we do not envisage that the OFTO would wish to propose variations to the construction programme, given its limited role in construction management.  We would expect that for any variation to the construction programme proposed by the EPC contractor, the OFTO would be held harmless.
		As other parties, including the SO or another network owner, might also be affected by a change to construction programme or completion, we think it is important that the mechanism to change these dates in the EPC contract accommodates mechanisms in the relevant industry codes (BCA or TOCA.)
Variations – not impacting on price or completion date	We expect that even where a variation does not impact on the EPC contract price or completion date, there should be a mechanism in the EPC contract to ensure both parties agree before it can be implemented.	Variations, for example to the design and specification of the assets being constructed by the EPC contractor, may impact the arrangements that an OFTO has for operations, maintenance or decommissioning of these assets. This in turn may lead to a change in what the OFTO has to do after construction or to how much it will cost the OFTO to fulfil its obligations under its licence and the industry codes.

Liabilities	_iabilities		
Area	Principle	Rationale	
Delay liquidated damages <sup>7</sup>	We consider that the OFTO may expect the EPC contractor to be liable for liquidated damages (or other suitable compensation payment), payable to the OFTO, for delays to the completion date.  These should be scaled to cover the OFTO's debt liabilities and possibly some equity liability, for a defined period of time.	The OFTO's revenue will start on completion, when its assets are available for use. Construction delays which exceed the scheduled completion date will delay the start of the OFTO's revenue and have cost implications for the OFTO as its lenders will expect to receive repayments. The OFTO may also have other costs, such as payments to O&M staff. However, the duration of the revenue term will remain 20 years, despite a delayed start, so loss of revenue would not be a factor when scaling delay liquidated damages.	
Performance liquidated damages	We consider that the OFTO may expect the EPC contractor to be liable for performance liquidated damages if the OFTO experiences reduced/lost revenue as a result of underperformance of the assets.  We consider that it would be appropriate to scale any performance liquidated damages to reflect the loss of annual revenue the OFTO may incur, to a maximum of 10% of an OFTO's annual revenue. The EPC contractor should be able to cap its total liability for performance liquidated damages, in terms of time and costs.	OFTOs will be subject to an availability incentive once their revenue stream starts. If the assets do not perform as expected they will be financially penalised. There is a cap of 10% of annual revenue as a result of unavailability. Performance liquidated damages may be required to help manage the risk to the OFTO that the assets do not perform as required.	
Global cap on EPC contractors liability	We expect that there might be a global cap on the EPC contractor's liabilities.  We anticipate that in order to be considered bankable to OFTOs the level of this cap would probably need to represent a significant proportion of the value of the EPC contract. Our initial view is that it may be appropriate for this to be 100% of the EPC contract value.	The size of liabilities should relate to the value of works, costs to the OFTO to complete or fix them, or potential damages for loss of income, etc. We consider the presence and level of liability caps in a proposed EPC contract is fundamental to the ability of bidders to attract competitive financing. If the global cap is significantly less than 100% of the contract value it may be unattractive to bidders. However, we recognise that there is a balance between the EPC contractor's liability and the affordability of the EPC contract (ie a global cap significantly in excess of 100% of contract value could significantly increase the price of the EPC contract).	

<sup>7</sup> We would not expect a generator to opt for liquidated damages in its BCA under the OFTO build: Generator EPC option, given its role in construction

Completion & Handover		
Area	Principle	Rationale
Asset handover and completion (including completion date & completion testing)	We expect that both asset handover and commencement of an OFTO's revenue stream should occur as early as possible. To enable this, we expect the EPC contract should be clear about the handover process, including how this may align with compliance testing under industry codes. We consider this may best be achieved by specifying a clear point of handover.  We also expect that the EPC contract will allow for certain non-material works to be completed after handover, where this facilitates an earlier handover point.  The completion criteria should be clearly specified and, at a minimum, reflect any relevant criteria from industry codes (eg the OFTO's TOCA).  We expect that the EPC contractor's approach to commissioning and testing should allow the OFTO (and/or an independent expert) to observe the process as necessary.  For staged projects, we expect that there may need to be more than one handover point. This would enable work packages to be handed over to the OFTO when they are complete and when the OFTO needs to provide transmission services for the generator.	We consider handover an important area of the contract and we therefore expect generators to focus on this when developing an EPC contract. In doing so generators should draw on experience of asset transfer under generator build tenders.  The completion of non-material works should not present a barrier to handing operational control to the OFTO.  The OFTO is likely to want to have full oversight of activities in the testing and commissioning of the transmission assets. If the OFTO has identified this we would expect the EPC contract to facilitate it, including through the use of an independent expert as necessary.  We consider that the transmission system work packages for staged projects, and therefore handover arrangements for these, would normally reflect the construction programme for the windfarm.

Step in & termi Area	Principle	Rationale
OFTO (& lender) step in rights	We consider that the OFTO may wish to have the ability to step in and take control of construction under specified circumstances.  We consider this may include:  • construction being delayed beyond a trigger date (which we expect may be longer than typically seen in large scale construction projects)  • the EPC contractor being insolvent	We consider that the breadth of events that may trigger OFTO step in would be related to the level of risk the OFTO takes during construction – an OFTO is likely to require greater step in rights where it bears more construction risk (eg where the OFTO is more exposed to cost overruns and delays).  The EPC contractor (as generator) has an incentive to complete the transmission assets to be able to export power form the windfarm. This may mean that longer construction delays would be allowed under the EPC contract before step in can be triggered than would be seen in an industry standard EPC.
		We expect the OFTO's lenders would also have the right to step in if the OFTO was in financial distress. This would be reflected in a separate agreement, rather than the EPC contract itself.
Termination rights in case of EPC contractor does not perform	We consider that the OFTO (and its lenders) may wish to have the ability to terminate the EPC contract under specified circumstances.  We consider this may include:  • EPC contractor non-performance beyond a long-stop date (which we expect may be longer than typically seen in large scale construction projects)  • Material breach of EPC contract by the EPC contractor	We recognise that the likelihood of events occurring that could trigger these termination rights is remote, given the relationship between the EPC contractor and the generator. However, termination rights would provide appropriate protections for the OFTO and enable it to secure financing and maintain commercial arrangements with the EPC contractor.  As with step in rights, the breadth of events to trigger termination should reflect the allocation of risk. Similarly, the long-stop date may be reflective of the incentives on the EPC contractor to complete construction.
	We expect that any process for terminating the EPC contract should be clearly specified.	complete construction.