



# **Triton Knoll Offshore Wind Farm Project**

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**EV115: TKOWFL Innovation work**

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## INNOVATION COMMITMENTS

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**ITEM:** TKOWFL HAS PROACTIVELY ENGAGED WITH TENDERERS TO IDENTIFY OPPORTUNITIES TO PUSH FORWARD INNOVATIVE TECHNOLOGY ON TRITON KNOLL

**FROM:** NICHOLAS HIND

**SUBJECT:** COMMITMENT I2.5

**DATE:** JUNE 2016

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### INNOVATION WORK

**Interview with Martin Knagg, Onshore Cables Package Manager  
2-June-2016**

The E3 tender for the onshore electrical cable is not being delivered until early February 2017, however TKOWFL has engaged for a Front-End Engineering Design Study (FEED) study to de-risk this package of work. This is because there is significant risk in this work from ground conditions / access issues.

TK is asking the FEED contractor to be innovative to minimise the cost to maximise the CfD potential by giving TK a good bid price for that element of the work.

## 6. SPECIFICATION

The FEED shall be undertaken with the aim of complying with UK legislation, limitations within the DCO and other licenses and best practice standards as amended as formally agreed in writing with Triton Knoll Offshore Windfarm Ltd and other relevant stakeholders.

This section outlines the Employer's expectations with respect to standards and best practice guidance that the Contractor shall adhere to in the design and specification unless otherwise agreed in writing with the Employer. However, the Contractor is encouraged to take into consideration new developments in technologies and innovative construction techniques where there are potentially significant cost savings to be made that could help to reduce the Levelised the cost of Energy whilst maintaining due regard for health and safety.

Doc Ref No: <Obtained from TK Document Control>

## 6.1. Technical Standards Expectations for FEED Design

### 6.1.1. General

The Contractor shall consider innovative solutions and alternatives within a range of options when undertaking the Enhanced FEED Study. Option appraisal exercises shall be used to highlight technical and commercial advantages that may be gained from proposed solutions.

 [Onshore Feed-Part B - Employer's Requirements \(Technical\).pdf](#)

**Interview with Terry Coggan, ESI Procurement Coordinator**

**2-June-2016**

**There is a combined E1/E2 FEED study as well as a standalone E2 package. The FEED study has innovation running all through it to optimise design; for instance if a 66kV cable system is used then ???**

### 3.2 Implications on the Project

Within this context, the drive for cost reduction has impacts on engineering design and procurement activities and it is essential to manage these in order to capture all value in the pre-bid phase that can contribute towards the lowest bid price. There are inter-relationships with respect to risk and cost:

- Innovative technology selection and optimal design is required to drive down costs
- Optimal allocation of risk and contracting interfaces
- Scaling capacity in order to responding to last minute changes from Government in the budget allocated and also for submitting flexible bids
- A collaborative approach with contractors has been designed into the project's procurement process in order to:
  - a. reduce costs and risks for all parties
  - b. secure pre-bid certainty on cost levels
  - c. identify post bid cost reduction potential
  - d. increase competitiveness in terms of flexibility in volume and timing

### 3.3 Implications for Contractors

The Employer's chosen procurement approach is a reflection of the market under the CfD regime, which includes the requirement for contractors to provide:

- Pre-bid certainty on costs and risks
- Delivery of all information according to the timeline set out which will enable a CfD application at the start of Q4 2016
- Innovative thinking to contribute to a through-life value optimisation process across all packages
- Optimisation of payment and delivery profiles in order to facilitate lowest LCoE
- Progression towards an appropriate degree of contract readiness/certainty
- Support in the identification of options to retain flexibility on capacity, and potentially delivery timescales.
- Support in the development of the Supply Chain Plan (see below)

This is set out within s. 3.2 & 3.3 of the FEED Schedule of the ITT



[2505-TKN-ESI-E-SP-0092\\_01\\_Schedule 1 - FEED\\_001.pdf](#)

**Interview with Tim Sheehan WTG Package Manager & Jason Cunningham, Lead WTG Engineer  
2-June-2016**

**There have been specific collaborative brainstorming workshops with the Turbine suppliers – not just technical but also commercial and where VA opps exist. This includes:**

- **Tech / Ops / Commercial / Procurement Process / Insurance & Risk**

**JCP Consultancy have also been engaged. They are a specialist behavioural consultancy playing two roles: one as a Policeman to ensure TK interacts with suppliers appropriately; the second as an evaluator of companies to ensure they will keep to their promises.**

An example of this is one turbine supplier can't fulfil a delivery date, but through collaborative and open dialogue could offer TK a reduced price if TK can accept earlier or later delivery.

**Interview with Zen, Procurement Manager**  
**3-June-2016**

**Turbines are going through workshops with Tenderers where innovation will be discussed, however TKOWFL is not a manufacturer so any discussions likely to be Top down through the Tier 1 suppliers.**

In terms of Competition & flexible package boundaries we have a multi contract strategy rather than EPCI to get separate pricing which we need to understand in order to bring together as a greater number of packages leads to higher costs due to a greater number of interfaces. This is set out in Zen's email with the Overarching Contract Strategies.