



# TRANSMISSION ASSETS DML VARIATION POSITION PAPER

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WALNEY EXTENSION OFFSHORE WIND FARM

<b>GoBe Consultants Ltd</b>			
<b>Prepared by</b>	Lauren Kirkland	<b>Date</b>	22.01.2015
<b>Checked by</b>	Peter Gaches	<b>Date</b>	22.01.2015
<b>Approved by</b>	Steve Bellew	<b>Date</b>	23.01.2015

<b>Client</b>			
<b>Client approval</b>	DONG Energy	<b>Date</b>	February 2015

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## **1. Introduction**

### **1.1. Overview**

1.1.1. This position paper has been prepared to support a formal application for variation to the Transmission Assets deemed Marine Licence (dML) in relation to the percussive piling restrictions for the Walney Extension Offshore Wind Farm, for which development consent was granted on 7<sup>th</sup> November 2014.

1.1.2. It has been produced following ongoing discussions between DONG Energy Walney Extension (UK) Ltd (DONG Energy) and the Marine Management Organisation (MMO) during the post-examination phase with regard to conditions relating to the percussive piling of Offshore Substation Platform (OSP) jacket foundations, which are licensed within the Transmission Assets dML.

### **1.2. Project Background**

1.2.1. DONG Energy made an application to the Planning Inspectorate (PINS) in June 2013 for a Development Consent Order (DCO) for the Walney Extension Offshore Wind Farm located in the Irish Sea. The Walney Extension Offshore Wind Farm development consists of an area of 149 km<sup>2</sup> and will have a generating capacity of up to 750 MW. It will be located immediately adjacent to the west and north-west of the operational Walney offshore wind farm. The examination for the application began in November 2013, with the examination phase officially closing in May 2014. The Secretary of State (SoS) granted development consent on 7<sup>th</sup> November 2014 and the period for potential challenge to the decision has passed (as of 22<sup>nd</sup> December 2014) without concerns being raised.

1.2.2. The DCO granted for the Walney Extension Offshore Wind Farm (dated 7<sup>th</sup> November 2014) contains a Generator Assets dML (Schedule 9 of the DCO) which provides for up to 207 wind turbine generators (WTGs), each fixed to the seabed by one of two foundation types, namely monopile foundation or jacket structure (in conjunction with suction caissons or steel piles). The Transmission Assets dML (Schedule 10 of the DCO) provides for up to three OSPs fixed to the seabed by one of two foundation types, namely monopile foundation or jacket structure (in conjunction with suction caissons or steel piles).

1.2.3. The dMLs for both the Generator and Transmission Assets contain the following consent condition (Condition 10 of Schedule 9, and Condition 9 of Schedule 10 of the DCO, respectively) relating to the potential impacts on spawning fish species:

*(1) The undertaker must ensure that no percussive piling activity takes place during the cod spawning period from 15 February to 31 March (inclusive) of any year.*

*(2) The undertaker must ensure that no percussive piling activity takes place during the herring spawning period from 15 September to 15 November (inclusive) for any year, within such areas as agreed with the MMO prior to the commencement of construction. The undertaker must provide to the MMO the results of noise modelling prepared to an agreed methodology to inform the selection of such areas.*

**1.3. Consultation on variation to the deemed Transmission Assets Marine Licence**

1.3.1. DONG Energy held a meeting with the MMO on 22<sup>nd</sup> October 2014 to provide a project update with regard to post consent compliance and condition discharge reporting expectations. As part of this discussion, DONG Energy sought to secure agreement that once awarded, the Transmission Assets dML should be varied to reflect the fact that the piling restriction should apply only to the use of monopile foundations for the OSPs and not jacket foundations for the OSPs. Justification was provided via email to the MMO to support this request (the detail of which is set out in Section 2 of this position paper). The MMO confirmed at the meeting with DONG Energy that a formal licence variation would need to be made which included this information, to be supported by information cross referring to the Environmental Statement (ES) with regard to the effects from piled jacket foundations.

1.3.2. This position paper therefore, provides the detailed justification to support the formal licence variation application. Section 2 sets out the rationale for the request and Section 3 gives consideration to statements made within the ES. Section 4 provides the proposed updated wording for the relevant condition in the Transmission Assets dML.

## **2. Amendments to the DCO in the Post-Examination Phase**

- 2.1.1. The draft Transmission Assets dML submitted by DONG Energy on 1<sup>st</sup> May 2014 at the close of the examination process did not contain a condition relating to restricting percussive piling to avoid potential impacts on spawning fish species. DONG Energy and the MMO submitted two Statements of Common Ground (SoCGs) during the Walney Extension Project's examination phase. The first (Appendix 4.1 MMO SoCG), submitted in December 2013 set out the areas of agreement and areas subject to further discussion. The second (MMO Updated SoCG 14 Feb 2014), submitted in February 2014, provided the examining authority with an update on those matters from the first SoCG that were subject to ongoing discussion.
- 2.1.2. At the point when these SoCGs were signed by both parties the Transmission Assets dML did not provide for a monopile foundation option for the OSPs. The first SoCG identified that wording of the Generator Assets dML had been agreed between both parties with regard to the need for inclusion of the spawning restrictions relating to percussive piling activity.
- 2.1.3. The same wording was not included in the Transmission Assets dML, which at that stage was fully agreed by both parties in this respect; there was no debate around, nor mention of, the need for the piling restriction to be extended to the Transmission Assets dML in either the first or the second SoCG or otherwise during the examination period. At the close of examination the Transmission Assets dML only provided for OSPs on jacket foundations.
- 2.1.4. Subsequent to the completion of the examination, DONG Energy undertook further design optimisation works relating to the proposed methods of constructing the Walney Extension Offshore Wind Farm and it was identified that the OSPs could be built out on monopile foundations. DONG Energy and the MMO held post-examination discussions in relation to the need for the OSPs to also have the option to be built out on monopile foundations. As a result of these discussions a further SoCG was issued to the Department of Energy and Climate Change (DECC) to clarify relevant DCO wording (MMO Post Examination SoCG July 2014).
- 2.1.5. The Post Examination SoCG, outlined that the parties agreed that the condition relating to seasonal piling restrictions set out in the Generator Assets dML was also recommended to be carried across into the Transmission Assets dML:

*The following new condition to be added after condition 8.*

*"Seasonal restrictions in respect of fish spawning*

*8A.—(1) The Licence Holder must ensure that no percussive piling activity takes place during the cod spawning period from 15 February to 31 March (inclusive) of any year.*

*(2) The Licence Holder must ensure that no percussive piling activity takes place during the herring spawning period from 15 September to 15 November (inclusive) for any year, within such areas as agreed with the MMO prior to the commencement of construction. The Licence Holder must provide to the MMO the results of noise modelling prepared to an agreed methodology to inform the selection of such areas."*

*This restriction is required in relation to monopiles used in conjunction with WTGs and so has been added here for consistency.*

- 2.1.6. The agreed post-examination SoCG with the MMO stated that *"the MMO agrees with the proposed changes"*. This wording was subsequently adopted by the SoS in the Transmission Assets dML issued with the development consent granted on 7<sup>th</sup> November 2014.
- 2.1.7. Based on the original wording of the draft Transmission Assets dML, it is clear that the seasonal piling restrictions related to fish spawning were never intended to apply to the installation of OSP jacket foundations. They were added only as a result of the inclusion of monopile foundation option and by extension were intended to apply only in the event that monopile foundations were taken forward for the OSPs.
- 2.1.8. DONG Energy therefore is of the opinion that the Transmission Assets dML should be varied to make clear the distinction between the two foundation types. The recommended re-wording of this Condition is set out in Section 4 of this position paper.

### **3. Environmental Statement Conclusions in Relation to OSP Jacket Foundations**

#### **3.1. Introduction**

3.1.1. Following discussions held with the MMO on 22<sup>nd</sup> October 2014, DONG Energy has given consideration to the assessment presented in the ES with regard to the impacts of construction noise on fish and shellfish species, in relation to lethal and traumatic hearing damage, and behavioural impacts associated with the use of jacket foundations. The following text provides further detail on this topic as presented within the ES.

#### **3.2. Maximum adverse scenarios**

3.2.1. Table 11.2 of the Chapter 11, Volume 1 of the ES (Fish and Shellfish Resource, Doc Ref 10.1.11) describes the two maximum adverse scenarios that were considered in the construction noise assessment; one providing for the greatest magnitude (loudest noise levels) and another for the longest piling duration.

3.2.2. The scenario of the greatest magnitude considers the installation of 207 monopiles foundations (9 m diameter) and 3 jacket OSP foundations (4 leg jacket foundations using a total of 12 pin piles of 3.5 m diameter).

3.2.3. The scenario for the longest duration of piling activity considers the installation of 210 jacket foundations (comprising 207 WTG foundations and 3 OSP foundations), equating to a total of 876 pin piles (207 WTG jacket foundations using a single pin pile for each of the four legs plus three OSP jacket foundations using up to four pin piles for each of the four legs). The pin piles for the WTG foundations would be 3 m in diameter with 3.5 m diameter pin piles used for the OSP foundations.

#### **3.3. Assessment of significance in the ES**

##### ***Lethal and traumatic hearing impacts***

3.3.1. Lethal and traumatic hearing effects have been considered within the assessment presented in paragraphs 11.9.2.40 – 11.9.48 of Chapter 11 of the ES, in relation to adult and juvenile fish in general. The assessment concluded that lethal effects, physical injury and traumatic hearing damage are only expected to occur in the immediate vicinity of piling. The maximum ranges out to which traumatic hearing damage was expected to occur in cod and herring using the 130 dBht (Species) criteria for 3 m diameter piles ranged between 210 m (cod) and 350-360 m (herring). Significant impacts were not predicted on either cod or herring.



### ***Behavioural effects***

- 3.3.2. Behavioural effects have been considered within the assessment presented in paragraphs 11.9.2.49 – 11.9.101 of Chapter 11 of the ES, on a species specific basis. The main focus of the assessment of behavioural impacts on fish related to the outputs of noise modelling undertaken at the 90 dBht (Species) level, as it is at this level that strong avoidance by virtually all individuals is expected to occur. Consideration was also given to the 75 dBht (Species) level at which a lesser behavioural response is expected and with the potential for habituation to occur.
- 3.3.3. A comparative indication of the expected 90 dBht and 75 dBht (Species) noise impact ranges and areas of disturbance for the species modelled is given in Section 9.9.2 of Chapter 9: Offshore Noise, and Annex B.3: Noise Technical Report.
- 3.3.4. Significant impacts were predicted to occur from the piling of up to 207 wind turbine foundations and 3 OSP foundations (equating to a total of 876 pin piles) for both cod (moderate adverse) and herring (large adverse).
- 3.3.5. The rationale for the predictions related to the duration of the effect in combination with overlap of the 90 dBht contour with the spawning grounds.

### **3.4. Context for OSP jacket foundations**

- 3.4.1. The ES presents no specific assessment for the OSPs alone, as the assessment considers the overall worst case including all piling for both OSPs and wind turbine foundations. It is considered that if piling of the up to three OSP foundations using jacket foundations was considered in isolation within the Walney Extension ES, then significant behavioural impacts would not have been predicted. This conclusion is based on a consideration of both the duration of effect and, the potential for overlap with sensitive receptors. These factors are considered further in the following sections.

#### *Duration of effect*

- 3.4.2. The worst case duration of piling for pin pile installation that underpinned the assessments made in the ES equated to only one piling operation occurring at any time, with a maximum duration for active piling of 8 hours per pin pile (which is considered highly conservative), and a minimum of 3 pin piles installed from one vessel in a 24 hour period (Table 11.2 of Chapter 11 of the ES).
- 3.4.3. Based on a (highly conservative) worst case assumption of 8 hours to install a single 3.5 m pin pile with only one piling operation occurring at any time, the total piling duration for the up to three OSPs would be in the region of 128 hours (16 piles \* 8

hours each). This compares to the worst case considered in the ES for all piling of up to 7,008 hours (876 piles \* 8 hours) (i.e. the OSP piling equates to only 1.83% of the total proposed piling duration).

- 3.4.4. Bearing in mind the statements made in the ES with regard to sensitivity of the features, and conclusions that were drawn based on the installation of up to 876 piles, by comparison it is considered that a conclusion of such a significant effect for behavioural effects from (up to three) OSP piled foundations would not have been drawn for cod or herring.

*Location of effect*

- 3.4.5. In addition to the points made in relation to the duration of effect, it is also important to consider (particularly for effects on herring spawning) the location of the OSPs when discussing the potential for effects. The herring spawning grounds of concern are located to the north west of the Project. The ES identified that for pin piles installed in the western extent of the Project's Order limits there may be potential for spatial overlap of the 90 dBht contour with the key spawning areas. However, at the eastern extent of the Project, the overlap would not exist. Given that not all of the OSPs will be sited in the western extremity of the project area, the potential for overlap of the 90 dBht contour for all three OSPs with the herring spawning ground should be considered unlikely. This adds further confidence in the assertion that there will be no significant behavioural effects on herring spawning from the OSP foundation installation works.
- 3.4.6. With respect to the effects on cod spawning, it is proposed that DONG Energy will commence pre-piling (and piling) for OSP jacket foundations in spring, with resultant overlap both temporally with a proportion of the cod spawning habitats in the eastern Irish Sea. However, as noted above, although spatial overlap with the cod spawning ground will occur during the spawning season, the duration of the piling of the OSPs will be limited.

#### **4. Proposed Amendment to the Transmission Assets deemed Marine Licence (Schedule 10 of the DCO)**

- 4.1.1. Given the chronology of the SoCGs and the final late amendment to the Transmission Assets dML, it seems clear that the seasonal restriction related to fish spawning were intended to apply only to operations related to the installation of monopile foundations for the OSPs and not to the installation of OSP jacket foundations. The evidence presented in Section 3 in terms of the ES findings and

context for the OSP piling activity support the case that such a restriction for the OSP jacket foundations is not required.

- 4.1.2. DONG Energy therefore proposes that the Transmission Assets dML is amended to make clear the distinction between the two foundation types. DONG Energy suggest the following re-wording of condition 9 of the dML (additions highlighted in **bold**):

*"Seasonal restrictions in respect of fish spawning*

*9 (1) The undertaker must ensure that no percussive piling activity **for the purposes of the installation of monopile foundations** takes place during the cod spawning period from 15 February to 31 March (inclusive) of any year.*

*(2) The undertaker must ensure that no percussive piling activity **for the purposes of the installation of monopile foundations** takes place during the herring spawning period from 15 September to 15 November (inclusive) for any year, within such areas as agreed with the MMO prior to the commencement of construction. The undertaker must provide to the MMO the results of noise modelling prepared to an agreed methodology to inform the selection of such areas **only in so far as it relates to the installation of monopile foundations.**"*

## 5. References

Ellis, J.R., Milligan, S.P., Readdy, L., Taylor, N. and Brown, M.J. (2012). Spawning and nursery grounds of selected fish species in UK waters. Sci. Ser. Tech. Rep., Cefas Lowestoft, 147: 56 pp.