

## **Summary of Perenco's Oral Evidence Concerning Aviation (Helicopter) Impacts at ISH7**

1. Perenco North Sea Limited (PNSL) relies on helicopter access to the Waveney Installation for both routine operational matters and emergency evacuations (excluding search and rescue operations). Helicopters conducting such operations are governed by the regulations covering commercial air transportation ("CAT"). The helicopters currently used by PNSL are the Augusta Westland type AW139.
2. Helicopter visits are required to carry out essential maintenance work to ensure the safety of the asset and efficient operations and production. Whilst an alternative method of accessing the Installation using "walk to work" vessels is available within the business, the response time in the event of unplanned production shutdown is much longer and as a result there would be reductions in annual production. The combination of reduced production revenues, higher operating costs (therefore lower margins) could render the remaining production uneconomic and lead to an early cessation of production. Such an outcome would be contrary to maximising economic reserves (MER), under Petroleum Act 1988.
3. Helicopter visits are required to support decommissioning activities that utilise a non-production installation (NPI). The presence of the windfarm will restrict helicopter operations, extending the duration of decommissioning activities, leading to significant increased costs, which need to be taken in to account when determining the economic life of the Waveney Field. The increased decommissioning costs could lead to an early cessation of production. Again, such an outcome would be contrary to maximising economic reserves (MER), under Petroleum Act 1988
4. To address these impacts, the Applicant has proposed a minimum distance between the Waveney Installation and the Durango Well and any wind turbine (measured to base of turbine) of 1.01nm. PNSL does not agree with the Applicant that this is an acceptable minimum distance for the reasons set out below and instead proposes a minimum distance within PNSL's Draft Protective Provisions of 3.00nm.

### **4.1 Compliance with National Policy Statement EN3**

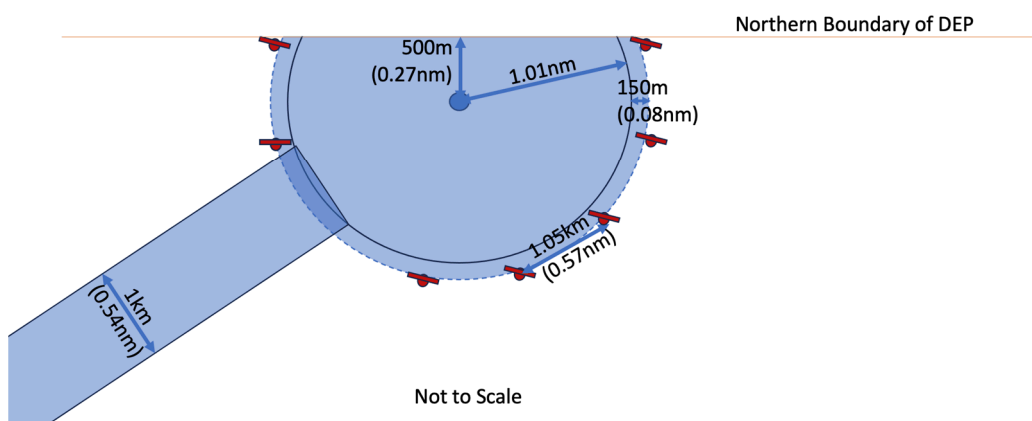
- i. The proposed Development cannot be said to minimise negative impacts on other offshore infrastructure or activity. As has been demonstrated by both the Applicant and PNSL, negative impacts (loss of suitable periods in which flights may take place) increase as wind turbine rotor tips are placed closer to the installation with step changes at 3nm and 1.26nm (or in the Applicant's view 1.01nm). It is PNSL's view that a minimum distance of 3nm is required to minimise the negative impact on the Waveney Installation and the ability to decommission the Durango Well. However, as Mr Sanders stated in ISH7, PNSL would be amenable to a commercial arrangement which provides compensation for economic losses (arising from a level of negative impacts) for a minimum distance of 1.26nm which could meet the requirement to minimise negative impacts.
- ii. As currently proposed, the Development cannot be said to reduce risks to other offshore infrastructure or activity to as low as reasonably practicable as, based on PNSL's analysis, with wind turbine rotor tips at 1.01nm, the Waveney installation would become uneconomic to operate. A modest increase in airspace with wind turbine rotor tips no closer than 1.26nm would allow operations to continue with some economic losses, however this would require a commercial arrangement which has not, to date, been agreed between the Applicant and PNSL. As such, PNSL's position is that a minimum

distance between the Waveney Installation and the Durango Well and any wind turbine (measured to base of turbine) of 3.00nm is required.

- iii. The proposed Development does not avoid or minimise any adverse effect on safety for other offshore industries. Helicopter Operators have a duty to only fly Commercial Air Transport (CAT) operations if it is safe to do so. Consequently, passengers and crew should not be subjected to greater safety risk, instead flights will just not be undertaken. The Applicant's insistence that the space required around a helideck for helicopter operations should be based on the minimum that meets the current legal limits (0.5nm) with no additional safety margin, could lead to a higher chance of an incident. Should such an incident indicate that more space is required, the impact will be an inability to support future operations. The majority of Helicopter Operators' operations manuals do not set flight parameters at the absolute minimum limit for "day in day out" operations.

#### 4.2 Wind Turbine Layout

The Applicant noted that the minimum wind turbine spacing is 1.05km and that there will be a 1km (0.54nm) wide corridor free from surface infrastructure along the route of the pipeline from the Durango Well to the Waveney installation. It was suggested that these intrinsic protections may be sufficient. If one turbine base is placed 150m (0.08nm) from the proposed 1.01nm radius then the next turbine (at 1.05km [0.57nm] spacing) could be placed 30deg further around the 2.02 km or 1.09nm (=1.01nm + 150m [0.08nm]) circle around the installation. With no wind turbines in the 1km (0.54nm) wide pipeline corridor, this would still in theory allow the installation to be encircled by up to 11 wind turbines all with bases 2.02km (1.09nm) away (see sketch below). It is clear therefore that these intrinsic protections are insufficient for PNSL when PNSL's Helicopter Operator requires a minimum of 1.26nm from the nearest wind turbine rotor tip to effect an approach/landing and a minimum of 1.34nm to the nearest wind turbine rotor tip for an one engine inoperable (OEI) take-off (c.f. Summary of Oral Submission at ISH6 – REP3-154).



#### 4.3 OEI Take-off

During ISH7, PNSL was asked to clarify the distance required for OEI take-off. The minimum distance with a full payload and assuming a turn at 500' (rather than the preferred turn at

1000') is (as stated in Summary of Oral Submission at ISH6 – REP), 1.34nm to wind turbine rotor tip. Given that it is understood that the turbines will not form a solid wall but will be spaced at a minimum of 1.05km (0.57nm) from one another, PNSL accepts that a distance less than 3.00nm may be sufficient but not 1.01nm as requested by the Applicant.

#### **4.4 Stabilised Approach**

PNSL agrees with the Applicant that the current regulations require a minimum of 0.5nm stabilised approach. We understand that Bristow Helicopters is the only North Sea helicopter operator to use a stabilised approach of 0.5 nm in their operations manuals. PNSL's current helicopter operator requires a longer stabilised approach for routine operations. As we understand it, this is the same for all other operators operating in the North Sea other than Bristow Helicopters. As PNSL noted at ISH7, the fact that something is legal (e.g. a 70mph speed limit) does not mean that it is safe or prudent to operate that that limit in all circumstances.

#### **4.5 Methodology of two flights within a day to NUI**

At ISH7, the Applicant was asked to comment on whether their methodology considered the requirement for two flights within a day to a NUI, with sufficient time between them to undertake work. Mr Prior, on behalf of the Applicant, responded that their methodology was robust and had not been challenged by PNSL. Whilst PNSL broadly agree with the methodology and results of the Applicant's determination of visual meteorological conditions (VMC), instrument meteorological conditions (IMC) and no fly days, PNSL's submissions at DL1 (REP1-156) and DL6 (REP6-036) challenge the Applicant's methodology with respect to flights to the Waveney installation.

#### **4.6 Timing of flights**

At ISH7, Mr Prior, speaking on behalf of the Applicant, suggested that most flights to an NPI would occur in the middle of the day, so even in winter the loss of night flying would have a smaller impact than calculated. This statement is incorrect. During winter months, flights to a normally unattended installation (NUI) with daylight only rated helidecks must be conducted within the limited daylight hours. Accordingly, flights to NPI are scheduled outside of this window at the beginning and end of the day. In summer months, to maximise the time crews can spend on a NUI it is true that NUI flights are typically made at the beginning and end of the day and NPI flights are typically made in the middle of the day. As a result, the impact of the loss of night flying calculated by both PNSL and the Applicant is an under-estimate rather than an over-estimate.

#### **4.7 New Civil Aviation Authority (CAA) Regulations**

PNSL has no firm information on the timescales or method by which the CAA will implement the new regulations for operations within wind farms. PNSL understands, however, that all North Sea helicopter operators are currently updating their operating manuals to incorporate the proposals so that they will be de-facto requirements. At ISH7, Mr Prior, speaking on behalf of the Applicant, suggested that the CAA is becoming more cautious e.g., when approving exceptions to its rules. As noted at ISH7 by Mr Sanders of PNSL, a corollary of such a more cautious approach would be that the CAA may be reluctant to approve CAT operations within a wind farm array that rely on minimum distances with no contingency.

This would support PNSL's position that more obstacle-free space around the Waveney Installation and Durango Well is required.

## **5. Progression of Applicant's and PNSL's positions**

As summarised by Mr Morris for the Applicant, both PNSL and the Applicant position have changed through the course of the Examination. This reflects a better understanding of each other's positions and needs. The summary provided by Mr Thomas is accurate, namely that PNSL initially requested a 5nm radius clear of obstructions around its helidecks. This was subsequently reduced to 3nm, however PNSL could consider 1.26nm (to wind turbine rotor tips) with compensation through a commercial agreement however PNSL and the Applicant have not been able to agree such compensation at the date of this submission. PNSL has also highlighted that as a NPI helideck may be offset from the Waveney installation helideck by around 100m (0.05nm) in any direction, this distance also needs to be added to the preceding figures when measuring from the existing Waveney installation. The Applicant initially proposed that turbines be placed up to 500m (0.27nm) from the Waveney installation. This was modified to 1nm and subsequently to 1.01nm.

A joint statement concerning the current status of negotiations is included in Perenco's answers to the Examiners Written Questions (WQ4).