Outer Dowsing Offshore Wind

The Applicant's Wake Loss Methodology Clarification Note

Deadline 4a

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1   Background

1. This document has been produced to respond Issue Specific Hearing (ISH) 6 post hearing Action Point 15 "*Applicant to explain how the wake loss assessment methodology differs from that considered for Mona Offshore Wind Farm.*"

2   Response to the hearing question

2. The assessment of the wake loss induced by neighbouring offshore windfarms for both the Applicant's calculations submitted at Deadline 4 in the Applicant's Wake Loss Technical Note (REP4-114) and the assessment submitted into the Mona Offshore Wind Farm examination is based on the eddy viscosity wake model with a correction to account for the effect of large windfarms. This means that the high-level methodology for both assessments is in principle the same. Small discrepancies in model settings and behaviour of the model may exist due to the site-specific dependence (for example, the wind regime) and because the assessment is based on the model information that is available in the public domain, but the resulting difference is expected to be minimal, and the Applicant has considered a conservative approach as set out in the Applicant's Wake Loss Technical Note (REP4-114).

3. The wind conditions are site dependent and differ between the Irish Sea cluster and the Project site, such as the wind speed and direction. The wind conditions inputs to the wake loss assessment undertaken by the Applicant are based on the Applicant's onsite data collection, spatially extrapolated across the region. The methodology is in principle the same as any assessment using industry best practice, but the input data itself is different to consider the site-specific conditions with the data available.

4. The windfarms' characteristics are specific to each windfarm and different between the Project and the Irish Sea cluster used in the Mona examination. Several parameters such as the capacity, size, windfarm layout, orientation, distance between turbines (within a windfarm and between windfarms), number of wind turbine generators, associated turbine types and specifications, are of high influence on the wake effect calculations and are understandably different for the assessment in Mona examination to that included in the Applicant's Wake Loss Technical Note (REP4-114).

5. Therefore, the inputs to the wake loss assessment mentioned above are logically different, but the fundamental methodology is principally the same.