



AQUIND Limited

AQUIND INTERCONNECTOR

Environmental Statement – Volume 3 – Appendix 23.7 Air Quality Ecological Impacts

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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APPENDIX 23.7 AIR QUALITY

ECOLOGICAL IMPACTS

1.1. BACKGROUND

- 1.1.1.1. AQUIND Interconnector is a proposed electricity Interconnector between France and the UK. The Application for the Development Consent Order ('DCO') was made in respect of the UK elements of AQUIND Interconnector (referred to as the 'Proposed Development') on 14 December 2019. The application was supported by an Environmental Impact Assessment ('EIA').
- 1.1.1.2. Potential impacts of the Proposed Development on onshore ecological features were assessed within Environmental Statement ('ES') Chapter 16 (Onshore Ecology) (APP-131). Chapter 16 (Onshore Ecology) assessed impacts of potential changes in air quality resulting from the Proposed Development as outlined in Chapter 23 (Air Quality) of the ES (APP-138). Since the submission of these documents the assessment provided by Chapter 23 (Air Quality) has been revised and expanded, providing newly available detail on air quality changes associated with back-up diesel generators proposed to be located at the Lovedean Converter Station. This update was undertaken at the request of consultees. The back-up generators will provide power to maintain the Converter Station's functions in the event of loss of electricity from the supply grid.
- 1.1.1.3. As detail relating to the back-up generators did not form part of Chapter 23 (Air Quality) at submission, impacts associated with air quality changes in the Operational Stage did not inform the Chapter 16 (Onshore Ecology) assessment. Chapter 16 (Onshore Ecology) concluded the following for the Operational Stage of the Proposed Development with respect to all potential impacts: "No residual effects anticipated. All impacts offset by embedded mitigation."
- 1.1.1.4. With the new detail available and revision of Chapter 23 (Air Quality) to include operational air quality changes as a result of the back-up generators, reconsideration of Operational Stage impacts on ecological features has been undertaken. This Technical Note forms an addendum to Chapter 16 (Onshore Ecology) and details the assessment of potential effects on ecological features of such Operational Stage air quality changes.

1.3. OPERATIONAL STAGE AIR QUALITY MODELLING

1.3.1.1. Additional modelling of air quality changes has been undertaken post-DCO submission to determine the effects of emissions from the proposed back-up generators at Lovedean. This new modelling work has been incorporated into a revised version Chapter 23 (Air Quality) (APP-138 Rev002) that describes potential effects of nitrogen deposition on sensitive habitats.

1.3.1.2. The modelling of emissions from the back-up generators has taken a precautionary approach to establish a worst-case scenario for air quality changes, which is that they would be run 24 hours a day 365 days a year. As the purpose of the generators is to provide back-up power in the event of emergency, such a scenario is not expected to occur. Using this worst-case as a starting point, it has been possible to extrapolate a more realistic scenario to assess the impact if air quality changes on ecological features.

1.4. ASSESSMENT METHODOLOGY AND BASELINE ENVIRONMENT

1.4.1.1. Section 16.4 of Chapter 16 (Onshore Ecology) details the methodology used to assess impacts and determine whether effects of air quality changes are significant. Section 16.5 provides detail on the Baseline Environment, listing ecological features present within Section 10 where the Converter Station and back-up generators would be located.

1.5. PREDICTED IMPACTS AND CUMULATIVE EFFECTS

1.5.1.1. Emissions from the back-up generators at the Converter Station (Section 10) constitute an indirect impact through air pollution, and subsequent deposition of nitrogen compounds, occurring during the Operational Stage of the Proposed Development. The following ecological features within Section 10 are potentially sensitive to the effects of nitrogenous air pollution:

- Crabdens Copse SINC and Crabdens Row SINC (both considered to be of County importance); and
- Ancient Woodland, within the two above SINCs and Stoneacre Copse (considered to be of County importance).

1.5.1.2. Other habitats located within Section 10 are not considered sensitive to effects of air pollution as they are agricultural in nature and receive intentional nutrient enrichment to produce crops or are formerly cultivated and have been subject to nutrient enrichment in the past. In addition, other features subject to assessment in Chapter 16 (Onshore Ecology) namely badgers, bats, hedgehogs, reptiles and breeding birds are not considered sensitive to nitrogenous air pollution.

- 1.5.1.3. The revised version of Chapter 23 (Air Quality) states in Section 23.6.3.24 that: “nutrient N deposition within the ancient woodland sites adjacent to the converter station are at the upper limits of the range for the critical load”. Additionally, in Section 23.6.3.26 that: “background N acid deposition in all of the ancient woodland sites adjacent to the converter station is in excess of the critical loads for this habitat. The modelled deposition resulting from the operation of the backup diesel generator at this location increases acid deposition further in excess of the critical loads.”. Thus, the worst-case scenario would lead to nutrient enrichment of the Ancient Woodlands.
- 1.5.1.4. However, in reference to the significance of the modelling results it continues in Section 23.6.3.27: “Following the IAQM impact assessment criteria and considering the limitation of sporadic running time associated with the backup generators, negligible impacts are predicted for NO₂” and “The generators have an annual test for 1 hour per year and are not expected to be active for more than six separate 24-hour occasions, therefore actual emissions will many times lower”. These conclusions have been made by contrasting the worst-case scenario with a more realistic scenarios of generator use.
- 1.5.1.5. Thus, deposition of nitrogen compounds as a result of back-up generators during the Operational Stage- would be extremely limited, being both temporary, short duration (each generator run measured in hours) and low level. Emissions would therefore not lead to perceptible changes in Ancient Woodlands. The magnitude of air pollution as an impact would therefore be negligible, with negligible effects that are non-significant.
- 1.5.1.6. Woodlands are also considerable sensitive to drought conditions, and with their increased frequency changes in species composition in woodlands may occur, affecting predictions of the future baseline conditions within Ancient Woodlands. However, the potential effects of the back-up generators would be of such a limited nature that they are not expected to interact with future drought conditions to generate cumulative effects on Ancient Woodland. In the same way there would be no cumulative effects of the emissions from the back-up generators within the Proposed Development and those of other planned developments on Ancient Woodland.

1.6. PROPOSED MITIGATION AND ENHANCEMENT

- 1.6.1.1. No mitigation or enhancement is proposed as impact of Operational Stage air quality impacts will be **negligible and the effect not significant**.

1.7. RESIDUAL EFFECTS

- 1.7.1.1. Emissions by the back-up generators would lead to residual effects of Negligible significance on Ancient Woodland. No residual cumulative effects with other proposed schemes are expected.

