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Volume 7E Proposed Development (Onshore) Appendices

Appendix 6-3 Private Water Supply Assessment

Caledonia Offshore Wind Farm Ltd

5th Floor Atria One, 144 Morrison Street, Edinburgh, EH3 8EX

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Acronyms and Abbreviations

EIA	Environmental Impact Assessment
EIAR	EIA Report
ONEC	Onshore Export Cable Corridor
OnTI	Onshore Transmission Infrastructure
PWS	Private Water Supply(ies)
RLB	Red Line Boundary
SEPA	Scottish Environment Protection Agency

1 Introduction

1.1.1.1 This technical appendix supports Volume 5, Chapter 6: Hydrology and Hydrogeology of the Environmental Impact Assessment Report (EIAR).

1.1.1.2 This technical appendix provides a description and initial assessment of Private Water Supplies (PWS) within the Onshore Transmission Infrastructure Red Line Boundary (OnTI RLB) and the assessment study area that have the potential to be impacted by the construction, operation, and decommissioning of the Proposed Development (Onshore). A description of the Proposed Development (Onshore), outlining what components are to be included within the OnTI RLB is presented in Volume 1, Chapter 4: Proposed Development Description (Onshore).

1.1.1.3 Further surveys and assessment will be required at detailed design to supplement the understanding of potential impacts on PWS.

1.2 Regulatory background

1.2.1.1 PWS are regulated under the following:

- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 (Scottish Parliament, 2017[1]) governs the quality of water supplied to PWS and the standards were derived from the provisions of European Council Directive 98/83/EC (European Council, 1998[2]) on the quality of water intended for human consumption (the "Drinking Water Directive"); and
- The Private Water Supplies (Scotland) Regulations 2006 (Scottish Parliament, 2006[3]) are Scotland's main Regulations governing the quality of water supplied by PWS. These regulations supplement the Water (Scotland) Act 1980 (Scottish Parliament, 1980[4]) and transposed the requirements of the European Council Directive 98/83/EC (European Council, 1998[2]) on the quality of water intended for human consumption.

1.2.1.2 A PWS is defined as a small water abstraction of less than 10m^3/day from a source such as a spring, well, borehole, or surface waterbody. SEPA Land Use Guidance Note 31 (SEPA, 2017[5]) sets out the requirements for PWS consideration within planning applications. SEPA typically requires that all groundwater abstractions are identified within 100m of any planned excavations less than 1m in depth, such as for access tracks, or within 250m of excavations more than 1m in depth, such as for foundations and cable trenches. These distances are equivalent to the potential zones of dewatering that could impact on water quantity.

1.2.1.3 PWS are categorised under two types:

- Type A: Supply of >50 people, or more than 10m^3 of water a day, form part of a commercial/public activity or are used in a commercial/public

activity (regulated under The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 (Scottish Parliament, 2017[1])); and

- Type B: Supply of < 50 people in total and serving domestic premises only (regulated under The Private Water Supplies (Scotland) Regulations 2006 (Scottish Parliament, 2006[3])).

2 Methodology

2.1 Desk study

2.1.1.1 PWS information for a 3km buffer from the OnTI RLB was obtained from Aberdeenshire Council through an information request. This contained a database of addresses that are known to be supplied by a private water source. The records are noted to be incomplete, with several details missing, such as the type of water supply and the number of properties served. In addition, the data appears to list the address of a property and not the location of the abstraction.

2.1.1.2 Aerial imagery and desk-based information sources such as topography, groundwater and watercourse locations were used to give context to the PWS records.

2.1.1.3 No landowner surveys or site visits were undertaken of potential PWS at this stage.

2.2 Study area

2.2.1.1 SEPA Land Use Planning Guidance Note 31 (SEPA, 2017[5]) states that consideration should be given to any PWS that lies within 100m of areas likely to be excavated to less than 1m in depth, or within 250m of excavations deeper than 1m.

2.2.1.2 For the purposes of the analysis, it is assumed that construction within the Onshore Export Cable Corridor (ONEC) would require excavating to greater than 1m depth and that the foundations for the Onshore Substation Site would require excavation to 0.75m depth. Therefore, a buffer zone of 250m was generated around PWS records supplied by Aberdeenshire Council, using Esri GISPro geoprocessing tools. An overview map showing PWS and their 250m buffer is presented on Figure 6-6 in the confidential annex to this document, Volume 7E, Appendix 6-2, Annex 1: Private Water Supply Figures (Confidential).

2.2.1.3 PWS within 250m of the OnTI RLB are presented in Table 2-1.

2.3 Assumptions and limitations

2.3.1.1 The details received from Aberdeenshire Council about the PWS indicate the address of the PWS recipient, instead of the PWS origin address. Moreover, there was insufficient information given about the type, user, and purpose of each PWS.

2.3.1.2 Therefore, the following assumptions have been made:

- The PWS have been assumed to supply local residents and are Type B supplies (serving only domestic premises with less than 50 persons in total supplied (Scottish Parliament, 2006[3])); and
- The source of the PWS has been assumed to be within the same land parcel as the provided recorded grid reference.

2.3.1.3 These assumptions have been used to inform their assessment of value (as detailed within Volume 7E, Appendix 6-1: Assessment of Value) using the value of water environment attribute table (see Volume 5, Chapter 6: Hydrology and Hydrogeology, Table 6-9).

2.3.1.4 The currently identified PWS that are assumed to be within 250m of the OnTI RLB are presented in Table 2-1.

Table 2-1: Private Water Supplies within 250m of the OnTI RLB

Aberdeenshire Council Unique Supply Identifier Code	Source	Approximate distance from OnTI RLB (m)
151104599	Spring	70
151104603	Spring	70
151109242	Unknown	160
151121700	Unknown	210
151109569	Unknown	250
151122168	Unknown	140
0	Unknown	150
151104600	Unknown	130
151114593	Unknown	110
151127398	Unknown	110
151127399	Unknown	50
151115171	Unknown	50
151104797	Unknown	90

Aberdeenshire Council Unique Supply Identifier Code	Source	Approximate distance from OnTI RLB (m)
151116061	Unknown	70
151109254	Unknown	180
151109274	Unknown	200
151116068	Unknown	70
151127355	Unknown	160
151114100	Unknown	190
151104586	Groundwater	60
151122161	Unknown	140
151132244	Unknown	50
151114596	Unknown	110
151116094	Unknown	80
151115257	Groundwater	120
151126955	Unknown	180
151116082	Unknown	20
151115178	Unknown	220
151114592	Unknown	50
151116075	Unknown	20
151122441	Unknown	230
151122434	Unknown	80

Aberdeenshire Council Unique Supply Identifier Code	Source	Approximate distance from OnTI RLB (m)
151116067	Ground Bore	70
151116063	Unknown	Recorded grid reference is within the OnTI RLB.
151132223	Unknown	130
151116066	Unknown	50
151115177	Unknown	240
151122433	Unknown	110
151122247	Unknown	230
151109356	Unknown	130
151121697	Unknown	190
151116095	Unknown	80
151126951	Unknown	200
151121665	Unknown	170

3 Potential impacts

3.1.1.1 The review of PWS records revealed that 44 PWS are currently assumed to be within 250m of the OnTI RLB and of these, only one was within the OnTI RLB. Given the number of PWS within the area and the proximity of them to the OnTI RLB, it is assumed that there is potential for the Proposed Development (Onshore) to impact on the PWS as excavations are deeper than 1m for the ONEC. As noted above, the PWS locations provided by Aberdeenshire Council are of the address served and not of the abstraction itself.

3.1.1.2 There is therefore the potential for adverse effects on the PWS located within the OnTI RLB, and as little information is known about the PWS they are assumed to be of High value.

3.2 Detailed design

3.2.1.1 At detailed design, landowner surveys will be required to gain further understanding of the location of the source and type of source used for the PWS that have been identified in Table 2-1. Further assessment will then be required to establish if there is a pathway for impact on the quantity or quality of supply or any direct impacts upon PWS sources or infrastructure, such as holding tanks or pipelines that could be impacted or damaged by construction of the project.

3.2.1.2 Further information on ONEC routing and Onshore Substation siting location and excavation depths following refinement of the design will also be used to assess potential impacts to PWS at detailed design.

4 Mitigation and monitoring

4.1.1.1 Required mitigation will be developed at detailed design, based on the outcomes of the assessment of impact. Where a licensed or unlicensed supply, has the potential to be impacted, a protection plan shall be developed for that source and any associated infrastructure.

4.1.1.2 For temporary impacts during construction mitigation may include a pollution response plan for PWS incidents and, in the event of a loss of a PWS, the creation of a suitable alternative source of water for the duration of construction works (such as via tanker or providing an upgrade to the supply) where agreed with the relevant landowner(s) and PWS user(s). A PWS monitoring programme may also be undertaken for those where source(s) or infrastructure is within 250m of excavations deeper than 1m or where within 100m of excavations less than 1m.

4.1.1.3 For permanent impacts, if protection and repairs are not possible, a new network connection, alternative water supply or replacement source (designed to current guidance) shall be provided where agreed with the relevant landowner(s) and PWS user(s).

5 References

[1] Scottish Parliament (2017) 'The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017'. Published by the Scottish Parliament. Available at: https://www.legislation.gov.uk/ssi/2017/282/contents/made (Accessed 11/09/2024).

[2] European Council (1998) 'Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption'. Published by the European Union. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31998L0083 (Accessed 11/09/2024).

[3] Scottish Parliament (2006) 'The Private Water Supplies (Scotland) Regulations 2006'. Published by the Scottish Parliament. Available at: https://www.legislation.gov.uk/ssi/2006/209/contents (Accessed 11/09/2024).

[4] Scottish Parliament (1980) 'Water (Scotland) Act 1980'. Published by the Scottish Parliament. Available at: https://www.legislation.gov.uk/ukpga/1980/45/contents (Accessed 11/09/2024).

[5] SEPA (2017) 'Land Use planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependant Terrestrial Ecosystems'. Version 3. Published by SEPA. Available at: https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf (Accessed 11/09/2024).

Caledonia Offshore Wind Farm
5th Floor, Atria One
144 Morrison Street
Edinburgh
EH3 8EX

www.caledoniaoffshorewind.com

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