TA10.5: Private Water Supply Risk Assessment

STRATHY SOUTH WIND FARM

Technical Appendix 10.5: Private Water Supply Risk Assessment

Prepared for: SSE Generation Ltd

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1.0 Introduction and Methodology

1.1 Scope of Assessment

This Technical Appendix contains information relating to private water supplies (PWS) and the potential impacts on these during construction, operation and decommissioning of the Proposed Varied Development.

The potential effects of the Proposed Varied Development on the quality and quantity of water at the PWS sources are presented. The conceptual model, which uses a source-pathway-receptor linkage, is used to assess the risk to each PWS and, where necessary, mitigation is proposed.

Following consultation with THC (in 2019), data was received for five PWS sources within 10 km from the centre of the site. In addition, properties, and potential water users, were identified with information from Ordnance Survey mapping and aerial photography, as well as previous assessments undertaken at the site including the 2007 Environment Statement (ES) and 2013 ES Addendum.

A total of four PWS sources were identified within 1 km of the site (the study area) and/or potentially downgradient of the surface water and groundwater catchments that drain from the site (see Figure 10.5.1) and are presented in Table 2-1 of this report. Other PWS sources are not in hydraulic continuity with the site or are sufficiently remote not to be considered at risk from the Proposed Varied Development.

This Technical Appendix should be read in conjunction with Chapter 10: Soil and Water (EIAR Volume 2: Main Report) as the Chapter contains a detailed description of the local hydrology and hydrogeology, flow mechanisms and hydraulic properties of the soils and geology at site, the embedded mitigation incorporated in the site design, and an assessment of impacts on groundwater and surface water flows and quality.

2.0 Private Water Supply Details and Risk Assessment

Table 2-1 presents information collected for the 2007 ES and 2013 ES Addendum, and the more recent PWS information obtained from the THC (provided in 2019) and desk study (conducted in 2020).

Table 2-1: Private Water Supply Details and Risk Assessment

PWS ID (Figure 10.5.1)	Property Name	Data Source(s)	PWS Source Type	Location of PWS Source (NGR) and Distance from Nearest Element of Proposed Development	Discussion	Potential Complete Source – Pathway – Receptor Linkage?
PWS01	Dallangwell Farmhouse	THC 2007 ES 2013 ES Addendum Discussion with Applicant	Watercourse	Watercourse: NGR NC 82581 59880 250 m north of the existing access track for Strathy North Wind Farm. Borehole: NC 82511 59904 230 m northeast of the existing access track for Strathy North Wind Farm, at its closest extent.	The 2007 Environment Statement (ES) and 2013 ES Addendum reports that the PWS abstracts water from the River Strathy and serves two properties. Water is taken from gravels which bound the watercourse via a network of porous pipes located adjacent to the property. Water is pumped from the collection pipework (shown as a borehole on Figure 10.5.1) via a small pumphouse located on the riverbank. The Applicant purchased Dallangwell Farmhouse when Strathy North Wind Farm was constructed and has confirmed that the farmhouse is now unoccupied and will be for the lifetime of the Proposed Varied Development. The PWS source is no longer used and therefore there is no receptor.	NO
PWS02	Bowside Lodge and Cottage	THC 2007 ES 2013 ES Addendum	Watercourse	NGR NC 83194 60925 140 m east of the existing access track for Strathy North Wind Farm	The PWS supply serves three properties used as holiday lets. The properties are supplied from Bowside Burn, a tributary of the River Strathy. No development associated with the Proposed Varied Development is proposed in Bowside Burn catchment from which the water abstraction is made. The water source is therefore not at risk from the Proposed Varied Development and no mitigation or monitoring is required to safeguard the water source.	NO
PWS03	Braestrathy	2007 ES 2013 ES Addendum	Loch	NGR NC 82653 56263 600 m east of the alternative access route from Strathy North Wind Farm	The property is supplied from a small unnamed lochan to the south of the property. The lochan is located on the opposite site of the River Strathy valley from the site and therefore does not lie within the surface water catchment which drains the Proposed Varied Development. The water source is therefore not at risk from the Proposed Varied Development and no mitigation or monitoring is required to safeguard the water source.	NO
PWS04	Lochstrathy Bothy	2007 ES 2013 ES Addendum	Watercourse	NGR NC 79352 48875 340 m south of turbine 33 The PWS source location is unconfirmed and is assumed to be from the River Strathy at the closest location from the bothy.	The bothy does not have a formal water supply. It is likely that users of the bothy will use water taken from the River Strathy close to the bothy. The bothy and River Strathy, at its closest extent, lie to the south of the Proposed Varied Development and upstream of the site. The water source is therefore not at risk from the Proposed Varied	NO

					Development and no mitigation or monitoring is required to safeguard the water source.	

sse Renewables

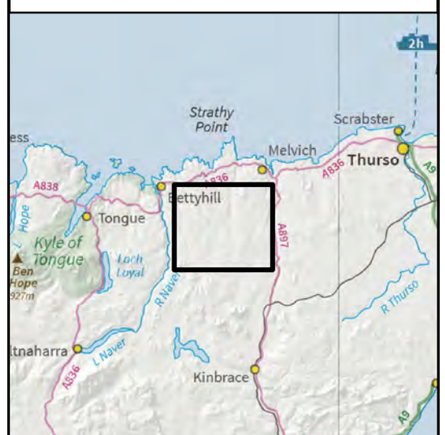
- Site Boundary
- Turbines
- LiDAR A
- LiDAR B
- Preferred Access Route
- Alternative Access Route
- Common Access Route
- Existing Yellow Bog Track, Surfacing to be Upgraded and Minor Localised Widening
- Strathy North Access Route
- LiDAR Track

Access Track

- Cut
- Floating
- Upgrade
- Borrow Pit
- Laydown
- Temporary Laydown Area
- Construction Compound
- Substation
- Batching Plant
- Hardstanding
- Watercourse (OS Vectomap Local)

Private Water Supply - Source

- Borehole
- Loch - Unconfirmed
- Property
- Stream
- Stream - Unconfirmed



Scale 1:50,000 @ A3

0 1 2 Km

N

Figure 10.5.1
Site Infrastructure and Private Water Supplies

Strathy South Wind Farm
EIAR 2020

[1] Estimated from Online SEPA Flood Mapping. Contains public sector information licensed under the Open Government Licence v3.0

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