

# SHEIRDRIM RENEWABLE ENERGY DEVELOPMENT

**Technical Appendix 10.3: Private Water Supply Risk Assessment**  
Prepared for: ScottishPower Renewables

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## CONTENTS

<b>1.0 INTRODUCTION AND METHODOLOGY</b> .....	<b>1</b>
1.1 Scope of Assessment.....	1
<b>2.0 PRIVATE WATER SUPPLY DETAILS</b> .....	<b>2</b>

## DOCUMENT REFERENCES

### TABLES

Table 2-1: Private Water Supply Details.....	2
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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 and operation of the proposed Development.

This Technical Appendix presents a site specific hydrogeological and hydrological report that contains a review of the risk to private water supply sources. It considers the potential effects of the proposed Development on the quality and quantity of water at the PWS sources within and out-with of the Site boundary. The conceptual model, which uses a source-pathway-receptor linkage, is used to assess the risk to each PWS. Where necessary mitigation is proposed.

Following consultation with Argyll and Bute Council (A&BC) data was received for 14 PWS sources within 10 km from the centre of the main turbine area. This data was then augmented with information from Ordnance Survey mapping and aerial photography. Additional properties, and potential water users, were also identified following an extensive programme of site specific field investigation that involved visiting properties, enquiring about their water use and source, and mapping water abstraction locations.

A total of 14 PWS sources were identified within 1 km of the application boundary and/or potentially downgradient of the surface water and groundwater catchments that drain from the Site (see **Figure 10.1**). These data then informed a PWS survey conducted on 03 – 04 July and 05 September 2019 where SLR hydrologists visited the properties to confirm data provided by A&BC and the desk study. When residents were unavailable on the days that the surveys were conducted questionnaires were left at properties requesting details of their water source or PWS. The results of the PWS survey, returned questionnaires and A&BC data is presented in **Table 2-1** of this report.

This Technical Appendix should be read in conjunction with **Chapter 10 Hydrology, Hydrogeology, Geology and Soils** of the Environmental Impact Assessment Report (EIAR) 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

**Table 2-1** presents all the information collected from the PWS survey, returned questionnaires, A&BC PWS data and desk study. Where a source remains unconfirmed, typically because the questionnaire left at the property has not been returned by a resident, this is presented on **Figure 10.1** as “Property (source unconfirmed)”.

If a PWS is assessed to have a hydraulic connection (e.g. there is a pathway) to the proposed Development this is assessed further in **Section 3**.

**Table 2-1: Private Water Supply Details**

PWS ID (Figure 10.1)	Property Name	Data Source(s)	PWS Source Type	Location of PWS Source (NGR) and Distance from Nearest Element of Proposed Development	Notes	Potential Complete Source – Pathway – Receptor Linkage?
PWS01	Achaglass	Site visit	Watercourse	NR 78888 55688 The property is located 400 m south of SA2	The PWS source for Achaglass is a surface water collection tank which is fed by a drain that runs through the forestry area to the south of the property. The sample is filtered prior to use. Land owner commented that they are considering a connection to a spring fed well which is located approximately 100 m west of the property (shown on historical maps at either NR 78014 55973 or NR 78080 56109). Both the surface water tank and wells are located within surface water catchment of the Clachan Burn. However, no development is proposed in the water catchments to the collection tank / drain or potential spring water source. The PWS is not at risk from the proposed Development.	NO
PWS02	Achaglass Boathouse	Questionnaire	Loch	NR 78282 54468 The boathouse is located 1.9 km south of SA2	Water is abstracted directly from Loch Ciaran immediately west of the boathouse. The water is pumped directly to the boathouse. Loch Ciaran is located within the sub-catchment of the Allt Mor which is outside of the proposed Development. The PWS is not hydraulically connected to the proposed Development and is not considered further.	NO
PWS03	Balinakill Farm	Questionnaire	Unknown	NR 77221 56155 The property is located 1.5 km west of SA2	Following consultation with owners, the property has been confirmed to be on mains supply. The PWS is not, therefore, at risk from the proposed Development.	NO
PWS04	Balinakill Cottage	Questionnaire	Mains	NR 77117 56190 The property is located 1.6 km west of SA2	Following consultation with owners, the property has been confirmed to be on mains supply. The PWS is not, therefore, at risk from the proposed Development.	NO
PWS05	Allt Mor Hatchery/Allt Mor House	Questionnaire	Watercourse	NR 76757 55770 The abstraction is located 2 km south west of SA2	Water is abstracted from Allt Mor by J S Salmon Ltd for three purposes; a small hydro-electric scheme (hydro-electric generator), salmon hatchery and for Allt Mor House (drinking/washing). Both the house and hatchery have a 2 mm screen and 60 um filter system. The abstraction occurs within the sub-catchment of the Allt Mor which is outside of the proposed Development. The PWS is not hydraulically connected to the proposed Development and is not considered further.	NO

PWS ID (Figure 10.1)	Property Name	Data Source(s)	PWS Source Type	Location of PWS Source (NGR) and Distance from Nearest Element of Proposed Development	Notes	Potential Complete Source – Pathway – Receptor Linkage?
PWS06	Kirkland Cottage	Questionnaire	Spring (unconfirmed)	NR 76369 56126 The property is located 2.4 km west of SA2	Detail of the PWS at Kirkland Cottage was provided by A&BC as a potential PWS which is sourced by a groundwater fed spring. A questionnaire has been left with the residents but no response has been made.  The nearest well, as shown on historical maps, is located approximately 100 m south of the property at NGR NR 76325 56026. Although the PWS is located downstream of the proposed Development within the Clachan Burn surface water catchment, the distance of over 2 km from the nearest part of the proposed Development means that any impacts caused by the development would be negligible and no further investigation is proposed.	NO
PWS07	Dunskeig Farm	Questionnaire	Unknown	NR 76001 56296 The property is located 2.7 km west of SA2	Details of the PWS at Dunskeig Farm were provided by A&BC as a potential PWS with an unknown source. Following consultation with the owners, it is understood that water is abstracted for domestic use, livestock and washing/laundry from spring fed streams located on the hill north of the property and streams within the farm. The sources of water used are therefore not in hydraulic continuity with the proposed Development. The PWS is not considered further.	NO
PWS08	Glebe Cottage	Questionnaire	Mains	NR 79275 59096 The property is located at the site entrance off the A83	Following consultation with owners, the property has been confirmed to be on mains water supply. The proposed Development will have no impact on the water supply so impact to the PWS is not considered further.	NO
PWS09	Strathnafanaig	Questionnaire	Mains	NR 77529 56431 The property is located 1 km west of SA2	Following consultation with owners, the property has been confirmed to be on mains supply. The proposed Development will have no impact on the water supply so impact to the PWS is not considered further.	NO
PWS10	Achavraid	Questionnaire	Mains and Well	NR 78434 57800 The well is located 1.2 km west of SA1	Following consultation with owners, the property has been confirmed to be on mains supply however a PWS is present adjacent to the property. The PWS is sourced by a spring fed well which is not currently in use.  The water has been tested by the council and has been approved for drinking purposes. The Allt a'Chreagain and an unnamed watercourse are located approximately 250 m east and 400 m south east of the property respectively (1:25,000 OS mapping), in between the PWS and the proposed solar area SA1. The watercourses effectively mean that there is no hydraulic connection between the proposed Development and spring. The PWS is therefore not considered at risk.	NO
PWS11	Scotmill	Site visit	Well	NR 79388 56323 The property is located within south eastern corner of SA2	The property is derelict. The PWS source was a spring fed well located immediately south east of the property (as shown on historical mapping). Following consultation with land owners, it has been confirmed that the well has been destroyed, and no PWS exists at the property.	NO
PWS12	Leamnamuic	Questionnaire	Well (unconfirmed)	NR 79037 59554 The property is located 500 m north of the site entrance	A questionnaire was left at the property however no response has been returned. A spring fed well is shown approximately 200 m west of the property, to the north of A83 public road (1:25,000 scale OS mapping). The well is located just outside the surface water catchment of the Alltan Fhearachair which only drains a small extent of the proposed Development site. Given the distance of the property and the likely PWS source from the proposed Development no impacts are anticipated. It is noted that there is mains water near to the A83 (see PWS08). The PWS is not considered at risk.	NO

PWS ID (Figure 10.1)	Property Name	Data Source(s)	PWS Source Type	Location of PWS Source (NGR) and Distance from Nearest Element of Proposed Development	Notes	Potential Complete Source – Pathway – Receptor Linkage?
PWS13	Mullach Dubh	Questionnaire	Well	NR 78394 55590 The property is located 700 m south west of SA2	Following consultation with owners (Robin Dixon and Sons Ltd), it is understood it is proposed to connect the properties by two spring fed wells which are located approximately 500 m north of the properties (NGR NR 78014 55973 and NR 78080 56109). Both wells are located within surface water catchment of the Clachan Burn, however, they are located up gradient of the nearest development (solar area SA2), so are therefore not considered to be hydraulically connected.	NO
PWS14				NR 78184 55449 The property is located 830 m south west of SA2		

## EUROPEAN OFFICES

### United Kingdom

#### AYLESBURY

T: +44 (0)1844 337380

#### BELFAST

T: +44 (0)28 9073 2493

#### BRADFORD-ON-AVON

T: +44 (0)1225 309400

#### BRISTOL

T: +44 (0)117 906 4280

#### CAMBRIDGE

T: + 44 (0)1223 813805

#### CARDIFF

T: +44 (0)29 2049 1010

#### CHELMSFORD

T: +44 (0)1245 392170

#### EDINBURGH

T: +44 (0)131 335 6830

#### EXETER

T: + 44 (0)1392 490152

#### GLASGOW

T: +44 (0)141 353 5037

#### GUILDFORD

T: +44 (0)1483 889800

#### LEEDS

T: +44 (0)113 258 0650

#### LONDON

T: +44 (0)203 805 6418

#### MAIDSTONE

T: +44 (0)1622 609242

#### MANCHESTER

T: +44 (0)161 872 7564

#### NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

#### NOTTINGHAM

T: +44 (0)115 964 7280

#### SHEFFIELD

T: +44 (0)114 245 5153

#### SHREWSBURY

T: +44 (0)1743 23 9250

#### STIRLING

T: +44 (0)1786 239900

#### WORCESTER

T: +44 (0)1905 751310

### Ireland

#### DUBLIN

T: + 353 (0)1 296 4667

### France

#### GRENOBLE

T: +33 (0)6 23 37 14 14