Environmental Impact Assessment (EIA) Report

LT384 Tealing to Westfield Overhead Line (OHL) 400 kV Upgrade

November 2024

VOLUME 4: Appendix 13.4 – PWS Assessment

1. INTRODUCTION

1.1 Introduction

1.1.1 This Appendix is to support Chapter 13: 'Hydrology, Hydrogeology and Geology' (Volume 2).

1.2 Data sources

1.2.1 Private Water Supply (PWS) was received from the Perth & Kinross Council (PKC) on 17th January 2024, Fife Council on 7th February 2024 and Angus Council on 23rd February 2024.

1.2.2 A site walkover was conducted on the 29th May 2024. During the site walkover, Balgonie Farm Spring Supply and Ferryfield House Supply were visited.

1.2.3 Here is a summary of findings:

- Ferryfield House Supply: is not located in the location supplied by Perth and Kinross Council. The location was visited but no evidence of a PWS was found. The house nearby was also visited but no one was in to give any more evidence on the location. For the purposes of this assessment, it is assumed that the PWS is located somewhere in the area. Therefore, the coordinates from the council will still be used.
- Balgonie Farm Spring Supply: was found to be located slightly further east around NO 20761 16539. The PWS was in a ditch along a track up to the pylon.

2. METHODOLOGY

2.1 Private Water Supply Risk Identification

2.1.1 A three-step process was conducted for assessing the likely risk to a PWS.

Step 1: Screen out any data points which are not required to be assessed as there is no known risk (i.e. no impact pathway or well out of study area).

Step 2: Assess a general risk rating based on distance from the Proposed Development (see Table A13.4- 1). Before assessing the source-pathway-receptor impact in Step 3, an initial risk assessment has been applied. Where a PWS is located within 50 m of a component of the Development or where construction works may occur it was considered to be in a high-risk zone. Between 50 to 250 m is considered to be a moderate risk, and excess of 250 m is considered to be low risk.

Table A13.4- 1 Risk Factors

Distance (m)	Risk Factor	Justification
50	High	Travel time between source and receptor would be quick and likely to be less barriers to block contamination.
50-250	Moderate	There will be a bit more time for source to travel to receptor. There would also be a higher likelihood for there to be more barriers to block contamination.
More than 250	Low	The larger distance between the source and receptor will allow for longer travel time and a large dispersion effect. There will also be less direct flow paths and less barriers to block contamination.

Step 3: Establish any pathways present between sources and PWS and assess whether the PWS should be considered for further assessment (see Table 13.2 within Chapter 13 Hydrology, Hydrogeology and Geology (Volume 2)).

2.2 Limitations and assumptions

2.2.1 The data collected from the PKC and Fife Council do not clarify whether the coordinates correlate to the property served by the PWS or the actual PWS location. For the purposes of this assessment, it has been assumed that the coordinates received from the councils correspond to the location of the PWS i.e. no ground truthing has been undertaken at this stage. Property owners for Ferryfield House Supply and Muircroft have been reached out to gain details of PWS coordinates, usage and source. At the time of writing not details have been available.

2.2.2 PWS data was received from the PKC on 17th January 2024, Fife Council on 7th February 2024 and Angus Council on 23rd February and so only represent the PWS that were recorded at that time. Local planning policies for the Fife Council area are detailed in the FIFEplan[1]. Additional advice is provided in Supplementary Guidance: Site Appraisal Information – Natural heritage and biodiversity[2]. The FIFEplan has a single all-encompassing policy relevant to nature conservation – Policy 13: Natural Environment and Access.

[1] Fife Council (2017). FIFEplan. (online) Available at: https://fife-consult.objective.co.uk/kse/event/30240/section/4395822 [Accessed: July 2024]
[2] Fife Council. Making Fifes Places Supplementary Guidance. (online) Available at: https://www.fife.gov.uk/__data/assets/pdf_file/0021/162318/Making-Fifes-Places-Supplementary-Guidance-Appendices-A-F.pdf [Accessed: July 2024]

3. SUMMARY OF FINDINGS

3.1 Step 1 Results

3.1.1 There were a total of 31 PWS identified from the councils that were within the 1000 m study area. However, only seven of these PWS were found situated within 250 m of the Proposed Development. Table A13.4- 2 shows all PWS data considered for the assessment.

3.2 Step 2 Results

3.2.1 Of the seven within the study area (Table A13.4- 3), only one PWS was found to be within 50 m of the Proposed Development.

3.3 Step 3 Results

3.3.1 The main risks to PWS during construction include:

- Spillages of fuel, hydraulic fluids, solvents, grouts, paints and detergents and other potentially polluting substances will be stored and/or used on site;
- Sediment laden runoff from construction activity; and
- Foundation improvements could cause disturbance to shallow groundwater.

3.3.2 Table A13.4- 3 shows the risk categories and potential pathways that are present for each PWS. Overall, the majority of PWS are situated upgradient from any proposed works or are situated over 250 m away from the Proposed Development and are therefore unlikely to be at risk.

3.3.3 As outlined in the Limitation and Assumptions (Section 2.2), the data collected from the councils does not clarify whether the coordinates correlate to the property served by the PWS or the actual PWS source location. Therefore, a PWS survey of each location would be required to determine the exact location of the PWS and the precise use of the PWS. This would need to be conducted during the Detailed Design phase.

3.3.4 All PWS scoped into the assessment should be considered for baseline, construction monitoring in surface and groundwater monitoring plan.

Table A13.4- 2 PWS Data

ID	Property	Number of Properties Served	Type of Source	Distance to works (m)	Closest works
PWS-TW-1	Ferryfield House Supply	2.5	Unknown	5.43	Bellmouth and Water Crossing, Vegetation Clearance, Access Tracks
PWS-TW-2	Muircroft	5	Spring	51.35	Bellmouth and Water Crossing Vegetation Clearance
PWS-TW-3	Jamesfield Borehole Supply	62	Groundwater Borehole	118.99	Bellmouth and Water Crossing, Vegetation Clearance
PWS-TW-4	Abernethy SSE Supply	0	Unknown	123.49	Bellmouth and Water Crossing, Vegetation Clearance
PWS-TW-5	Wester Greenside Supply	10	Groundwater Spring	126.05	Tower Foundation, Vegetation Clearance
PWS-TW-6	Balgonie Farm Spring Supply	16	Spring	167.79	Access Tracks
PWS-TW-7	Wester Clunie Supply	16	Groundwater Spring	187.98	Tower Foundation Vegetation Clearance
PWS-TW-8	Pitcurran Supply	2.5	Unknown	302.15	Tower Works Area
PWS-TW-9	QV Foods Borehole Supply	0	Groundwater Borehole	327.03	Upgrade to Existing Road/Track
PWS-TW-10	Carpow Supply	9.5	Groundwater Spring	365.12	Tower Works Area
PWS-TW-11	Pitmedden Farm	4	Spring	377.92	Tower Works Area
PWS-TW-12	Raemore Farm	1	Spring	386.43	Upgrade to Existing Road/Track
PWS-TW-13	Jamesfield Farm Supply	12.5	Groundwater Spring	403.88	Trackway Pannels
PWS-TW-14	Balluderon	2	Spring	466.19	Tower Works Area
PWS-TW-15	Old Carpow Supply	12	Groundwater Spring	469.32	Trackway Pannels
PWS-TW-16	Wester Lumbennie	3	Spring	536.66	Bespoke Track
PWS-TW-17	Balkemback	4	Spring	561.04	Tower Works Area
PWS-TW-18	Nethermains Borehole Supply	420	Groundwater Borehole	616.19	Upgrade to Existing Road/Track
PWS-TW-19	Craigard	1	Spring	632.27	Tower Works Area

ID	Property	Number of Properties Served	Type of Source	Distance to works (m)	Closest works
PWS-TW-20	Flatfield Well Supply	2.5	Unknown	682.88	Bellmouth Upgrade
PWS-TW-21	The Howe	1	Watercourse	832.84	Tower Works Area
PWS-TW-22	Pitcairlie Toll	2	Well	855.11	Tower Works Area
PWS-TW-23	North Binn	Unknown	Spring - not in use	894.37	Trackway Pannels
PWS-TW-24	Gattaway Farm Supply	23	Groundwater Spring	921.10	Upgrade to Existing Road/Track
PWS-TW-25	Easter Lumbennie	1	Borehole	931.02	Bespoke Track
PWS-TW-26	Bloomfield	1	Borehole	939.19	Upgrade to Existing Road/Track
PWS-TW-27	Rossie Priory Supply	9	Groundwater Borehole	947.29	Bellmouth Upgrade
PWS-TW-28	Wester Pitmenzies	1	Borehole	967.56	Upgrade to Existing Road/Track
PWS-TW-29	Longacre	1	Borehole	977.56	Tower Works Area
PWS-TW-30	Ninewells	1	Borehole	982.35	Bespoke Track
PWS-TW-31	The Clink	3	Spring	996.37	Tower Works Area

Table A13.4- 3 PWS Assessment

ID	Property	NGR	Step 1: Distance		Step 2: Source-Pathway-Receptor		Step 3: Risk	
			Distance to works (m)	Closest works	Source	Pathway	At Risk?	Requires Further Assessment?
PWS-TW-1	Ferryfield House Supply	NO 19500 18000	6	Bellmouth and Water Crossing Vegetation Clearance And access tracks	Potential sediment laden run-off from vegetation clearance for river crossing or from access tracks for vehicles.	No confirmation of source. May use the watercourse as its source. Could be within the proximity of access tracks and vegetation clearance.	Possibly	Yes - confirmation on the source and the location
PWS-TW-2	Muircroft	NO 31667 34756	51	Bellmouth and Water Crossing Vegetation Clearance	Potential sediment laden run-off from vegetation clearance for river crossing.	Downgradient of vegetation.	Possibly	Yes - confirmation on the source and the location
PWS-TW-3	Jamesfield Borehole Supply	NO 20159 17314	119	Bellmouth and Water Crossing Vegetation Clearance	Potential sediment laden run-off from vegetation clearance for river crossing.	Upgradient of works.	Unlikely	No
PWS-TW-4	Abernethy SSE Supply	NO 20191 17314	124	Bellmouth and Water Crossing Vegetation Clearance	Potential sediment laden run-off from vegetation clearance for river crossing.	Upgradient of works.	Unlikely	No
PWS-TW-5	Wester Greenside Supply	NO 20191 17314	126	Tower Foundation Vegetation Clearance	TW78 and TW79. Potentially contaminated runoff.	Groundwater spring, situated upgradient from works.	Unlikely	No
PWS-TW-6	Balgonie Farm Spring Supply	NO 20760 16536	5	Access tracks	Sediment and pollutants from the use of the access track.	Contaminated runoff.	Possibly	No
PWS-TW-7	Wester Clunie Supply	NO 20700 16400	188	Tower Foundation Vegetation Clearance	Situated near TW77. Could have the potential for contaminated runoff.	Groundwater spring, situated upgradient from works.	Unlikely	No