DPEA reference : WIN-370-2 Arecleoch Windfarm Extension

Outline Statement of Case in Respect of the Assessment of Private Water Supplies

by Dr Rachel Connor

Inquiry Item 4. (Pre Examination meeting, 8 September 2020).

Introduction

1. My name is Dr Rachel Connor. I am a retired medical doctor M.B. Ch.B, FRCR, with licence to practice from the General Medical Council.
   I have a broad medical training which includes public health, organic chemistry, physics and bacteriology. I have worked as a NHS consultant in radiology for over 30 years.

2. I have been asked to act as a public witness by Mrs Susan Crosthwaite and other interested parties in regard to the Private Water Supply Risk Assessment (PWS RA) submitted by Scottish Power Renewables (SPR) as part of their Environmental Report (ER), submitted to support their application for the proposed Arecleoch windfarm extension in South Ayrshire

3. I have extensive personal experience of the impacts of windfarm development upon private water supplies and the risks to health associated with those adverse impacts upon PWS.
   I have nine years of personal research and experience of investigating the effects and potential effects of windfarm development on water supplies (public and private) in Scotland.

4. I live directly adjacent to the 215 turbine Whitelee windfarm and directly adjacent to the consented (in 2012), but not yet built Sneddon Law windfarm in East Ayrshire (which has not yet satisfied planning conditions related to PWS).
   I have had extensive exposure to the planning requirements and legislation related to those windfarms. I participated in the Whitelee Extension 3 Public Inquiry, which was focussed largely upon impacts of that application upon private water supplies, four of which had already been lost altogether during the construction period of the original Whitelee windfarm (2006-2009).

5. I have had many meetings with SEPA, Scottish Water and Scottish Ministers discussing various aspects of windfarm construction upon drinking water supplies both public and private.

6. I am a member of Scotland against Spin (SAS), a lawful, voluntary organisation opposed to the Scottish Government's Policy of promoting onshore windfarm development at almost any cost. I continue to represent SAS at stakeholder's meetings with the DPEA, providing public opinion and input on various aspects of planning and appeal procedure.

7. The opinions expressed in this submission are my own, believed to be the truth and based on current environmental and planning legislation, as referenced, published guidance from statutory authorities and my own experience.
   I have had no previous involvement with Arecleoch windfarm or Arecleoch windfarm extension and I have no conflict of interest.

8. I am aware of my duty to the Examination process.

Scope of this Outline Statement of Case.

1. Water, and drinking water in particular, is a precious and limited resource accepted by all civilised societies as a precious commodity which is vital for life and human habitation and which therefore requires protection.
   As such, in the EU, the UK and Scotland, there is a raft, not just of guidance, but of legislation which exists to protect those water supplies regardless of whether they are public or private.

2. A private water supply is a supply of potable water which does not come from a licensed water supplier. In Scotland, public water is provided by Scottish Water or its commercial arm, Business Stream.

3. This outline statement sets out the perceived departures from applicable legislation and required statutory standards of the (unauthored) Scottish Power Renewable (SPR) PWS RA (Technical Appendix 10.3) and the updated Statement of Case on this topic from SLR Consultant Mr Gordon Robb, entitled '*Hydrology and Private Water Supplies'* (October 2020 vs.2)

4. SPR provides the PWS RA as a technical Appendix 10.3, to Chapter 10 of the ER - Hydrology Hydrogeology, Geology and Soils.
   In regard to PWS, the document references compliance with the following Legislation, Policies and Guidance:

   6.1 Legislation
   - *EU Water Framework Directive (2000/60/EC);*
   - *Water Environment and Water Services (Scotland) Act 2003 (WEWS Act); and*
   - *The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.*

   6.3 Guidance
   "This assessment is carried out in accordance with the principles contained within the following documents":
   - *Land Use Planning System SEPA Guidance Note 4, Issue 9 (September 2017);*
   - *Land Use Planning System SEPA Guidance Note 31, Version 3 (September 2017);*

5. South Ayrshire Council's approved Local Development Plan (LDP) 2016 sets out the local plan policies for the Water Environment:

SAC LDP policy: water environment

We support the objectives of the Water Framework Directive (2000/60/EC). We will only allow development that meets these objectives and shows that:

a. it will not harm the water environment;
b. it will not pose an unacceptable risk to the quality of controlled waters (including groundwater and surface water); and
c. it will not harm the biodiversity of the water environment.

6. The PWS RA identifies 31 PWS abstractions (but 35 PWS) within 1 km and /or downgradient of the application site boundary with the potential to be affected by this windfarm.

7. *The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017. (The Regulations)* provide statutory requirements for conducting a risk assessment of an approved standard for PWS and for PWS monitoring and mitigation measures, dependent on assigning a level of risk according to criteria approved by the Drinking Water Quality Regulator (DWQR), as stipulated by those Regulations.
   Importantly, different assessment requirements are imposed in the Regulations which depend on the type of water source, the volume of abstraction of each water supply and its use; and whether that use is commercial/public use or intended for entirely domestic/private use.

8. Remarkably, in my opinion, the PWS RA provides no detail at all either of abstraction quantities or use of any of the 31 PWS sources.

9. For applicable PWS*, the Regulations* then require basic information such as the type of water source (whether a surface water or groundwater source [e.g. a well or a borehole])and its location, as well as details of any holding tank infrastructure.

10. It is important to be fully aware that a “water source” does not equate to a collection cistern or holding tank or other type of infrastructure which holds water before it is delivered to users.

11. Table 2.1 of the PWS RA summarises the PWS details of the 31 PWS ‘sources’ identified by SLR.
    At least six (19%) water source types are unconfirmed.
    Sixteen (52%) of the water source locations are either unknown/unconfirmed or approximate.

12. The DQWR Risk Assessment Strategy is dependent on knowing the type of water source as well as the elements of risk which need to be assessed in relation to activities in the water catchment area such as forestry, roads, construction and agriculture. The catchment area will vary in size and shape dependent on factors such as type of source, the volume of abstraction and local geology and topography . The risk elements are scored to produce a consistent understandable level of risk for all types of supply.
    It is evident that the source location and water catchment area is essential in identifying site specific elements of risk and in providing appropriate protective mitigation.

13. Other essential elements of the DWQR Risk Assessment Strategy include direct contact, preferably on a site visit with the PWS relevant person (e.g. the PWS owner).
    If such contact is not possible then a PWS supply is automatically considered to be in a high risk category.
    It is not clear from Table 2.1 if there were any relevant persons accompanying the site visits to water sources and supplies.
    Seven questionnaires were returned to SLR and one other PWS records comment from a resident, but without describing if this was within the questionnaire or in separate discussion.
    The details and questions in the questionnaire submitted to all potentially 'at risk' properties are unknown.

14. At the conclusion of this PWS RA, four (13%) PWS sources and five (16%) PWS points of abstraction are considered to still be at minimal risk, although given the departure from recognised components of the approved risk assessment provided for under *The Regulations*, and in the complete absence of any designated water catchment zones for those PWS, it is not clear how a level of minimal risk has been assigned.

15. In essence therefore, the PWS RA does not comply with *The Regulations,* even though these are referenced in ER Chapter 10 for the PWS RA.
    It follows that the Environmental Information required by *The Town and Country Planning (Environmental Impact Assessment) (Electricity Works) (Scotland) Regulations 2017* (The EWS 2017 Regulations) is incomplete (Regulation 5), and a decision may therefore NOT be taken (Regulation 3) without the relevant environmental information.

16. The applicant refers to compliance with SEPA LUPG 31 2017windfarm guidance for groundwater. This is applicable guidance for compliance with SEPA's interests. SEPA has no statutory responsibility for PWS.
    For that reason, it is unclear why the applicant proposes in PWS RA paragraph 1.2 (Section 4) that SEPA should be responsible for agreeing a scheme of monitoring for PWS. SEPA has NO authority in this matter. The Local Authority, in this case SAC, has such responsibility.

17. The PWS RA references the Water Framework Directive (2000/60/EC)(WFD).
    The WFD is an integral part of the adopted SAC Local Development Plan.

18. The aims of the WFD include improving the quality of water and in particular, groundwater and to ensure that measures are in place to prevent deterioration of existing bodies of water. The WFD does not allow even for temporary deterioration of groundwater status. Drinking water protection, and monitoring of those waters are afforded special status as 'controlled waters'.
    The development area is in a statutory designated drinking water protected area, which applies to both public and private water abstractions. It is therefore entitled to that protection.

19. In compliance with WFD requirements, SEPA has assigned the current status of Groundwater as 'Good', and the development site surface water catchments of the Water of Tig and the Duisk as 'good'.

20. The WFD also focusses on reducing and removing hazardous substances in groundwater (Hazardous substances as listed in Annex 10 WFD) and preventing pollution of ground water with new substances and hazardous substances in particular. This is relevant in view

of the appearance of significant levels of EU designated hazardous substances in groundwater monitoring which occurred at the developer's site at Whitelee windfarm. I say only that experience suggests that this unexplained occurrence, may have implications for conditions to be attached in regard to groundwater monitoring on this site, should consent be awarded.

21. Special measures are specified in the WFD (Article 7) for the protection and monitoring of water bodies where abstraction volumes *from a water body* are greater than 10 cubic metres/day, or where they serve more than 50 persons.
This PWS RA does not provide the number of people (or numbers of livestock) which are dependent at <u>any one time</u> upon any one PWS. In any risk assessment and in provision for mitigation in the event of disaster this component is essential.

22. A water body, as defined in the WFD (Article 2), is not the same as a single point of abstraction, as several points of abstraction may share the same groundwater resource, which of course requires protection as a whole.
This error is illustrated in the PWS RA. For example, in PWS 07 (Table 2.1 of TA 10.3), three separate PWS are assigned to the same point of abstraction, but counted as one PWS.
This conglomerate aggregation of several PWS' does not comply with t*he Regulations* for an acceptable risk assessment and would confuse abstraction volumes (if these were available, which they are not).
This PWS therefore does not comply with the WFD if neither abstraction volumes nor source locations are identified. That too is critical Environmental Information, and the same point as is made in paragraph 15 above is repeated here.

23. The relevance of the WFD in relation to abstraction volumes and/or the number of dependent people on a water body, is that the WFD defines methodology and monitoring parameter requirements for those water bodies falling into the category of 'controlled waters' of a defined size. It is not possible for this PWS RA to comply with the requirements of the WFD (and therefore the SAC LDP) as that information is simply missing.

24. Such is the importance of water and drinking water supplies in particular, that Scottish Minsters are <u>*required*</u> when making a determination under *The Town And Country Planning (Scotland) Act 1997*, as amended, s. 40 (4) to consider the effects of this development on the water environment in accordance with EU Directives and specifically, the Water Environment and Water Services (Scotland) Act 2003 (WEWS) s.6, which largely transposes the WFD in terms of identifying *water bodies* used or intended to be used for drinking water abstraction

25. The Town and Country Planning (Environmental Impact Assessment) (Electricity Works) (Scotland) Regulations 2017, (*The EWS Regulations 2017*) are not referred to in the hydrology section (Chapter 10) of the ER or in the PWS RA. This application is subject to *the EWS Regulations 2017.*

    As is well known, t*he EWS Regulations 2017* define the content and level of expertise that must be met by developers in submitting an Environmental Impact Assessment and Environmental Statement (or Report) in support of a development if the planning application is categorised as requiring an EIA. These Regulations implement EU Directive 2014/52/EU.

26. This is particularly pertinent in respect of considering the environmental impacts of this windfarm upon Private Water Supplies and whether the submitted ER (specifically this PWS RA) meets the requirements of that legislation.
An Irish windfarm (Derrybrien) caused a major peat slide in 2003 which severely impacted on the hydrological environment. The application was found not to have complied with an adequate EIA by the European Court of Justice in 2008 and Irish authorities were fined 5 million Euros (and 15,000 Euros/per day until settlement) for failing to enforce EIA legislation. (Case C-215/06, Article 226 EC; failure to fulfil obligations).

27. Another peat slide took place recently at Meenbog in Co Donegal on 13 November 2020, also causing severe damage to the hydrological environment. The effects of that are still being assessed, whilst windfarm construction work has been halted. It is evident that the implications for authorities in accepting an inadequate assessment are not just health related.

28. *The EWS Regulations 2017* provide:

4.

(2) The environmental impact assessment must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development (including, where the proposed development will have operational effects, such operational effects) on the factors specified in paragraph (3) and the interaction between those factors.

(3) The factors are—

*(a) population and **human health**;*

*(c) land, soil, **water**, air and climate; and.*

*(4) The effects to be identified, described and assessed under paragraph (2) include the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of **major accidents and disasters**.*

*(5) Unless paragraph (6) applies, the environmental impact assessment to be carried out in relation to the determination of an application for planning permission for EWS development **must** identify the likely significant effects of the proposed development on the environment **before a decision to grant planning permission for that development is made.*** (emphasis and underlining added)

29. It is not clear in Chapter 10 of the ER where these requirements are addressed.

30. This is relevant given that the recent Statement of Case indicates that planning conditions, updating the PWS RA at some uncertain future date and presumably providing information not submitted with the PWS RA, are to be submitted as part of the s. 36 consent process. Provision of further credible supplementary Environmental Information (as defined under *The EWS Regulations 2017*), and/or update of environmental information requires to be publicly notified, with appropriate time allowed (minimum six weeks) to allow for public comment.
It is not appropriate or lawful to use conditions awarded after consent is granted to remedy

deficiencies in the presented ER. That is not the purpose of planning conditions as set out in planning circular 4/1998.

31. Equally, *The EWS Regulations 2017* require that the consenting authority (Scottish Ministers) ensure that they have access to sufficient expertise to critically examine the EIA Report.

32. This is relevant, given that the SLR Statement of Case for PWS indicates that planning conditions could update the PWS RA – perhaps because deficiencies in the PWS RA are now recognised. But that is not appropriate either; all relevant information must be before the decision maker before he/she/they takes a decision, as set out in Planning Circular The Town And Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (Circular 1/2017) paragraph 4 and 6.

33. Applying planning conditions to remedy information missing in an EIA assessment is not appropriate and is excluded by t*he EWS Regulations 2017 s.4.(5)*(see above)

Other Matters

1. The PWS RA does not provide a recognised standard for a scheme of monitoring, including which test parameters are appropriate for which PWS or for a recognised methodology for frequency and site(s) of sampling. Planning circular 2017/1 (paragraph 6.(d)) describes how information on monitoring requires to be presented before consent is issued.

2. At the outset, it is stated that this PWS RA complies with industry standards, but whatever they are, they are not referenced. It seems reasonable to ensure that those standards must be credible, transparent and at least as stringent as those set out in the legislation and ancillary DWQR technical appendices.

3. The notification of abnormal monitoring results (updated in the Outline SoC) does not meet requirements of *The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.* This requires clarification, as a clear scheme for the rapid identification and notification of abnormal water quality results is a serious public health matter.
   In short, people drinking that water need to know and know quickly if their water is polluted.

4. As abstraction volumes and water needs and uses for each PWS have not been provided in the risk assessment, the section about stated mitigation measures for provision and distribution of alternative water in the event of abnormal water monitoring results, appears to be inadequate and without substance.
   Further information is needed to understand what quantity of water may be needed for each household/business and for how long. If nothing else, this would enable compliance with the need for identifying 'disaster management' specified in *The EWS Regulations 2017. S.4 (4).*
   The DWQR allows for 200 litres water per day per person. (Excluding livestock or commercial use)

5. Scoping requirements for the EIA specifically required that site specific hydrogeological risks are identified, that hydrogeological modelling is provided and that in particular, the effects

of leachate from borrow pits is considered in relation to groundwater impacts.
Paragraph 1.1 of the PWS RA, the Scope of the report states, *"This Technical Appendix presents a site specific hydrogeological and hydrological report that contains a review of the risk to private water supply sources." and , "To complete the assessment a conceptual site model is presented that considers the proposed activities that might impair water quality and yield, including the potential for the borrow pits to generate leachant*."
It is not clear where the site specific hydrogeological information and conceptual site model is within the risk assessment and it seems highly unlikely that a 'source-pathway-receptor' model can be usefully engaged if no water catchment areas are identified for any PWS, some water sources are unknown and many are not located.

6. Some consideration is given to borrow pit leachate in sections on general borrow pit hydrological management, but despite the Scoping statement in the PWS RA that this is addressed in relation to PWS , this significant risk factor is not mentioned further in this PWS RA report.

7. This is a concern which needs to be addressed, given the statements in the Borrow pit chapters that groundwater is confined to near surface flows, within fractures and weathered zones in bedrock which is often near the surface and exposed to construction activity.
Groundwater dependent PWS are susceptible to the adverse effects of borrow pit (and turbine foundation) dewatering, the effects of rock blasting on groundwater, contamination of groundwater and the potential for <u>permanent</u> diversion of groundwater flows due to built elements, especially large concrete turbine foundations, which in this case are 28 metres diameter.

8. Such matters are very relevant to a risk assessment for groundwater dependent PWS likely to share the same water body as built elements of the windfarm, such as borrow pits, turbine foundations and linear excavations such as roads.
Such geohydrological risks require to be assessed for each groundwater dependent abstraction, but appear to be absent from this PWS RA, despite the stated aims of the unknown author(s).

9. For those PWS with surface water supplies or those where the source is not identified, these will automatically fall into the 'high risk' category according to DWQR risk stratification.
No water catchment areas are mapped for those high risk surface water supplies and the cursory application of 'oil booms' as mitigation for PWS 14 seems to ignore the fundamental principles of protecting the water catchment area in the first place.

10. As this is an application for permanent planning permission, future replacement windfarm construction activity, as well as required hydraulic and oil changes for turbine maintenance will remain a significant risk for those PWS dependent upon water catchment zones within the development site.

11. I am driven to conclude that this PWS RA is unfit for purpose, does not meet legislated standards and that accordingly the Environmental Information is deficient to the extent that a determination cannot properly be made.

Dr Rachel Connor M.B. Ch.B. FRCR. 23/11/2020