

Precognition of Dr Rachel Connor M.B. Ch.B, FRCR

Planning Application Appeal Public Inquiry: **WIN-370-2 Arecleoch Windfarm Extension**
Appeal Item 4

1. Background

- 1.1 My name is Dr Rachel Connor. I qualified from the University of Liverpool in 1979 with bachelor in Medicine and Surgery. My medical training includes public health, organic chemistry, physics and bacteriology. Post graduate training was at Johns Hopkins University Hospital in the USA and Glasgow University hospitals. I am a retired NHS Consultant radiologist.
- 1.2 I have had formal training in critical appraisal (Scottish Intercollegiate Guidelines Network).
- 1.3 I have been asked to act as a public witness by Mrs Susan Crosthwaite and local residents in regard to the Private Water Supply Risk Assessment (PWS RA) submitted by Scottish Power Renewables (SPR), to support their planning application for the proposed Arecleoch windfarm extension at Barrhill in South Ayrshire.
- 1.4 I have personal experience of the impacts of windfarm development upon private water supplies and I understand the serious public health risks if water quality does not meet statutory standards for potable water.
- 1.5 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. I have no professional qualifications in geology or hydrogeology.
- 1.6 I have had numerous meetings with SEPA, Scottish Water and Scottish Ministers discussing the impacts of windfarm construction upon PWS.

2.0 The Evidence

- 2.1 An SLR private water supply risk assessment (PWS RA) (unknown author) was submitted as part of an Environmental Impact Assessment Report (ER) on behalf of the appellants, in response to the scoping opinion for an Environmental Impact Assessment (EIA).
Amongst other legislative requirements, this report is required to comply with *The*

Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 (The Private Supplies Regulations 2017) and The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EWS Regulations 2017).

- 2.2 It would be expected that the applicant's consultants would be aware of the current and applicable legislation in their area of practice.
That does not appear to be the case here.
- 2.3 The SLR Inquiry Statement appears to express surprise that there is a need at all for compliance with EU, UK and Scots law pertaining to the protection of PWS. The PWS RA relies instead on undefined 'industry standards' to set the bar for their risk assessment.
- 2.4 National climate change and energy and planning policies do not allow for legislation to be disregarded in the pursuit of 'carbon emission targets'.
Likewise, the authority of legislation supersedes guidance issued by Government agencies and NGO's.
- 2.5 It is unclear why SLR is reassured by lack of objection to the PWS RA by SEPA, SNH (Nature Scot), Scottish water and Marine Scotland when none of these authorities have any statutory responsibility for PWS. It is only SAC which has responsibility for PWS and SAC have objected to this application on the grounds of risk to PWS.
- 2.6 There are 35 PWS which have been identified by SLR as being downgradient and/or within 1km of the development site, but there appear to be additional PWS worthy of consideration which have been omitted.
Despite this large number of PWS, the PWS RA is remarkably brief.
- 2.7 My evidence will focus on whether there is complete ascertainment in identifying all PWS which may be at risk and whether the risk assessment complies with prescribed standards for a PWS RA and other legislation with remit for the protection of drinking waters.
I will consider whether the PWS RA provides the required information to comply with the EIR's and scoping opinion. In essence, has the essential information stipulated in the Regulations been provided so as to allow informed decision making?
- 2.8 As a 'lay' witness, I seek to understand the veracity of the evidence and reasoning which underpins the assignment of risk status for numerous PWS.

- 2.9 The PWS RA was apparently informed by a questionnaire sent to all PWS users. In trying to verify the conclusions of the PWS RA, third parties undertook to contact almost all PWS property owners with their own questionnaire. The comprehensive questionnaire and results are published. It is striking that out of all PWS owners surveyed, only one remembers the SLR questionnaire, none remember any water testing and none remember a SLR site visit (Arnimean owners have changed since February 2020). However, the PWS RA records five PWS site visits. These were presumably unaccompanied and without permission. Seven SLR questionnaires were apparently returned.
- 2.10 The remit of PWS RA under *the EWS Regulations 2017* includes a requirement to provide a scheme of monitoring and mitigation. Although the Inquiry statement has now published the PWS questionnaire, it is evident that any responses have not informed the risk assessment, the scheme of monitoring or 'disaster' mitigation. What is proposed as a monitoring or mitigation plan is not underpinned by either evidence or legislation. For PWS which may be adversely affected, there is no alternative back up of a public water supply should water supplies be reduced in quantity or quality.
- 2.11 Many of the PWS owners in the risk assessment run hospitality and other businesses which are legally required to provide adequate quantities and quality of water to potable standards. SAC has a statutory duty to monitor those PWS. If those PWS are adversely affected, it will cause those businesses to be shut down. This would be a serious economic impact to a fragile rural economy and runs contrary to Scottish Government policy on promoting rural business, employment and tourism. That is given no consideration at all by the appellants.
- 2.12 For the first time, the SLR Inquiry statement provides clearer maps of PWS properties and their sources in relation to access roads and built elements of the windfarm and maps some PWS water catchment areas. It also identifies a **new** 'at risk' surface water PWS 16.
- 2.13 Whilst the new information is welcomed, there is a statutory requirement for such important environmental information to be publicly notified and for the public (particularly the owner of the 'at risk' PWS) to have time to respond to the new information. There is precedence for required public notification under *The Town and Country (Environmental Impact Assessment) (Scotland) Regulations 2017* of identifying new 'at risk' PWS and delaying appeal proceedings as a consequence (Sneddon Law

windfarm PPA-190-2054). That should be upheld here.

- 2.14 This PWS RA has relied heavily on unpublished information about PWS from historic ER's from other windfarms in South West Scotland and from the local authority. Even if such information was previously in the public domain, it is not currently available and is not contemporary. This does not comply with EIA regulations as the public are unable to view the evidence and reasoning behind the SLR risk assessment and provide informed comment to the appeal.
- 2.15 There is no legislation which requires every PWS owner to register with a local authority. Local records may therefore be incomplete and the onus is upon a developer to ensure all PWS are identified and that no damage is done to third party property.
- 2.16 It seems from the PWS RA that unaccompanied site visits to PWS were for a select few. Information critical to conducting a site specific and comprehensive risk assessment can only be gained by speaking to and visiting the water source and infrastructure with the PWS owner. This is made patently clear in the Drinking Water Quality Regulator's standards for a risk assessment, which is specified under *The Private Water Supplies Regulations 2017*.
Failure to engage with the PWS owner, or identify the source and infrastructure automatically assigns a high risk category to that supply.
- 2.17 Whilst the SLR Inquiry Statement has provided ***new information*** about potential geohydrological flow pathways to some PWS, this is not considered for every groundwater dependent PWS which is either downgradient or within a 1 km separation distance from the development site. Groundwater flows are acknowledged in the ER to be confined to superficial fracture flow and weathered zones in a low productivity aquifer with otherwise almost impermeable rock. Despite this, surface topography has been used to exclude risk to deep boreholes without considering the influence of local solid geology and preferential groundwater flows.
- 2.18 A borehole water catchment area is mapped only for one borehole (PWS 30).
- 2.19 It is not clear why existing borehole logs, particularly from SPR's own boreholes and geological information from borrow pits were not used in conjunction with BGS maps to identify preferential groundwater pathways toward PWS borehole abstractions. No doubt that will become clear at the Inquiry.

2.20 The PWS RA and Statement of Case have stressed compliance with SEPA LUPG 31, although SEPA has responsibility only for environmental waters, not for PWS. SEPA requires all PWS sources to be accurately categorised and mapped in relation to source proximity from excavation/depth of built elements and roads. This essential information is not provided, although SEPA apparently has no concern and no objection.

2.21 The evidence underpinning SEPA's LUPG 'safe' buffer distance guidance is questioned in regard to the construction of windfarms and the potential for impacts upon PWS.

It is notable that a Reporter also questioned the relevance of SEPA guidance when she refused an Appeal on the basis of risk to PWS for the adjacent Altercannoch windfarm in March 2019.

It is then even more surprising that PWS information from this failed application is referenced by *this* PWS RA, in preference to obtaining relevant information directly from PWS owners.

2.22 Despite stated compliance with SEPA LUPG, it is evident from the PWS RA and SLR Inquiry Statement that there is *not* compliance with LUPG 31 for at least one PWS (Arnimean PWS 02) adjacent to the main access road.

2.23 Arnimean PWS has already experienced previous pollution in relation to forest felling.

Additional felling of **135 ha**. in 2021/22 will be required specifically to facilitate this windfarm. Applying the precautionary principle, such activity is likely to further increase the risk of pollution to several PWS – but this is not considered in the PWS RA.

2.24 The SLR Inquiry statement provides evidence that several surface water/ superficial groundwater dependent PWS are potentially at serious risk from this development.

2.25 It would seem to be common sense that having six turbine foundations of 28metres diameter each (excluding a wider excavation pit), three borrow pits, two substantial new water crossings, construction of new access roads and siting of a permanent substation building with welfare/toilet facility in a water catchment area would not be a wise plan, yet this is what is proposed for PWS 14/16.

2.26 Foundations for turbine 10 are *less than 250m* from two tributaries of the Cross Water.

Evidence from the construction of previous and current windfarms is that the best construction mitigation measures may well be overwhelmed with devastating

impacts on hydrology.

Why then are three PWS, dependent on abstraction from the Cross Water at the boundary of the development site, considered to be at low risk?

2.27 The disaster mitigation planned for these PWS and others also at 'low risk', is a few bottles of water at the site offices.

3.0 Conclusion

- 3.1 The SLR statement of case and Inquiry statement provide important additional new environmental information which requires public notification.
- 3.2 Common sense suggests there appears to be significant risks to several PWS with the potential to affect public health, the rural economy and rural habitation.
- 3.3 This application is contrary to the approved Local Development Plan (LDP); a material planning consideration.
- 3.4 The precautionary principle, encompassed by the Water Framework Directive and the LDP does not allow for a substantial *risk* to controlled drinking waters. That risk does not have to be proven beyond doubt to refuse consent. (UN. Rio Convention, Article 15)
- 3.5 The PWS RA (and amendments) does not comply with legislative standards, does not meet the requirements of EIA legislation and does not address all the significant risks arising from construction and operation of this windfarm. As such the PWS RA is substantially incomplete.

Rachel Connor

22/12/2020