

**Application by SP Manweb PLC, dated 2 December 2009 for consent under Section 37 of the Electricity Act 1989 to install and keep installed a 132kV overhead electric line connection from the proposed Llandinam Wind Farm to Welshpool Substation (the "Application")**

**RESPONSE TO VARIOUS DOCUMENTS RELATING TO SESSION 4 OF THE CONJOINED INQUIRY**

**1. POWYS COUNTY COUNCIL'S ("PCC") STATEMENT OF CASE**

1.1 In response to paragraph 2.3.1 of PCC's Statement of Case it is important for the Inspectors and the Secretary of State to note that:

1.1.1 A 160MVA connection can only be provided if 300mm<sup>2</sup> conductors are used on the Llandinam Scheme from the outset (it is not possible to swap the currently proposed 200mm<sup>2</sup> conductors for a larger conductor retrospectively at a later date). The implications of this are noted at Appendix 10 of Dr Beddoes' Proof of Evidence and include additional cost, additional poles and heavier poles to those currently proposed for the Llandinam Scheme. Those poles would need to be in different locations to those shown indicatively on the plans sent to the Secretary of State in December 2013 due to the difference in weight between the conductors. The environmental effects of these thicker and more numerous poles etc have not been assessed;

1.1.2 The PCC proposal seeks effectively to freeze the network in Mid-Wales in time. It is entirely possible that over the next five, ten, twenty years, new generation (biomass, wind, solar, gas fired power station etc) may come forward in the area. In seeking to constrain the amount of generation consented in this Conjoined Inquiry to achieve a particular connection solution, PCC fails to take account of the potential need to connect future generation capacity. If that need arises, consent will have been refused for windfarms that are part of this Conjoined Inquiry to no effect. PCC's approach is backwards when compared to how networks are designed in practice - based on contracted generation, anticipated future capacity and other strategic issues;

1.1.3 The PCC proposal takes no account of the other windfarms (and other forms of generation) that are proposed or in planning in and around SSA C. If these are consented, then new connections will be required - as the 160MVA catered for in PCC's proposal would be used by Llandinam Repowering Windfarm and Llaithddu or Llanbadarn Fynydd from first commissioning of those developments. As such, heavier conductors and poles would have been used to deliver the PCC proposal, an upgrade would have taken place beyond Welshpool to allow export of the 160MVA (currently only 90MVA can go beyond Welshpool) but a further new connection would then be needed to connect further generation in the area. It is simply not how a Distribution Network Operator ("**DNO**") having regard to all its statutory duties would and should design its network;

1.1.4 SP Manweb's proposed Llandinam Scheme and its SP Mid Wales Connections Project (the "**status quo**") have been designed to deliver contracted generation and to provide some future capacity and resilience in the network. For virtually the same cost, PCC's 160MVA proposal delivers half the capacity of SP Manweb's status quo and would risk a further 132kV

(or 400kV) solution having to be provided to deliver any new generation of any kind that comes along in the coming decades.

1.2 In response to paragraphs 2.3.2, 2.3.4 and 3.4 of PCC's Statement of Case SP Manweb notes that:

1.2.1 again, PCC seems to be designing SP Manweb's network for it but without having any regard for SP Manweb's statutory duties to be efficient, economic or to have regard to reasonably foreseeable need for future capacity in the area. References to providing connections to Shrewsbury etc are simply not for this forum. It is for a DNO, licensed and regulated by Ofgem, to consider its network as a whole, including contracted generation and demand and the overall balance of the network;

1.2.2 PCC's approach is to cap generation to suit a grid connection outcome and there is no policy basis for this approach. This is because such an exercise is futile. Networks and contracted generation are constantly evolving. PCC's attempts to fix connection outcomes do not allow for any future generation in the area. Without this, there is a realistic prospect of future 132kV solutions needing to be separately promoted, compared to the "status quo" preferred option set out in Volume 5 of SP Manweb's Updated ES of 2013.

1.3 With regard to Section 4 of PCC's Statement of Case, it is key to note that it is not solely the five windfarms that are within the Conjoined Inquiry which determine the National Grid solution. As such, the "silo" approach taken by PCC to considering this scheme is unhelpful and, again, fixed in time in a way that is unrealistic in network planning terms.

1.4 Specifically in relation to paragraphs 4.2.2, 4.2.4 and section 6 of PCC's Statement of Case, SP Manweb regards the approach of commenting on the effects of options that are still being consulted on (and which are to be consulted on), such that they may change, is unhelpful and does not take the Inquiry further forward. Whilst it is recognised that cumulative effects of grid connection solutions need to be considered alongside proposals for generating stations, to seek to dictate particular connection solutions prior to those solutions being heard themselves in the planning process is unhelpful, misleading and cuts across the role of the DNO in designing and managing its network to meet its statutory duties.

1.5 The Mott MacDonald and LUC reports commissioned by certain developers and referred to by PCC are explicit that they are looking at only part of a wider picture. They deal with a hypothetical scenario that ignores the remainder of the contracted generation that SP Manweb has before it and which it is required to consider in designing its network. The route options explored in the Mott MacDonald and LUC reports are an exercise commissioned by organisations other than SP Manweb as DNO and are illustrative only. As such, they should be considered as background reference documents and should not distract the Secretary of State or the Inspectors during this Inquiry as they tell only a small part of the wider story for this area.

## 2. **NATURAL RESOURCES WALES ("NRW") STATEMENT OF CASE**

2.1 In response to the point made by NRW at paragraph 3.7 of its Statement of Case, SP Manweb simply refers again to the points made above and would add that a strategic approach has been taken by SP Manweb in designing its status quo solution. There is capacity at Welshpool and to deliver all of the contracted generation in the area, two 132kV wood pole lines are required (for the reasons explained in Volume 5 of SP Manweb's Updated ES of 2013). As such, one line to Welshpool that uses existing capacity and one line which goes to the National Grid Cefn Coch Hub is and remains SP Manweb's strategic and preferred solution.

2.2 As noted above, networks, generation and demand are constantly evolving. There is not a fixed point in time at which SP Manweb, the Secretary of State or third parties can consider matters in a vacuum. Delaying decisions for such a fictional point in time does not make sense in planning or network design terms.

### 3. THE ALLIANCE STATEMENT OF CASE

3.1 SP Manweb notes that the Alliance state at paragraph 26 of their Statement of Case that they "will demonstrate that the proposed Mid Wales Connection system and the lower voltage systems assessed by the applicants in their Cumulative SEIs are unlikely to be feasible for implementation". SP Manweb simply notes that the SP Mid Wales Connections Project is not for this Conjoined Inquiry. SP Manweb believes that a connection as outlined to the National Grid proposed Cefn Coch Hub is deliverable and could be implemented.

### 4. THE MOTT MACDONALD AND LUC REPORTS

4.1 SP Manweb notes that two reports have been commissioned by certain of the windfarm developers from Sessions 1 and 2. These reports have been produced by Mott MacDonald and LUC (the "**Reports**"). SP Manweb is very clear that:

4.1.1 the Reports consider only a fraction of the contracted generation that is before SP Manweb - all of which it has to have regard to when designing its network; and

4.1.2 the 160MVA connection assumption that is made in the Reports is hypothetical only and raises all of the issues noted above and set out in full in Appendix 10 to Dr Beddoes' Proof of Evidence.

4.2 In relation to scenarios 3, 5, 7 and 8a set out in the Reports, SP Manweb would comment that these advocate new 132kV routes between Oswestry and Legacy. SP Manweb carried out a full alternative routing assessment in developing its reinforcement scheme to provide a third legacy Oswestry 132kV overhead line. The process resulted in a route which takes a wide sweep eastwards from the most direct line between these substations. It is considered that further 132kV routes would most likely need to be yet further to the east and at a strategic level SP Manweb would be likely to seek a solution which involved a connection to the existing 400kV network elsewhere. This might be near Oswestry (eg Lower Frankton) or indeed Shrewsbury. This would be a matter on which close collaboration would be required with National Grid.

4.3 A further concern is the development of 132kV lines in the vicinity of the proposed 400kV route between Lower Frankton and Cefn Coch. This has been subject to routing studies by National Grid in the development of its Mid Wales proposals. If the 400kV option does not proceed as a solution to the current contracted position in Mid Wales, then a 132kV route developed as an alternative would be likely to fall into the same preferred corridor. This would make any further future development necessitating 400kV reinforcement more challenging to deliver and with more significant overall environmental impacts. On the other hand, if that corridor were to be reserved for such a 400 kV reinforcement then a consequence would be that a proposal for a 132kV line would need to be developed which would have a less favourable environmental impacts than would otherwise be the case (as a lot of work has gone into selecting the most appropriate corridor for a high voltage connection by National Grid as part of its own Mid Wales connections project).

4.4 SP Manweb is clear that in order to comply with its statutory duties, it needs to design a network that is fit for purpose and has regard to reasonably foreseeable anticipated future generation and demand. A constrained solution that was at full capacity from first commissioning and which stretched for tens of kilometres past the status quo length would be highly unlikely, in SP Manweb's view, to meet these duties.

- 4.5 It should also be noted that from a technical perspective, circuit losses for the suggested 132kV connections to replace any 400kV National Grid proposal are considerably higher than that of any single 400kV option. The lengths of 132kV circuits proposed are considered to be inefficient from a power flow perspective (as illustrated in Appendix A of the Mott MacDonald Report) and at or beyond that normally considered for such a distance and level of power transmission. A 400kV connection is considered a more efficient option – it is for this reason that 400kV transmission systems exist – to deliver power across large distances more efficiently than lower voltage solutions can.
- 4.6 SP Manweb notes that it is stated in the Mott MacDonald report that "On balance, if all five wind farms are to be connected, the alternative of the 400/132kV hub at Cefn Coch is preferable". Given that this report only considers approximately 65% of the generation which SP Manweb currently has contracted and does not consider future capacity at all, this further supports the status quo solution of the Llandinam Scheme and the SP Mid Wales Connections Project as proposed by SP Manweb.