

Representation on the North Wales Wind Farm Connection Application (by SP Manweb)

from Robin Barlow

SP Manweb in their Strategic Options Report on “The North Wales Wind Farms Connection Project” dismiss the use of undergrounding and select the Heavy Duty Wood Pole (HDWP, a twin pole with a heavy steel superstructure) as the solution needed for this connection. A solution that has a massive visual impact. That document may outline the truth but not the whole truth.

From Single Heavy Duty Wood Pole Circuit to Single Circuit Double Wood Pole Design

The SP Manweb Strategic Options Report of May 2013 (ie the version of the document used in the consultations) proposes “a single heavy duty wood pole 132kV circuit...” for all the connection options. There are no pictures of the pole.

One year later in the Overview Report of March 2014 they say in the Introduction “Currently a double pole wood construction is proposed.... A number of studies are underway to see if a lighter single pole design would be suitable and present the double pole solution as a “worst case” illustration”. This time there is a picture of the HDWP with a massive steel superstructure of larger than 5m x 1m.

In the submission to this Inquiry “The 132kV Overhead Line proposed is a single circuit double wood pole design” and “an earthed design, such as the double wood pole proposed, is required for the Proposed Development. The single wood pole design does not carry an earth and therefore cannot be used for the Proposed Development” (6.2 ES Chapter 2 - Description of Proposed Development).

Surprising that they did not know of this issue earlier, as this HWDP single circuit double wood pole design has long been SP Manweb's solution of choice for connecting wind farms. It is used for the connection of Rhyl Flats to Moelfre and is proposed for the Llandinam wind farm connection to Welshpool applied for in 2009.

The Statement “The single wood pole design does not carry an earth and therefore cannot be used for the Proposed Development” is also not the whole truth. It ignores the so-called counterpoised solution in which the earth is undergrounded but the current carriers remain overground. This option has not been considered by SP Manweb. This solution would certainly allow the use of a much lighter steel superstructure and possibly the use of a single pole design. It should be considered.

8% Undergrounding

In that same document SP Manweb reveals that some 253km of their 1286km 132Kv network is undergrounded (19.7%) although in North and Mid Wales the proportion undergrounded drops to only 7.9%. On the connection between Clocaenog and St Asaph they propose undergrounding 1.8 km of the 19km route, a figure in line with their current value for Wales. However, it is important to note that they are undergrounding not to reduce the visual impact at a sensitive point but in order to go under the national grid's 440 KV power line and then get into the substation complex in an area full of 33 KV local distribution power lines.

Undergrounding merely the same amount for visual mitigation would allow them at the north end to move the termination poles around 1km back into the Elwy valley and at the southern end to start

around 1km away from the large Clocaenog / Saron substation.

Moving the 4-pole terminator construction back into the Elwy valley would mean that the long limestone ridge (the Bryn) that dominates the skyline in middle of Cefn would no longer be disfigured. In fact it would also save SP Manweb the cost having to underground a section of its 33KV network (“This line would be undergrounded between the existing poles 10 – 30”). Likewise undergrounding around 1km at the Clocaenog (Tir Mostyn) end would remove the visual impact of the heavy poles at a ridge and additionally eliminate the need for the 9 metre gantry at the Saron / Clocaenog substation, thus significantly reducing the industrialisation of that immediate area.

In its submission to the Llandinam Wind farm Connection Inquiry the Campaign for the Protection of rural Wales has pointed out that undergrounding is increasingly being seen as the solution of choice for the future and also that current undergrounding costs as quoted are significantly higher than the results in practise seen in other countries. For example CPRW in that document quotes a danish study with undergrounding costs for a 132kV line at £412,000 per km whereas SP Manweb's submission to the same inquiry gives the costs for undergrounding vs Heavy Duty Wood Poles at £1.1 million vs. £0.34 million per kilometre (Proof of Evidence by Eric Paalman, Lead Engineer SP Energy Networks). Unfortunately in its consultation phase SP Manweb revealed none of the financial drivers of the project: such line costs, connection costs, the Return On Capital allowed by Ofgen or the tariffs that can be applied per kw/h to the subsidised Wind Farms. It is thus impossible for the lay person to balance options and additional costs. This is further complicated by the fact that “the costs are to be met by the Wind Farm developers”.

Conclusion

I conclude that SP Manweb has been negligent in its presentation of the options in that it

- 1) has totally ignored the counterpoised solution of undergrounding only the earth wire.
- 2) Has not consulted on potential mitigation of visual impacts at either ends of the connection through the use of some additional undergrounding.
- 3) Has forced through the cheapest solution and the connection via the shortest route – a double win for SP Manweb, ironic in view of the fact that it is the wind farms that will bear this cost and they seem to be concerned to provide community benefit (eg RWE with £768,000 per year).

Note that the Inquiry into the Llandinam Wind farm connection is part of the Mid-Wales Cojoined Wind Farms Inquiry.