From: No To Pylons Na I'r Peilonau [mailto:pylonthepressure@gmail.com]
Sent: 11 November 2015 00:36
To: North Wales Wind Farm Connection
Subject: Deadline 5 responses

Reference number: 10031265

Dear Mr Coombes

Please find below the Pylon the Pressure Group's comments on further post hearing documents, for deadline 5.

Yours sincerely,

D Hughes (on behalf of the group)

SP Manweb's most recent Life Time Cost Report (REP4-024) provides further evidence on the costs of overhead transmission and underground cabling. The applicant claims this is "a complete analysis of the cost comparison between HDWP OHL and underground cable options". However, it contains a number of errors and misleading claims, illustrated below using the 25 year assessment, but repeated for the other time horizons of analysis.

1. The Capital cost of equipment for OHL is stated to now be £280,000 to £340,000 per km. This differs from the £340,000 per km, and £345,000 per km stated previously. Based on 17km length, this equals £4,760,000 to £5,780,000 (or somewhere in between, depending, it would seem, on the terrain). The tables, however, provide a Capital cost of installation which is stated to be £10,782,453 for 17km. There is no explanation for the £5m to £6m discrepancy, other than a note to say that typical costs for a cable termination structure is £150,000 and for a section of overhead line to be undergrounded two termination structures are required. The discrepancy does not relate to the substation, as this comes under what is labelled as "Capital cost of installation of fixed equipment" at £15,136,849 which is excluded from the total.
2. For the OHL (low cost range) estimate, the cost of underground cabling is stated to be £3,781,081. Based on £1.1m per km, and 2.6km of cabling, this should equal £2,860,000. It is again unclear where the discrepancy of £921k comes from.

3. The costing for the OHL option excludes the cost of operation and maintenance of the 2.6km section of underground cabling.
4. The Capital cost of equipment for underground cabling is said to be between £1.1m and £1.6m per km. We disagree with these estimates, and have provided evidence of less expensive cabling previously. For a 24km route, based on SP Manweb's figures, the cost would be expected to be between £28.4m and £38.4m. However the applicant's estimates for the capital cost of installation are £29,980,980 and £41,980,980 (low and high cost range, respectively). The discrepancy of £3,580,980 (in each case) is again not accounted for.
5. The applicant has revised its figures in relation to the costs of repairing faults. However, it maintains a position that major faults cost £600,000 to repair, and that such faults occur at 25% x 3.2 = 0.8 times per year per 100km. The costs of operations and maintenance are sensitive to repair costs, and the 25% is an assumed value without any sensitivity analysis applied, while the 3.2 per 100km is based on old technologies, and is clearly misleading when applied to modern XLPE insulted cable systems.
6. Based on the figures presented (which we contest), the applicant states that the ratio of the cost of wholly undergrounded cabling versus OHL is as low as 1.93. This is in stark contrast with SP Manweb's pre-application consultation papers which stated: "Undergrounding is between five and seven times higher than an overhead line and therefore is only considered where the benefits significantly outweigh the costs". This was clearly misleading, and can only be assumed as a ploy to exclude the possibility of underground cabling.
7. SP Manweb has selected a lengthy 24km route which deviates to the east of Denbigh. This is highly unrealistic, and greatly exaggerates the length of the route, which only serves to inflate the costs of undergrounding. Landowners and farmers along the proposed OHL route would be far more tolerant to underground cabling than to OHL, reducing the overall length of the route by a full 7km (at least £11.2m saved).
8. Overall, we conclude that SP Manweb's 'complete' analysis is far from it. There are many unaccounted figures which inflate the cost difference between OHL and underground cabling. We remain persuaded by the evidence that the cost of undergrounding is fully justified in light of the detrimental impacts of overhead lines.
