Cefn Meiriadog and Glascoed Road Residents and Users Group
Registration identification number 10031184

NWWFC
EN020014

Comments on responses to ExA's written questions

The Group's comments are confined to the Applicant's responses to the ExA's written questions are and to a limited number of the questions raised.

Q 1.4 Design of the Connection

1. The Group notes the Applicant's extremely extensive response to this question covering all aspects of design broadly defined, but takes issue with that response on certain key issues.

2. "In the long run we are all dead." (John Maynard Keynes). SPM refers several times in its responses to effects of the connection being "reversible" and "not permanent" and to the connection's eventual decommissioning. However, in 2.11(a) and (b), SPM states, among other things:

> "2. SP Manweb has referred to an assumption of operational use of the Proposed Development of approximately 40 years in order to allow for decommissioning to be broadly assessed in the ES. However, it is important to note that this is an assumption and if there is an operational need for the Proposed Development beyond 40 years then it may be that the Proposed Development would be in situ for longer than this."
>
> ….
>
> "5. SP Manweb does not plan its network based simply on connection to particular assets and is not able to anticipate what new assets may be connected to its network in 25 years' time that may require the on-going use of the Proposed Development. As such, and in line with its duty to run an efficient and economic distribution network, SP Manweb does not consider it appropriate to impose a timescale for the retention of the Proposed Development."

3. The Applicant acknowledges therefore that setting even a definitive 40-year limit on the connection's lifetime is unrealistic. By extension, effects which, according to SPM are temporary, that is to say they are "reversible" and "not permanent" but are dependent on decommissioning for their reversal, could be felt for half a century and beyond.

4. In the Secretary of State's recent (7 September) decision on the Llandinam 132kV OHL, it is stated:

> "409. SPM notes that the effect of the OHL would be reversible. It should be decommissioned and removed if no longer needed, and as its sole purpose would be to export electricity from wind farm development its life would also be limited to about 25 years [A6, 245]. However, 25 years is a long time and many people alive at the time of the OHL's erection would not live to see its removal."

5. Clearly the Secretary of State's reasoning applies with proportionally more force to the NWWFC.

6. The design of the connection suggests the possibility that it is 'over-engineered', that is that the design of the line with its double poles and steel superstructures is in fact more than is required for the task for which it is ostensibly being provided.

7. In this connection it is interesting that in the case of his Llandinam proposal the Applicant was able to state that "as its sole purpose would be to export electricity from wind farm development its life would also be limited to about 25 years". However in the NWWFC case as shown in Para. 2 above he is stating almost the opposite.

8. Thus it is even more interesting that Scottish Power's newly-published proposals for connecting three wind farms at Loch Urr to the national grid proposes the use of Trident mainly single poles. Given the Applicant's insistence that only the double-pole steel-superstructure connection as currently proposed will suffice for the NWWFC, it is surprising to note that the Loch Urr connection is for three wind farms with a combined capacity of 203 Megawatts, whereas the NWWFC is also for three wind farms (following the withdrawal of Nant Bach), but with a combined capacity of only 148 Megawatts, or less than three-quarters of Loch Urr. (*Loch Urr Grid Connection: Phase A. Routeing Consultation Document*. August 2015).

9. The conclusion one draws from, on the one hand, the statements on lifetimes and decommissioning and, on the other, the comparison with Loch Urr, is that the OHL which the Applicant is seeking to construct as the NWWFC is not one which is purely and simply designed for the three Clocaenog wind farms, but one which has the capacity and indeed even the intention of accommodating an as-yet-undefined additional possible need in the future.

10. Given the effects on the landscape and the communities along the route of the double-pole steel-superstructure OHL proposed, the Group submits that the Applicant must be required to design a connection which responds purely to the requirements of the remaining three Clocaenog wind farms and to those alone.

Q 1.17 Costings

11. The Group contends that the Applicant must be seriously challenged over the figures produced in section 1.17 of his response, in the tables purporting to show the relative costs of overhead and underground options, and especially as regards the costs of losses in transmission over 25/40 years and the costs of operation and maintenance (O&M) over 25/40 years. The Group finds that the Applicant's figures for O&M are not merely questionable but are in fact wholly unreliable.

Costs of losses in transmission over 25/40 years

12. In his original submission, the Applicant stated that the costs of losses in transmission over 25 years would be £2.2m for OHL and £2.1m for cables. In his responses to the ExA's questions, the Applicant now states that these figures would be

£2.3m and £1.1m respectively. The reduction in the figure for cables from £2.1m to £1.1m is ascribed simply to an "error" in the original submission, whereas the increase in the figure for OHL from £2.2m to £2.3m is not explained.

13. Taking the new figures at their face value, the ratio of costs of losses in transmission over 25 years for OHL/underground is 2.1:1.

14. The figures for 40 years are £3.6m (OHL) and £1.8m (cables), a ratio of 2:1. While the difference is small, the difference between the two ratios is not explained.

15. The Applicant does not provide any basis for his calculations of costs of losses and does not state whether or not the costs over 25/40 years are calculated at Net Present Values (NPVs). It is assumed that they are not calculated at NPVs.

16. The Group referred in its WR to the study produced by Western Electric/Western Power Distribution (WPD) in February 2014 for the Brechfa Forest Connection which was proposed in Carmarthenshire, and it does so again. It reiterates that it is not suggested that the Brechfa costs can be simply translated to the NWWFC situation, and does not seek to do so. It is suggested however that the Brechfa 14-page 'Lifetime Costs Report', for a 132kV line on double wooden poles, through similar terrain, and with a 40-year design life, can provide useful points of comparison on methodologies and some general principles, showing as it did the Total Lifetime Cost of the Brechfa project over its planned 40-year life, i.e. the costs of installation, maintenance and energy losses in transmission.

17. As already stated, in providing figures for costs of losses in transmission over 25/40 years, SPM simply set out the figures given in Para. 12 above, without further explanation. In contrast, the Brechfa report sets out the methodology for its calculation of the NPV of costs of losses, the formulae which apply and the details of the resulting calculations. Here we reproduce only the headings for the six steps which are involved, without reproducing the formulae and calculations:

Step 1 – Calculate the Average Loading
Step 2 – Calculate the Average Current
Step 3 – Calculate the Resistance of the Circuit
Step 4 – Calculate the Three Phase Lost Power
Step 5 – Calculate Annual Cost of Losses
Step 6 – Calculate Net Present Value of the Cost of Losses (CL)

18. We also note that WPD state that "Net Present Value is calculated over a 40 year period at a discount rate of 7% (excluding tax relief allowance) as per Western Power Distribution's Financial and Accounting Policies", but that a rate of 3.5% is currently set by the Treasury for calculating NPV.

19. As was stated in the Group's WR the Brechfa report's methodology and calculations result in a ratio of 3.87:1 for costs of losses of OHL compared to underground cables (£3,446,000 compared to £890,000 at NPVs for the 40km route).

20. Clearly, SPM's unexplained 2:1 ratio works against undergrounding in comparison with the 3.87:1 which WPD explain in detail. One might add that SPM's 2:1 ratio has the

slightly too ‘neat’ semblance of a figure chosen somewhat arbitrarily rather than worked out on the basis of detailed calculations. At the very least it suggests the need for the Applicant to provide a robust evidence-based justification for the figures used.

Costs of O&M over 25/40 years

21. However the Group’s concerns over the Applicant’s figures for costs of losses in transmission are far outweighed by those given for costs of O&M.

22. The Applicant himself states that “Overhead circuits are more susceptible to transient faults (such as momentary tree contact, bird contact or lightning) than underground cables”, and that “…underground cables are less susceptible to transient faults”. While not in this instance referring to permanent faults, which can affect both OHL and cables, or the relative costs of repair, it is established in all the literature on the subject that overall, the incidence of faults on OHL is substantially greater than in cables.

23. It is therefore with surprise and great concern that the Group notes figures given in 1.17(c) in the Applicant's responses to the ExA's questions. Under 'Reliability' it is stated that for OHL it is 'Typically 0.004 faults per kM', while for cables it is 'Typically 0.03 faults per kM'. In other words therefore the incidence of faults in underground cables is stated to be 7.5 times greater than in overhead lines. While this completely contradicts all other material available on the subject, it does mean that the Applicant comes up with very substantially greater figures for O&M over 25/40 years for underground, although again it is not stated whether these are NPVs. Thus over 25 years the O&M costs of OHL are given by the Applicant as £1.6m compared with £10.7m for underground, while for 40 years the figures are £2.5m and £17.1m respectively.

24. The last figure of £17.1m for O&M for cables over 40 years should be considered in relation to the stated <u>installation</u> cost of the OHL option of £32.1m. Given the additional installation costs of undergrounding it is unsurprising that by producing figures like this £17.1m the Applicant is bound to arrive at a figure for total lifetime costs which show undergrounding as vastly more expensive and by implication unaffordable.

25. However these O&M figures are simply not credible, as even a cursory search through the relevant literature available will show.

26. In general terms, the literature shows that the relative costs of O&M are broadly similar for OHL and cables, for while the incidence of faults in OHL is roughly three times that in cables, the costs of repairing faults in cables are considerably higher than they are for OHL, and we note that in his tables in 1.17(c) the Applicant does indeed categorise the ‘Cost of repairs per fault’ for OHL as ‘low’ and those for underground as ‘high’.

27. The Group offers below some of the many examples available which show the incidence of faults on OHL as greater than that for underground cables.

28. The report *Nordic Grid Disturbance Statistics 2013* of the European Network of Transmission System Operators for Electricity, published 6.11.2014,

(http://tinyurl.com/nzryoos) provides detailed statistics on faults occurring on a variety of connections, including the reasons for them. Those for 132kV OHL and underground cables will be found in Tables 5.3.3 and 5.4.3 respectively, the figures for underground cables being derived from 1,951km of installed 132kv cable.

29. The details are very instructive but in terms of averages show around 1.69 faults per 100km per year for 132kV OHL over the period 1996-2013, and around 0.60 faults per 100km per year over the period 2004-2013 for 132kV underground cables, a ratio of 2.82:1. In contrast, and rather remarkably, as stated in Para. 23, the equivalent ratio produced by the Applicant is 1:7.5, a factor of 20 times different.

30. In the Brechfa report referred to above, WPD show in tabular form (Table 1.1 *Cost of operation and maintenance*) the relative costs of O&M per km per year and conclude (4.10): "The resultant average cost of operation and maintenance of approximately £800 per km per year for overhead lines and £1,000 per km per year for underground cables are used in the calculation of lifetime costs".

31. Just as for their figures for costs of losses in transmission, where WPD provide a detailed methodology and show the actual calculations, in the case of O&M costs WPD state clearly that the figures they provide are based on their existing networks of 2612km of OHL and 100km of cables. They state:

> "4.8. The historical on-going maintenance and repair cost for 132kV overhead lines and underground cables for WPD in South Wales and the South West were used to calculate lifetime costs. This was achieved by using the total annual costs for inspection and maintenance, faults, tree cutting over a two year period, setting the results against the total length of circuit in service to calculate the average cost per kilometre per year."

33. A paper *Comparison between Underground Cable and Overhead Line for a Low-Voltage Direct Current Distribution Network Serving Communication Repeater* by authors from the Korea Electric Power Research Institute and two Korean universities, published 20.3.2014 in the journal *Energies* (ISSN 1996-1073, www.mdpi.com/journal/energies), compares in very great detail calculations of costs of low-voltage DC connections, both overhead and underground. Although dealing with low-voltage connections, several of the principles involved apply to issues raised by the present case, notably that the authors work on the basis of the incidence of faults on the OHL option being 2.73 times greater than or the comparable underground option. This figure of 2.73 is also used by the authors in making comparisons with existing overhead and underground medium-voltage AC lines.

34. Importantly for the NWWFC case, the Korean authors' NPV analysis for 30 years finds that the NPV of O&M costs over 30 years are only some 26% (bipolar) or 29% (monopolar) greater for underground than OHL, a percentage very much in line with the 25% cited in the Brechfa study (above), but obviously massively at odds with the nearly 7000% difference given by the Applicant in the tables in 1.17(c). This difference is discussed further below.

35. While perhaps stating the obvious, the relatively high incidence of faults on OHL compared to cables is largely due to the weather. A paper presented at the 47th Minnesota Power Systems Conference which took place 1-3 November 2011 simply stated: “Cable systems are largely immune from weather effects; this significantly reduces the impact on maintenance requirements and enhances reliability from unplanned outages… Cable failures are less common than for overhead lines but they do occur”. (http://tinyurl.com/q4e4vao)

36. In the Nordic study referred to above, over 60% of the faults associated with OHL are caused by lightning (47.6%) and ‘Other Environmental Causes’ (16.7%), whereas with cables these causes are largely absent, totalling only 3.6%, but ‘Technical equipment’ accounts for 49.4% of faults.

37. Perhaps in confirmation of this, the UK Met Office’s web site has a page devoted to ‘Climate change and the UK's electricity network’ (http://tinyurl.com/q8yq3wh)
The Met Office states: “Our study showed there were five major weather-related faults on the UK's electricity network: wind and gale, snow, sleet and blizzard (SSB), lightning, solar heat, and flooding”, and proceeds to consider how faults caused by these may change in the future. That these are all faults affecting OHL almost exclusively simply underlines the extreme skepticism with which the Applicant’s figures for faults must be treated.

38. We recall at this point the figures for faults given by SPM: “Typically 0.004 faults per kM”, for OHL and “Typically 0.03 faults per kM” for cables. SPM state therefore the incidence of faults in underground cables is 7.5 times greater than in overhead lines. Given that other studies referred to above find that, on the contrary, the incidence of faults is approximately 2.75 times greater in overhead lines than in underground cables, there is a discrepancy of over 20 times in the figures cited for incidence of faults between the Applicant’s figures and the others cited.

39. While this discrepancy is remarkable in itself, equally remarkable are the Applicant’s actual figures for ‘Costs of O&M over 25 years’ and ‘Costs of O&M over 40 years’ (see tables in 1.17(c)). The former gives figures of £1.6m and £10.7m for OHL and cables respectively. The latter gives figures of £2.5m and £17.1m for OHL and cables respectively.

40. On the basis of the Applicant’s statements of the incidence of faults in underground cables being 7.5 times greater than in overhead lines, and the cost of repairs per fault being ‘high’ for underground cables but ‘low’ for overhead lines, it would seem automatic that the costs of repairs to faults on cables must be more than 7.5 times the costs of repairs to OHL. Indeed, given the fact that generally speaking the other studies cited give figures for costs of O&M which vary only by around 25% but which find cables roughly two-thirds less susceptible to faults than OHL, one would assume that in the broadest terms the costs of repairing faults on cables are roughly three times those of repairing those on OHL. Indeed this might perhaps correspond to the Applicant’s ‘high’ and ‘low’ categorizations.

41. Taking the figures above, however, at £10.7m the 'Costs of O&M over 25 years' for cables is 6.69 times greater than the £1.6m for OHL. At £17.1m the 'Costs of O&M over 40 years' for cables would be 6.84 times greater than the £2.5m for OHL. Given (i) SPM's 7.5:1 ratio of underground/overhead faults, (ii) the 'high' cost of repairing underground faults compared with the 'low' cost of repairing overhead faults, and (iii) the fact that the underground route envisaged would be 22% longer than the proposed OHL, it is incomprehensible that the cost ratios are less than the fault ratio. The Applicant's reasoning should have produced costs of O&M for undergrounding even further in excess of those shown.
42. In contrast with WPD's Brechfa report, just as SPM fail to show a rationale for their figures for lifetime costs of losses in transmission but simply adopt a 2:1 overhead/underground ratio without explanation, they likewise fail to explain the details behind their calculations of lifetime O&M costs. This is even though, as is shown in the following, they appear to have significantly more comprehensive data than WPD on which to draw.

43. Yet further doubt is cast on the Applicant's figures by comparing the figures in the tables in 1.17(c) with the document *RII0 T1 Business Plan, Section 6 Operating Costs* issued by SP Transmission on 28.7.2011 (referred to by SP as 2011_SPT_Narrative_6 Operating Costs).

44. RIIO (Revenue = Incentives + Innovation + Outputs) is Ofgem's model for price control running from 1 April 2013 to 31 March 2021. It replaced the previous TPCR4 model which expired on 31 March 2012 but whose controls were rolled over for one year until the start of TPCR4.

45. In this document, SP Transmission set out operating costs over the period to 2021. They list the assets which these operating costs cover as:

- 157 Substation sites
- 2 HV/DC convertor stations
- 4074km of overhead line
- 475 circuit breakers
- 294 transformers
- 789km of cables

We particularly note the 789km of cables.

46. The document's Table 6 *Summary: Total Direct Costs* gives total costs for the years 2011 (actual) and 2014-2021 inclusive (predicted), being totals of the costs shown against the individual categories Fault Repair, Inspections and Maintenance, Tower Painting, Vegetation Management, and HV DC & New Technology.

47. The total costs given for the years covered are

- 2011 £6.1m
- 2014 £7.1m
- 2015 £7.2m
- 2016 £7.2m
- 2017 £8.7m

- 2018 £8.7m
- 2019 £8.8m
- 2020 £10.0m
- 2021 £10.1m

48. The document's section 3.2 *Maintenance and Faults* states that "Maintenance cost and faults costs have increased from £3.6m [in 2011] to £4.6m [in 2021]", and lists four contributory factors, including the following:

> "4. Cable (including faults) and maintenance costs will increase from £0.5m to £0.8m in line with our strategy to collect condition based information on oil and xlpe cables."

49. On the basis of the 789km of cables cited in the list of assets, this gives an annual cost of £633 per km for 2011 and £1,014 per km for 2021.

50. We note the similarity to WPD's Brechfa figure of £1,000 per km.

51. More importantly, however, and returning to the Applicant's tables in 1.17(c), we note that the costs given for O&M over 25/40 years for cables (£10.7m/£17.1m) give annual costs of £428,000 (25 years) and £427,500 (40 years).

52. Ignoring the negligible difference between the two figures, for the 24 km cable route the annual cost of £428,000 translates to an maintenance figure of approximately £17,833 per kilometre, over 28 times the 2011 figure in the SP Transmission document and nearly 18 times the 2021 figure.

53. The NWWFC figures apply to a 24km connection whereas those in *RIIO-T1* apply to 789km of cables. If this £17,833 per km figure for the NWWFC were applied to all 789 km of SP Transmission's cables, they would cost a total of £14.0m to maintain annually. Simply taking 2014 as an example, this is already virtually double the £7.1m identified in *RIIO-T1* for its total O&M costs, without even taking into account all the other assets listed, not least the 4074km of overhead line.

54. The figure of £17,883 per km contrasts starkly with both SP Transmission's own figures in *RIIO-T1* and the £1,000 per km found in WPD's Brechfa report. Differences may be expected, but factors of 18 times are clearly an indication of something seriously wrong in the Applicant's calculations and/or underlying assumptions.

55. To say therefore that SPM's figures for Costs of O&M for 25/40 years do not tally with comparable figures found elsewhere, even within documents produced by other companies within SPEN, would be a substantial understatement. It is clear that the Applicant's cost figures are riddled with major errors and inconsistencies, some of them compounding and some of them contradicting each other. These errors have profound consequences for assessing the relative costs of undergrounding versus overhead lines, since the very high costs shown for O&M for cables, whether discounted to NPVs or not, add very substantial, even critical, amounts to total lifetime costs. These amounts are very greatly at odds with what is suggested in all the other studies that are available, i.e.

that the differences in lifetime costs of O&M between overhead and underground are relatively small, coming out at around 25%.

56. On the lifetime costs figures presented by the Applicant, therefore, the Group concludes that on the basis of both costs of losses in transmission and costs of O&M contain serious errors and are thus wholly unreliable, and therefore that they cannot be taken as the basis for the Applicant's arguments against undergrounding.

Q. 2.2 Pole positions

57. The Group points out that landscape and visual considerations are the key ones affecting the community and the uncertainty over exact pole positions makes it very difficult for the community/residents to comment meaningfully on the visual effects.

Q. 2.6 Clocaenog substation

58. The Applicant describes the decision by the elected members of Denbighshire County Council reject the planning application as "disappointing". He omits to mention that:

- The design included a 9m high gantry purely for connecting to an overhead line despite the fact that DCC had stated as policy that the connection should be undergrounded;
- The RWE wind farm application was, at the time of the planning meeting, the possible subject of a legal challenge which, had it been successful, would have affected the design of the substation.
- The Applicant himself states that "Once consented, the substation construction would take approximately 12 months to construct".

59. Given the timetable for the present Examination and the Applicant's own schedule for installing the NWWFC should consent be given, it might be thought premature for the planning application for the substation to be submitted at this very early stage. While the legal challenge to the RWE wind farm did not in fact go ahead, within a matter of days of the planning meeting Vattenfalls indicated its decision not to go ahead with the Nant Bach wind farm, and it should be noted that one of the remaining wind farms is subject to a current planning application regarding tip height extension, indicators of the uncertainties associated with the proposal.

Q. 3.1 Vehicle dimensions

60. The Group notes the vehicle dimensions provided by the Applicant and maintains strongly that the stretch of the 'Groesffordd Marli to Glascoed Road' road between Cefn Meiriadog CP School and the ancient way opposite the properties Groesffordd Farm and Trebanog is entirely unsuited to the vehicles described, both from the point of view of danger to parents and children at the school, and from then point of view of the narrowness of the road generally and particularly between Tyddyn Eos and Trebanog.

61. As far as the use of such vehicles along the ancient way is concerned, even the slightest consideration makes clear that it could never take such traffic and would be irreversibly damaged, even destroyed, were it to be used in this way.

Q 3.15 Rural road network

62. The Applicant's statement that "5. The unclassified roads along the route are single width and currently accommodate farm vehicles and deliveries with large vehicles and HGV's", needs to be treated with great caution. The largest farm vehicles do not use sections of the 'Groesffordd Marli to Glascoed Road' due to their narrowness and those that do use it have caused erosion of the banks. Likewise large delivery lorries and HGVs do not use it. It is worth pointing out that there have been incidents of delivery vehicles getting physically stuck on some of the narrower roads, and there have been numerous incidents of damage to the historic bridges at Bontnewydd and Pont-y-Ddol.

Q. 3.21 Working hours

63. The Applicant does not answer question of why working is required at the weekends and on public holidays. The Group notes that Dong Energy, currently constructing the underground connection for the Burbo Bank Extension from Rhyl to St Asaph/Cefn Meiriadog, and building a new substation in Cefn Meiriadog, is restricted to weekday working.

Question 8.17 (c): View of the terminal pole when viewed from the nearest residential properties on Groesffordd Marli to Glascoed Road

64. The Applicant states: "Viewpoint 39 is taken from a position approximately 220m from the suggested location, i.e., east of Groesffordd Marli, on the public footpath nearest the settlement. The location was chosen since it is representative of views from the settlement at Groesffordd Marli, from the public footpath network… and from users of the local lanes", and, "Since viewpoint 39 is representative of the views likely to be experienced by visual receptors in this locality, an additional viewpoint would not adjust the outcome of the assessment."

65. The Group takes issue with this assessment. The particular footpath on which Viewpoint 39 is situated is very little used since by its nature and location it served largely as a short cut across fields in earlier times for farm workers and others. It is therefore not representative. The nine photographs taken "during field work" purport to show views from the grouped residential properties, and the text accompanying them makes much of the high banked hedge and the trees behind which it is said the terminal pole will be situated. In questioning the usefulness of the photographs and the points made by the Applicant, the Group would point out:

- The properties extend some 25-30 metres north from the road, completely changing the perspectives of compared to those presented in the photographs, and in particular changing the angle of view such as would bring clear views of the terminal pole over the hedges. This is the actual experience of the residents moving around their houses, yards, gardens, outbuildings, etc, rather than the very limited view presented in photographs taken from the public highway some 3-4 metres in front of the hedge.
- The hedges are fully cut back in September
- The trees which the Applicant implies or states will hide the terminal pole are deciduous, therefore are without leaves for around half of the year.
- Even so, it is clear from the photograph with the numbered references of photographic positions that the angles will alter as one proceeds along the road and around the properties, allowing clear views of the terminal pole.
- The Applicant's contentions regarding visibility and visual amenity from the property do not really engage with the 'skylining' issue. In fact that the ground is

rising quite steeply southwards of the properties, precisely towards the limestone ridge where skylining would be such a key issue involving both terminal and other poles should the proposal be allowed to go ahead.

- In connection with this and the first point made above, a careful study of the Applicant's photograph 8 clearly shows the windows of Trebanog (a bungalow) and the upstairs windows of Graig Lwyd, with the windows of Bryn Arian (also a bungalow) visible through the hedge. Photograph 8 is taken from some 15-20 metres lower down the lane than the proposed location of the terminal pole, and the lane is quite steep in this portion. Therefore the base of the terminal pole will be approximately 4-5 metres higher than the point from which the photograph was taken. Since the terminal pole itself will be 15-18 metres high, the top of the terminal pole will be some 19-23 metres higher than ground level at the point from which the photograph was taken. Assuming that the camera was held a maximum of 2 metres above ground, the top of the terminal pole will be some 17-21 metres higher than viewpoint from which the photograph was taken. It is clear that the terminal pole will be highly visible from the properties, as will be the preceding poles as they 'skyline' over the ridge. Similarly, the tops of the upstairs windows of Groesffordd Farm are visible in photograph 9, indicating that this property will likewise be affected.
- The Applicant plans to remove 25-30 metres of hedge directly in front of Trebanog and Bryn Arian, leaving these two properties and everyone passing with a completely uninterrupted view of the whole of the terminal pole and the 'skylining' other poles for the many years it will take the hedge to regrow.

Martin Barlow
Chair
On behalf of 182 members of the
Cefn Meiriadog and Glascoed Road Residents and Users Group
17.9.15