

New 132kV Overhead Line Connection from Llandinam Wind Farm to Welshpool Substation

Section 37 Application Q & A 22nd January 2010

General Technical

Is the size of the conductors used on the poles related to the pole's spacing?

Many factors determine the pole spacing, which include Wind Loading, Structure Strength, Span Lengths, Height above Sea Level, Number of Conductors etc. as well as Conductor Size. The line design including conductor size proposed will provide the approved and appropriate solution for this overhead circuit.

Could you tell me the size of the conductors used on the Carno to Aberbechain line ie the single wooden pole system that has been used? What diameter and rating are the conductors on the Carno to Aberbechan trident line?

The existing Carno/Aberbechan line is constructed using 175sq mm ACSR (aluminium conductor steel reinforced) "Lynx". Scottish Power's (SP) policy (which is in line with the other DNO's) is to stop utilising ACSR type of phase conductors in favour of the use of AAAC (all aluminium alloy conductor) conductors. Any proposed new line and any replacement line will be built in accordance with Scottish Power policy using AAAC phase conductors.

Proposed Design

We are aware that Scottish Power Energy Networks had Innovation Funding Incentive [IFI] money in 2005/2006 to build and test a high capacity 132kV wood pole line design to replace TRIDENT single pole designs. Have Scottish Power got monies for this design from IFI and if so, has it not been noticed that in environmental/aesthetic terms it's actually worse than the original design? Which pole design do Scottish Power propose they will be using along the Llandinam to Welshpool route?

A small amount of IFI funding was indeed granted to build and test (the previously SP funded Heavy Duty Overhead Line (HDOHL) design) in terms of its installation in the ground. Please note the HDOHL line design was fully funded by SP. This HDOHL complies fully with European Directive BSEN 50341. The HDOHL does not replace ENATS 43-50 (Trident) which is used where an Optical Ground Wire (OPGW) is not required for earthing and protection signalling, which is not the case in this project.

We have had engineer's calculate figures on the proposed line's capacity and have been made aware that there will be a large amount of spare capacity on these lines. Are Scottish Power going to rent/sell line capacity to others in the short/long term until a National Grid connection is built?

SP do not rent line capacity as such to others for the purpose of connecting third parties. Where the network and line capacity exists and a third party requires connecting, then under our license obligations SP would contract directly with these third parties. SP can confirm there is currently no spare local network capacity to connect any further third parties onto the proposed line.

Before Christmas you told us that you would work up a plan showing the spacing along the line for the older single pole tridents (presumably like the three you have proposed near Cae Maenllwyd Barns). Has this been done yet? If so, when can we see these plans?

For the avoidance of doubt the single pole structures you refer to are not of the older style ENATS 43-50 (Trident) design. The HDOHL design allows a single pole structure to be used as an alternative to the common place "H" pole type structure. Typical examples of these can be seen in the Environmental Statement fig 4.1.

Single pole structures have only been introduced along the proposed route of this line where the landowner has accepted the resulting shorter span lengths and additional pole positions. This alternative single pole structure cannot be achieved where the landowner consents would not be granted for these resulting shorter spans and additional pole structures.



Why is the line not proposed underground at any part of its length, eg. in the area of Glanmeheli Farm where it will be of high impact/visibility from miles around for residents, drivers and walkers?

SP Manweb refers first to the information provided in the Environmental Statement (ES) in Ch 3 Para 3.2.7 and Ch 5 Para 5.5.5. The information provided in these paras outlines the reasons why there are technical, economical and environmental considerations to be taken into account and taking these together or individually, there are no overriding reasons which support laying underground cables in this project.

In addition, the ES in Ch 3 explains the considerations for undergrounding in the context of 'Alternatives Considered' and goes on to say that if undergrounding were to be considered then this might lead to a different route of approximately 40km. In the absence of detailed studies, it is possible that this might be longer rather than shorter as the aim would be to restrict the cable route to public highways to provide immediate and available access. It is therefore not just a case of assuming an equal length of underground cable.

In respect of the matter raised about laying a section of underground cable along any part of its length and including in the area of Glenmiheli Farm, the following should be noted:

In respect of laying a section around Glenmehli Farm, specific environmental considerations have been taken into account. It is considered that the backdrop of the woodland at the southern corner of the Farm near Clun Road and the lane to Borfa Wen provides a very good screening backdrop for the proposed line when viewed from the west. The sloping land levels also mean that from Sawmills, the line sits behind a small mound and is not seen from this angle (see Viewpoint 8). The proposed wood pole route avoids any significant environmental impact further north on other access routes and footpaths by being routed over private farmland. It is accepted in the ES that when viewed from the east looking west, the overhead line would have a significant impact (Viewpoint 7) although with new tree and hedgerow planting proposed as part of the scheme, this would reduce this impact. It is also proposed to underground a 240m section of 11kV overhead line that currently runs to the west of Glenmehli Farm to reduce the 'wirescape'.

Introducing a section of underground cable would also require the installation of the larger terminal poles at the overhead line/ cable interface. These are illustrated in Fig 4.1 in the ES. The installation of these larger structures also has to be considered in landscape and visual impact terms.

Taking the above together, SP Manweb does not agree that there is sufficient justification for undergrounding this particular section.

SP Manweb also considers if it did in this case, then there would be a number of other similar cases coming forward along the route length and it would be difficult to argue against these. If these sections of the route were introduced, the costs then increase.

With what SP Manweb sees as not having a significant landscape and visual impact, and the risks of undergrounding this section resulting in larger structures, arguments for the same at different sections along the route length and an increase in costs overall, SP Manweb considers it acceptable to progress the proposal as it stands.

SP is currently also reviewing the detailed routing of this section and will seek to work with local landowners and the local community in considering any alternatives.

Mid Wales Connections

Also, if the HUB is built in Abermule area how will the future Area C operators get power to the hub? Will they be allowed to use this proposed line/route? Will Scottish Power sell the connection (Llandinam to Abermule) to the National Grid for use by all operators?

SP cannot answer this speculative question regarding future Area C operators or the possibility of the HUB being located in the Abermule area and any subsequent Llandinam – Abermule connections until a HUB location is provided by National Grid and then detailed engineering assessments and routing studies have been undertaken by SP.



Planning

I note from the EIS that a photo of the visual impact that this line will have on Sawmills residents has only been taken from one angle, from Borfa Wen hill, and has not considered the visual impact that this impact will have on residents of houses facing the direction of Glan meheli Farm and any of the many walkers using our lane. This error has occurred many times along the proposed route.

A number of viewpoints are included in the ES and these include viewpoints from Saw Mills (Viewpoint 8) and Glanmiheli Farm (Viewpoint 7). The Saw Mills viewpoint does not include a photomontage because the line is not visible from the point where the photograph is taken. Additional viewpoints might well be proposed through the planning consultation and these will be considered by SP if they help to provide information to assist further visual impact assessment of the proposals including viewpoints in the Saw Mills area.

How many of the other wind farm applications near the Llandinam site have an agreed grid connection with SP Manweb or have applied for a connection with you?

This is commercially sensitive information and cannot be given.

After further study of the maps and the EIS this weekend, I have noted two major errors. Firstly, the map that you provided a few weeks ago to Linda Rowe, which she forwarded to me, has an incorrect scale. It states a scale of 1:25000, but this cannot be so. What is the actual scale of the map that you supplied us?

This is correct as the plan made available previously is actually 1:20,000 scale where the key states 1:25,000 and the error has arisen in printing out the plans onto different sized paper. Copies of the correctly scaled drawing have since been made available.

Secondly, I have noted that there are differences in the routes shown on the EIS map and the above mentioned map (received via Linda) where the line passes Maenllwd Barns. Which is the correct proposed route?

The Maenllwyd Barns route is the correct route and is different as this is an amendment made between printing the ES and the planning submission plans.

