

IMPACT ON PEAT BY THE NEITHIRION BYPASS (Ch 8850-9680)

1. The impact of the Neinthirion Bypass (“the bypass”) on peat was surveyed specifically as part of the peat assessment process, along with a habitat assessment, as part of the access route assessment in Spring 2013.

2. Peat probing along the route of the bypass was undertaken by Ecology Matters as part of the wider survey and assessment of the site in February and March 2013. Further habitat assessment was undertaken in May 2013.

3. The peat depth was assessed by probing with a cane as outlined in the CCW guidance note¹ and the methodology employed followed that guidance. The need for peat probing was determined by a peat assessment process which comprised the following:

- The area of ground from the existing minor road to the rising drier ground was assessed for the potential for the occurrence of peat based on (i) the plant species which were present, (ii) a consideration of drainage, (iii) wetness and (iv) elevation;
- The potential for disturbance to peat was identified;
- Where there was a potential for both (i) peat at depth and (ii) disturbance, a trial pit was dug (no cores were taken) to below the root zone to examine the soil;
- If peat was present, then probing was carried out approximately every 10m within the red line boundary along the peat section to ascertain depth.

4. Probes were taken approximately every 10 metres from the existing road along the line of the proposed bypass, where it crosses a section of peat. The location of the probes and the relevant depth of peat are shown in Figure 1.

¹ CCW (2010) Assessing the impacts of windfarm developments on peatland. Guidance Note.

5. While the remainder of the access route was assessed for the presence of peat, no further probing took place (outside the route of the Neinthirion bypass) because no peat was found and no further probing was necessary. At Ch 650² of the bypass, there was a narrow strip of purple moor grass, which can be indicative of peat. This was specifically assessed and found to be on mineral soil.



Figure 1: Soil and peat probes

6. The results were as follows:

Easting	Northing	Soil depth and type
296371	306334	5cm mineral soil
296363	306342	10cm mineral soil
296355	306351	10cm mineral soil
296345	306356	30cm peat

² The reference is to the chainage on the bypass

296333	306361	50cm peat
296323	306368	50cm peat
296315	306379	30cm peat
296294	306386	15cm mineral soil

7. From the extensive peat probing across the whole of the application site, it is clear that peat depths are highly variable and not homogenous. Therefore it is essential to probe within the bypass boundaries to ensure an accurate peat depth is established. Nearby peat probes (outside the boundary of the bypass) may not be accurate in assessing the impact of the bypass because of the lack of homogeneity. The area has been deliberately drained (the draining channels are visible on the photo above) by the landowner to allow for the current heavy grazing.

8. In addition, the habitat was re-surveyed for NVC classification. The habitat along the proposed bypass route currently conforms most closely to U6 *Juncus squarrosus* – *Festuca ovina* grassland. It has probably derived from M17 *Trichophorum cespitosum* – *Eriophorum vaginatum* blanket mire but the original constituents of the vegetation are now at most occasional within the sward. These include rare occurrence of *Sphagnum papillosum*, occasional *Sphagnum fallax* and rare occurrence of cranberry *Vaccinium oxycoccos*. All other species are typical of U6. These include frequent heath rush *Juncus squarrosus*, frequent *Aulacomnium palustre*, frequent *Polytrichum commune* and frequent bilberry *Vaccinium myrtillus*. Purple moor-grass *Molinia caerulea* is also frequent here. The route of the proposed new track crosses the edge of this U6 grassland area, before crossing two small ditches. These ditches support M6d (*Carex echinata* – *Sphagnum fallax/denticulatum* mire; *Juncus acutiflorus* sub-community), dominated by sharp-flowered rush and *Sphagnum fallax*.

9. The wider area of the proposed bypass has been subject to heavy grazing over many years, as characterised by the presence of frequent heath rush. Ecology Matters note NRW consider the area to still conform to M17. In the light of repeated surveys, part of this area could be classified as M17c. However, this

is confined to the central 'core' of the small peat body. The central core of the small peat body is located to the east of the proposed bypass. It will be evident on the site visit. The vegetation surrounding this core has been modified greatly, due to drainage and heavy grazing. This is indicated by the presence of abundant heath rush and a paucity of bog-moss (i.e. Sphagnum) species. Undoubtedly the area has derived from M17, but is now degraded to such an extent that it is better and more accurately categorised as U6. This is particularly the case in the immediate area proposed for the bypass, where very few bog species are still present. Species indicative of semi-improved grassland are also present in the vegetation.

10. There will be an impact on peat from the bypass in this location. The central section is on 50cm peat (just within the CCW / NRW classification of deep peat). The impact was assessed to be to a volume of peat of 636 m³ (see rebuttal of Mick Green Appendix C). This impact has been quantified as part of the carbon calculation process.

11. John Ferry has re-assessed the area of peat which is to be impacted by the Neinthirion bypass. On the basis of the two depths of 30cm and two depths of 50cm recorded within the red line of the bypass alignment (a length of 50m in the peat), a bypass width of 6m and peat depth of 0.5m, the development will disturb 150m³ of peat which led to Mr Ferry assessing the volume of peat to be impacted by the bypass to be between 100-200 m³ (see John Ferry in EiC and XX).

12. Such an impact needs to be considered in the context of a total estimated peat disturbance impact across the application site of 120,000 m³. The volumes do not take account of the likely overestimate of peat depths nor to micro-siting of track and turbines away from peat >0.5m subject to other constraints.

13. The assessment of this impact has a margin for error of 10-15% (see John Ferry in answer to an Inspector's Question). Accordingly, the impact of the development on peat at Neithirion is estimated by John Ferry to be less than 0.2% of the total estimated impact and well within the margin for error. Even on

the basis of Mr Woodfield's assessment (which is not accepted), the impact (assessed by him to be 1500m³) is 1.25% and well within the margin for error.

14. On this basis, RES consider that **the impact on peat at Neinthirion is simply not material**. It is for this reason that the peat probing data was not included in the ES or SEI (see XX of John Ferry).

15. Indeed, the volume of peat disturbed at Neinthirion can be contrasted with the volume of peat which PCC would be content to see disturbed as part of their alternative access proposals.

16. At this stage of the proposed development, detailed mitigation has not been agreed with NRW. However, there will be a condition requiring such mitigation (see John Ferry in XX). RES therefore consider that any impact on peat at Neinthirion can be adequately mitigated.

17. Indeed, the Habitat Management Plan and Peat Management Plan (appended to Chapter 5 and 8 of the CSEI) propose mitigation measures that will further minimise any impacts from loss of peat habitat, peat excavation and dewatering. They also outline long term habitat restoration and management compensation measures designed to enhance the peat on the site. The area of peat restoration to compensate for the volume of peat dewatered through the installation of any windfarm infrastructure is 200 ha for blanket bog and mire restoration and 149 ha of forest on previous peat habitats which will be removed and habitats of conservation importance restored.

18. The consequent peat habitat restoration is substantially greater than the area of peat habitat that will be lost. Therefore, **the residual predicted impact of the development (taking into account the non-material impact to peat at Neithirion) is actually a net gain**. This conclusion is not disputed by NRW.

19. Indeed, NRW have independently surveyed the site of the proposed Neithirion bypass and have presented peat probe data (See DWR2-4). Only two

probes appear to be on the proposed route. The NRW assessment shows a broad agreement with the probe depths of Ecology Matters.

20. Since NRW's survey (believed to be May 2013 but not shared with RES), NRW have specifically withdrawn any objection to the impact of the development on peat and peat habitats on the application site (which includes the route of the proposed bypass). Please see NRW email appended to this note Appendix 1. Such a position has clearly been informed by their own survey of this part of the site.

21. Accordingly, RES consider that the impact on peat at Neinthirion:

- (i) Has been assessed;
- (ii) Has been taken into account in the carbon calculator;
- (iii) Has been taken into account in assessing the environmental impact of the development;
- (iv) Has been mitigated, such that the net impact is beneficial.

22. The impact on peat (whether at Neinthirion or on the site as a whole) is therefore acceptable in national and local planning policy terms.

THE COLOUR OF THE PROPOSED BYPASS

23. An issue has been raised about the colour of the grass to be used on the bypass. The precise mix can be agreed with PCC and secured by a condition (if necessary). PCC are concerned that the grass re-inforcement will drain differently and therefore be of a slightly different shade to the adjoining agricultural land. RES do not agree that this is an issue.

24. The intention (from a drainage and engineering perspective) is for the grass re-inforcement to have similar drainage characteristics to the adjacent land. The grass re-inforcement would lie in an area which has been drained and heavily grazed by sheep and cattle. The seeded grass will have the look of agricultural improved rye grassland (which is nitrogen enriched from the sheep and cattle). It

will not look different from the adjacent improved, drained and grazed agricultural rye grassland.

25. The seeded grass may look a different shade from areas of surrounding mire. However, the mire itself is of different shades and is currently a different shade from the existing improved agricultural grassland. Accordingly, different types and shades of agricultural land currently exist.

Subject: FW: Llanbrynmair - NRW peat objection

From: Fielding, Carol [<mailto:Carol.Fielding@cyfoethnaturiolcymru.gov.uk>]
Sent: 08 October 2013 17:45
To: Mike Whitbread
Cc: Brian Smith; Maddock-Jones, Karen; Jones, Peter; rob@rigare.co.uk
Subject: Llanbrynmair - NRW peat objection

Mike,

NRW confirms that it agrees with your suggested change in wording on point 7. Given that we are now in agreement on all the points below NRW withdraws its objection on peat with regard to the Llanbrynmair windfarm. This is also on the understanding that we will work together on agreeing the relevant conditions as soon as possible.

kind regards

Carol

Dr Carol Fielding

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Ein diben yw sicrhau bod adnoddau naturiol Cymru yn cael eu cynnal, eu gwella a'u defnyddio yn gynaliadwy, yn awr ac yn y dyfodol.

Our purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future.

From: Mike Whitbread [<mailto:Mike.Whitbread@res-ltd.com>]
Sent: 08 October 2013 17:17
To: Fielding, Carol
Cc: Jones, Peter; Maddock-Jones, Karen; Brian Smith
Subject: RE: Llanbrynmair - NRW peat objection (without prejudice)

Dear Carol,

I would like to propose an alternative wording to point 7 below:

Both NRW and RES agree that the measures proposed within the HMA will adequately mitigate any residual impacts of the development

If this is acceptable to NRW, RES are happy to confirm agreement with all other points below.

Kind regards,