



DEFENCE ESTATES

Delivering Estate Solutions to Defence Needs

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Marcus Trinick
Bond Pearce
3 Temple Quay
Temple Back East
Bristol
BS1 6DZ

Your Reference

Our Reference

D/DE/JWOC

Date

21 December 2007

Dear Marcus

Joint Planning Inquiry (Steadings/Ray/Green Rigg)

Further to the meeting held yesterday with the Inspector, and so as to give you the fullest possible opportunity to understand the MOD's case, I have below set out part of the material which will be included in the MOD's proofs of evidence. This extract provides, in succinct form, certain data relating to the two radar installations which fall to be affected by the turbines in the three proposals. From this data you will see an adverse effect upon the operation of those radars by the turbines, including figures setting out the MOD's prediction of signal returns which will be generated by the turbines. I am also sending you copies of the path profiles we produced for each of your client's proposed turbines to both of the Spadeadam radars.

I trust you find this information of assistance. It should enable you to focus your visit to Spadeadam on matters which are relevant to the MOD's concern.

I again ask you to identify what mitigation measures are being proposed to overcome these adverse effects. If it is your case that the figures do not disclose a very serious adverse effect upon each of the radar facilities then please do let me know by return giving your reasons for your opinion.

I will be writing to you shortly with our further answers to your questions.

Yours sincerely

Julian Chafer FRICS

Head of Safeguarding
Defence Estates

Safeguarding solutions to Defence needs



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RAF SPADEADAM WATCHMAN RADAR DETAILS

Berry Hill (BH)

1. The significant features of the Berry Hill Watchman Radar are:
 - a. Location (WGS84) 55° 03' 00.8" N, 02° 33' 12.8"W
 - b. Antenna Height (AGL) 14m
 - c. Height to Base of Tower (AOD) 287.3m
 - d. Antenna Mechanical Tilt 0°
 - e. Beam switch-over range 16.0nm
 - f. Minimum Discernable Signal (MDS) -121dBm^(Note 1)

Note1 – The Minimum Discernible Signal is defined as the smallest signal at the antenna, which gives a discernable target on the display.

Deadwater Fell (DWF)

2. The significant features of the Watchman radar at Dead Water Fell are:
 - a. Location (WGS84) 55° 16' 02.0"N, 02° 35' 28.2"W
 - b. Antenna Height (AGL) 16.8m
 - c. Height to Base of Tower (AOD) 568m
 - d. Antenna Mechanical Tilt -1.0°
 - e. Beam switch over range 19.0nm
 - f. Minimum Discernable Signal (MDS) -121dBm

ASSESSMENT OF PROPOSED WINDFARMS ON THE SPADEADAM RADAR SYSTEMS

3. Figure 1 shows the site locations of the RAF Spadeadam Watchman Radar Systems and each of the proposed windfarms.

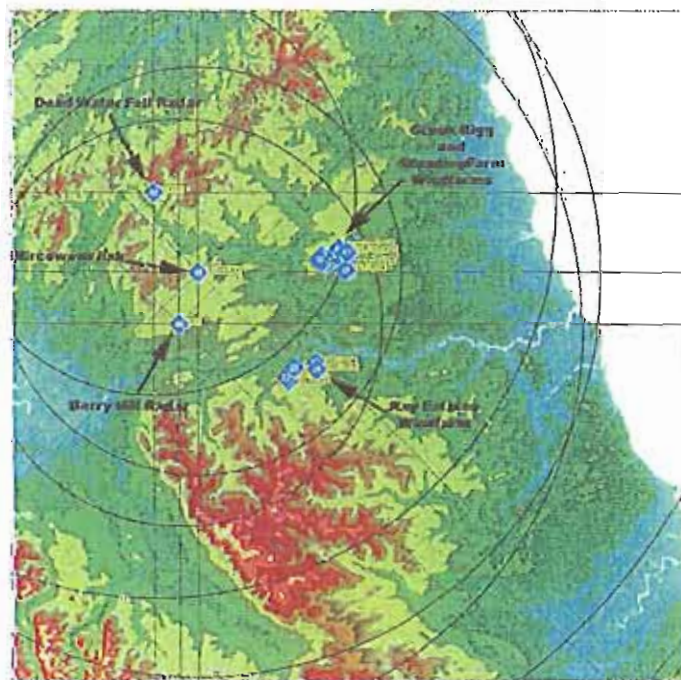


Figure 1 – Site locations

Berry Hill Radar Line Of Sight Analysis

4. Due to the location of the Berry Hill Radar there will be little terrain obscuration between the Berry Hill Watchman Radar and each of the proposed windfarm sites. The blue shaded areas shown in Figure 2 detail the regions which are visible from the radar at 100 metres above the local ground level. This represents the visibility of a wind turbine with a tip height of 100m.

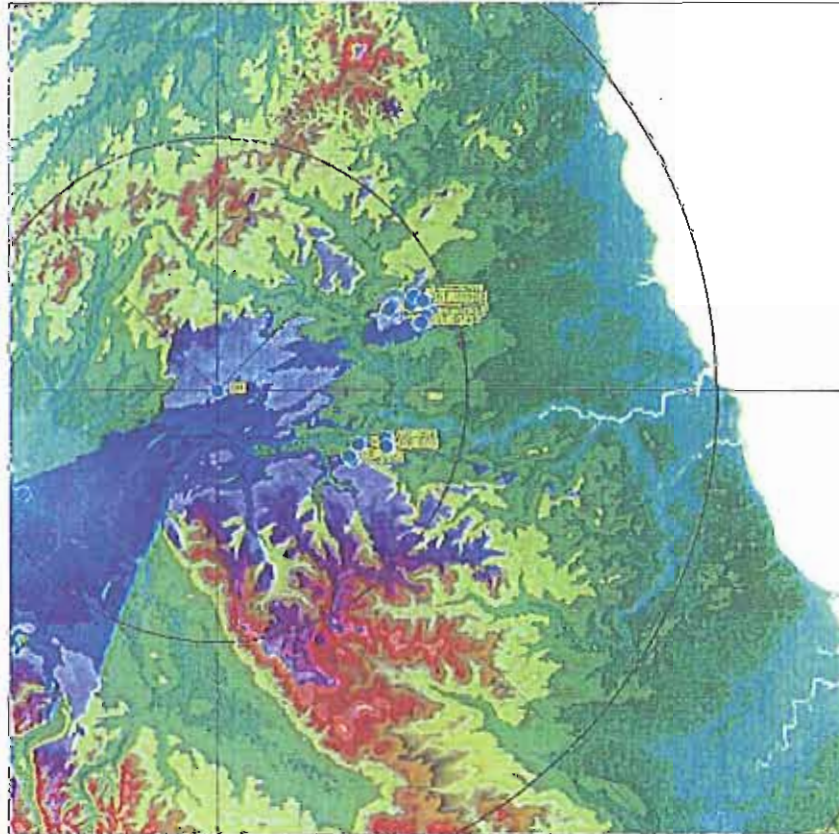


Figure 2 – Berry Hill Watchman Radar coverage 100m above local ground level.

5. From Figure 2 it is estimated that 100% of the Steadings Farm and Green Rigg wind turbines and approx 35% of the Ray Estate wind turbine blade tips would be in direct Line of Sight from the Berry Hill Radar, therefore detailed analysis of the wind turbines is required.

Deadwater Fell Radar Line of Sight Analysis

6. Due to the location of the Deadwater Fell Radar there will be little terrain obscuration between the Watchman Radar and each of the proposed windfarm sites. Figure 3 shows the regions which are visible from the radar at 100 metres above the local ground level. This represents the visibility of the turbine with a blade tip height of 100m.