



Report to the Secretary of State for Communities and Local Government

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TOWN AND COUNTRY PLANNING ACT 1990

**APPEALS BY CATAMOUNT ENERGY LIMITED, MOORSYDE WIND FARM LTD
AND NPOWER RENEWABLES LTD**

against

NORTHUMBERLAND COUNTY COUNCIL

in respect of

(A) LAND AT BARMOOR, BETWEEN FORD AND LOWICK

**(B) MOORSYDE WIND FARM, NORTH OF FELKINGTON AND SOUTH OF
SHORESDEAN**

(C) LAND AT TOFT HILL TO THE SOUTH WEST OF GRINDON

Inquiry held between 6 May and 22 June 2009

File Refs: APP/P2935/A/08/2078347; APP/P2935/A/08/2079520; APP/P2935/A/08/2077474

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SUMMARY

APPEAL A

File Ref: APP/P2935/A/08/2078347

Land at Barmoor, between Ford and Lowick

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by Catamount Energy Limited against the decision of Berwick-upon-Tweed Borough Council.
- The application (Ref No 06/B/0148 dated 14 February 2006) was refused by notice dated 14 April 2008.
- The development proposed is 6 turbines (up to 110.5m in overall height), on-site sub-station including electrical control room, temporary construction compound area, unit transformers, upgrading and providing new access tracks, and a permanent anemometry mast.

Summary of Recommendation: The appeal be allowed, and planning permission granted subject to conditions.

APPEAL B

File Ref: APP/P2935/A/08/2079520

Moorsyde wind farm, north of Felkington and south of Shoresdean

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by Moorsyde Wind Farm Ltd against the decision of Berwick-upon-Tweed Borough Council.
- The application (Ref No 04/B/1107 dated 18 November 2004) was refused by notice dated 14 April 2008.
- The development proposed is 7 wind turbine generators, an anemometry mast, a substation and associated infrastructure.

Summary of Recommendation: The appeal be dismissed.

APPEAL C

File Ref: APP/P2935/A/08/2077474

Land at Toft Hill to the south west of Grindon

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by Npower Renewables Ltd against the decision of Berwick-upon-Tweed Borough Council.
- The application (Ref No 06/B/1001 dated 31 October 2006) was refused by notice dated 14 April 2008.
- The development proposed is the erection of 7 wind turbines, together with associated infrastructure and services

Summary of Recommendation: The appeal be dismissed.

INTRODUCTION

1. The Inquiry sat for 23 days between 6 May 2009 and 22 June 2009. I made accompanied site visits to all 3 appeal sites and to various viewpoints and dwellings during the week commencing 8 June 2009. During the same week, and the preceding 5 weeks, I made unaccompanied site visits to the wider area, including Holy Island, the North Northumberland Heritage Coast and Yeavering Bell on the northern slopes of the Cheviots. On all occasions, the weather was fine and visibility was good. The blimps flown by the objecting Rule 6 parties could be seen from a considerable distance.
2. Each of the 3 proposed wind farms has a separate appellant. I have abbreviated their names to Catamount, Moorsyde and Npower. The 3 wind farms would occupy separate sites within the same rural area to the south and south west of Berwick-upon-Tweed. The appeals were all lodged at around the same time. It was therefore logical and convenient to consider all 3 appeal proposals at the same Inquiry.
3. For each of the proposed wind farms there is a group of objectors with Rule 6 status: SOUL (Save our Unspoilt Landscape) objects to the Barmoor proposal; MAG (Moorsyde Action Group) objects to the Moorsyde proposal; RoASM (Residents of Ancroft Southmoor including Tamsin Faiers and Reg Watson) also objects to the Moorsyde proposal but solely on the basis of noise; and ISORES (Inappropriate Siting of Renewable Energy Structures) objects to the Toft Hill proposal. At the Inquiry, each of the Rule 6 parties had legal representation and professional witnesses.
4. In this Report, I have briefly described all 3 proposals and the relevant planning policies. I have then summarised the cases for all the main parties on a site by site basis. This is followed by a summary of the written and verbal representations received from statutory consultees and interested persons. I have then discussed the planning conditions suggested by the appellants, and the Unilateral Undertaking which was submitted by Moorsyde. After my conclusions and recommendations, I have listed the appearances, proofs of evidence and statements, together with the letters and documents submitted during the Inquiry. I have also listed the application plans for all 3 appeals, and the core documents relied upon by the main parties. At the end of the Report, there are 3 appendices which contain the suggested planning conditions for each of the proposed wind farms.
5. The 3 planning applications were refused by Berwick-upon-Tweed Borough Council on 14 April 2008. Following local government reorganisation in March 2009, the Borough Council ceased to exist. Northumberland County Council became the local authority for the former Borough. Throughout this report, references to "the Council" refer to the County Council unless stated otherwise.
6. All 3 appeals have been recovered by the Secretary of State because they involve proposals of major significance for the delivery of the government's climate change programme and energy policies.

THE THREE PROPOSALS

7. The 3 proposed wind farms would be in the countryside to the south and south west of Berwick-upon-Tweed. Individual plans of each site can be found at Plans A - F. Maps showing the location of all 3 sites, and photographs of the sites and their surrounding area, can be found, amongst other places, in the Cumulative Landscape and Visual Information Volume 2 (CD1.6).

APPEAL A - Barmoor

8. The planning application was submitted in February 2006. It was originally for 9 turbines but, in October 2007, the number dropped to 6 turbines with a total installed capacity of up to 13.8MW. Each turbine would have a maximum tip height of 110.5m. There would also be an on-site substation including an electrical control room, a temporary construction compound area, unit transformers, the upgrading and provision of access tracks, and a permanent anemometry mast.
9. The application was supported by a Planning Statement, an Environmental Statement (ES), an Addendum and Assessment Update to the Wintering Bird Survey, an Addendum to Chapters 6 and 7 of the ES, updated Zone of Visual Influence (ZVI) plans and a revised technical appendix to the ES on noise levels (CDs 1.2, 1.3, 1.4 and 1.5).
10. The application was refused in April 2008, contrary to the planning officer's recommendation. The reason for refusal related to the prominent position of the wind farm and the fact that, notwithstanding any mitigation, it would become a dominant feature in the landscape, thereby altering the setting and appreciation of the landscape, and the cultural and visual features presently enjoyed.
11. The appeal site comprises agricultural grazing land about 14km south of Berwick-upon-Tweed. The B6353 runs east/west to the north of the site, and the B6525 runs north/south to the east of the site. An unclassified road passes through the site itself. The nearest villages are Lowick and Ford, both about 3.5km away, and Etal, about 4km away. The site itself has no national ecological or landscape designations. The Northumberland National Park (NP) lies about 9km to the south, and the Northumberland Coast Area of Outstanding Natural Beauty (AONB) and the North Northumberland Heritage Coast are some 8km to the east.
12. Ford Moss Colliery, a Scheduled Ancient Monument (SAM), lies just to the west of the appeal site. It comprises the colliery chimney (Grade II listed) and the remains of engine houses, sheds, housing and spoil heaps from an upland moorland colliery dating back to the 17th century. The nearest turbines would be about 950m to the east of the Scheduled area. Ford Moss itself, adjoining the colliery site, is an SSSI. The next nearest SAMs are prehistoric rock art in the form of incised stones at ground level on the south side of Broom Ridge, and beside a waterfall at Routin Lynn near the eastern end of Broom Ridge. Both sites are about 1km away from the nearest turbines. The rock art is visible only at close range.

APPEAL B - Moorsyde

13. The planning application was submitted in November 2004. It was originally for 14 turbines, but this was later reduced to 10, and then 7 with a total installed capacity of up to 16.1MW. Each turbine would have a maximum tip height of 110m. There would also be a 75m anemometer, 2.4km of new access tracks, a substation beside the B6354, and temporary infrastructure including a site office and a construction compound.
14. The planning application was supported by a Planning Statement, a confidential badger survey, an ES, photomontages, an archaeological evaluation, a noise impact assessment, and ZVI plans. Several of the supporting documents were later revised and updated to take account of the reduction in the number of turbines (CDs 7.2 to 7.14).
15. The application was refused in April 2008, contrary to officer's recommendation, for the same reason as the Barmoor application.
16. The 600ha appeal site straddles the B6354 road approximately 9km to the south west of Berwick-upon-Tweed. There are no large villages in the immediate vicinity, but there are about 200 residential properties and 60 caravan pitches within 3.5km from which views of some, or all, of the turbines could be seen. The site comprises arable and grazing land with sporadic areas of woodland. None of the land is nationally designated for its landscape or ecological value. The Northumberland NP lies 15km to the south, and the AONB and Heritage Coast lie about 11km to the east.

APPEAL C - Toft Hill

17. The planning application was submitted in October 2006. The proposed development comprises 7 wind turbines with a blade tip height of up to 112m and an installed capacity of at least 19MW. There would also be some permanent access tracks, a site office, a substation, a temporary anemometry mast, a construction compound, and underground power and control cabling. There would be improvements to the main entrance to the site from the A698 and 2 new secondary site entrances. A T-junction on an unclassified road leading to Grindon would be widened.
18. The application was supported by a Planning Statement, a Design and Access Statement, and an ES. Additional environmental information included visualisations of the potential impact on the Duddo Stone Circle, an archaeological evaluation of Toft Hill, a report on the setting of the Duddo Stone Circle, a supplementary bat survey, and a report on operational noise (CDs 4.2 to 4.11).
19. The officer's recommendation was accepted, and the planning application was refused in April 2008. There were 4 reasons for refusal: the significant harm to the setting of the Duddo Stone Circle, a Scheduled Ancient Monument (SAM); the significant harm to the SAM's setting by the cumulative visual impact of the Toft Hill and Moorsyde wind farms, or by the Toft Hill, Moorsyde and Barmoor wind farms; the significant adverse cumulative effects on the landscape by the Toft Hill and Moorsyde wind farms, or by the Toft Hill, Moorsyde and Barmoor wind farms; and the significant adverse cumulative

visual effects caused by the Toft Hill and Moorsyde wind farms or the Toft Hill, Moorsyde and Barmoor wind farms.

20. The appeal site is located about 10km to the south west of Berwick-upon-Tweed. The nearest settlement is Grindon, about 1km from the nearest turbine. The site is in intensive arable use, with a small area of woodland. It is not subject to any national landscape designations. The Northumberland NP lies about 13km to the south, and the AONB and Heritage Coast lie about 17km to the east
21. The Duddo Stone Circle stands on the top of a small knoll. It consists of 5 stones, about 2m high, and it is thought to have been built about 4000 years ago. The whole wind farm would be clearly visible from the stone circle. The nearest turbine would be about 1.7km away to the west.
22. To the east of the stone circle lies the site of the proposed Moorsyde wind farm. If both wind farms were developed, their nearest turbines would be about 4km apart. The stone circle would be about midway between them.

PLANNING HISTORY AND BACKGROUND INFORMATION

23. There is no relevant planning history for any of the 3 appeal sites.
24. A planning application for a wind farm at West Ancroft, just to the east of the proposed Moorsyde wind farm, was received by the Council in March 2009 and validated about one month before the opening of the Inquiry. The Non-Technical summary of the ES that accompanied the West Ancroft planning application can be found at CD18.4. As currently proposed, there would be 8 turbines with a maximum tip height of 115m and an installed capacity of between 16MW and 20MW. So far as I am aware, no date had been fixed by the Council for the determination of the planning application.
25. In view of West Ancroft's proximity to the Barmoor, Moorsyde and Toft Hill appeal sites, a Regulation 19 Direction pursuant to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 was issued on 28 April 2009. This required the appellants to provide further cumulative landscape and visual information to take into account the West Ancroft proposal. The information can be found at CD13.41.
26. Within a radius of about 30km, planning permissions have recently been granted for the following: a 19-turbine wind farm at Drone Hill (about 25km to the north-north west); a 10-turbine wind farm at Wandylaw (about 26km to the south east); an 18-turbine wind farm at Middlemoor (about 28km to the south east); and a single turbine at Border Precision (about 25km to the west-southwest). None of these has yet been built.
27. The nearest operational scheme is a 22-turbine wind farm at Black Hill near Duns in the Scottish Borders, about 25km to the north west of the 3 appeal sites.

PLANNING POLICY

28. The development plan comprises:

- **North East of England Regional Spatial Strategy to 2021** (RSS) published in July 2008 (CD10.1).
- **Northumberland County and National Park Joint Structure Plan** (CD10.3), February 2008. This document has been superseded by the RSS with the exception of saved policy S5 which relates to the Green Belt, a subject that is irrelevant to the current appeals.
- **Berwick-upon-Tweed Borough Local Plan** (LP) adopted in 1999 (CD10.2). Some of its policies have been saved by a Direction issued by the Secretary of State on 31 August 2007 (also at CD10.2).

29. The development plan policies that have particular relevance to the appeals include:

- **RSS policy 16** – culture and tourism should be promoted.
- **RSS policy 32** – proposals should seek to conserve and enhance the historic environment.
- **RSS policy 39** – proposals should facilitate the generation of at least 10% of the Region's consumption of electricity from renewable sources by 2010, and at least 20% by 2020. Northumberland is allocated a sub-regional target of 212MW of installed capacity by 2010, and an aspirational target of twice that amount (424MW) by 2020.
- **RSS policy 40** – the criteria to be considered when assessing renewable energy developments include noise, the acceptability of the location and scale of the proposal and its visual impact in relation to the character and sensitivity of the surrounding landscape, and the cumulative impact of a development in relation to other similar developments.
- **RSS policy 41** – South and West Berwick-upon-Tweed is one of the broad areas of least constraint (BALC) that has potential for medium scale wind energy development. Medium scale is broadly defined as up to 20-25 turbines (RSS paragraph 3.192). The BALC is shown as a "W" on the RSS's key diagram (final page of CD10.1).
- **LP policy F3** – development will be permitted within the Kyloe Hills and Glendale Area of High Landscape Value (AHLV) where it is compatible with the principal objective of conserving or enhancing natural beauty. Part of the Barmoor site is within the AHLV.
- **LP policy F4** – development will be permitted in Intermediate Areas of Landscape Value (IALVs) provided, amongst other things, it will not have a detrimental impact on long-range views

important to the character and quality of the landscape. The Moorsyde and Toft Hill sites, and part of the Barmoor site, are within the IALV.

- **LP policy C26** – within the Kyloe Hills and Glendale AHLV, proposals for wind farms will be considered with regard to such things as their integration into the landscape, the avoidance of materially adverse effects, and their cumulative effects.
- **LP policy C28** – within IALVs, proposals for wind farms will be considered with regard to such things as heritage, residential amenity and tourism.
- **LP policy F26** – there will be a presumption in favour of the physical preservation of SAMs and their settings.

30. **Emerging policies.** Work on Berwick-upon-Tweed Borough Council's Local Development Framework was suspended in 2008 because of the impending local government reorganisation. Work on the LDF will be carried forward by Northumberland County Council, but it is still at an early stage.

31. **National planning policy and guidance.** The documents which I consider to have particular relevance to the 3 appeals are: Planning Policy Statement 1: *Delivering Sustainable Development* (PPS1) and its supplement, *Planning and Climate Change*; Planning Policy Statement 22: *Renewable Energy* (PPS22) and its *Companion Guide*; Planning Policy Statement 7: *Sustainable Development in Rural Areas* (PPS7); and Planning Policy Guidance 16: *Archaeology and Planning* (PPG16). All of these documents, apart from PPG16, post-date the LP but pre-date the RSS.

32. **Other relevant documents**

- *Landscape Appraisal for Onshore Wind Development* (the "Benson Report") published in 2003 (CD13.18) advised the Government Office for the North East on the capacity of landscapes to accommodate wind development. The findings of the Benson Report were fed into the North East Regional Renewable Energy Strategy (see below) which, in turn, informed the RSS. Paragraph 3.187 of the RSS (CD10.1) makes it clear that the Benson Report's landscape character and sensitivity assessments must be used to inform the location and design of wind energy developments.
- *North East Regional Renewable Energy Strategy* (RES) was published in 2005 (CD12.26). It provided a Draft Indicative Diagram (page 52) showing the broad areas (marked with a "W") that were considered particularly suitable for wind energy developments. This was carried forward into RSS policy 41.
- *Wind Farm Development and Landscape Capacity Studies: South and West Berwick-upon Tweed* (the "ARUP study") was published in 2007 (CD13.5). It recommended a reduction from the draft RSS level of 20-25 turbines in the "W" area to a lesser number of 10-15 turbines. This recommendation was not adopted in the final version of the RSS.

THE CASE FOR NORTHUMBERLAND COUNTY COUNCIL

The material points:

APPEAL A - Barmoor

33. **Landscape character.** The Barmoor proposal would have an adverse impact on the character of the Open Rolling Farmland landscape (ORF) and the adjacent Outcrop Hills and Escarpment landscape (OHE). Both of these landscapes are defined in the Benson Report. The wind farm would lie almost entirely within the ORF landscape which is given a “medium” sensitivity score in the Benson Report. However, the southern end of the site would extend into the OHE landscape which is given a “medium-high” sensitivity score in the Benson Report. A map of the landscape character areas can be found at Figure 6.4, Vol 2 of CD1.2.
34. The 6 turbines would spread in an arc across Barmoor South Moor. The site is enclosed by Barmoor Ridge, Broom Ridge and Doddington North Moor; escarpments that rise from the adjacent farmland. From the escarpments there are widespread views over the surrounding countryside; a countryside that lacks tall or intrusive development. The turbines would be seen as large-scale engineered features, alien to the existing rural character of the landscape. The tips of their blades would be higher than the hills that surrounded them.
35. There would be significant and adverse impacts on the character of the ORF landscape. There would also be high magnitude impacts of major or major/moderate significance to parts of the adjoining OHE landscape.
36. Even though the importance of local landscape designations has been diminished, following the publication of PPS7, it should not be forgotten that 4 of the 6 turbines would be in an area that is designated in the LP as the Kyloe and Glendale AHLV.
37. **Visual effects.** There would be adverse impacts on the visual amenity of local residents. In the Council’s view, about 90 properties within 5km of the site would be affected.
38. There would also be significant harm to the amenity and recreational experience of walkers. There are about 36km of public rights of way within 3km of the site. Drivers and cyclists on the local road network would also experience significant harm to their amenity and recreational experience.

APPEAL B - Moorsyde

39. Appraising the Moorsyde proposal has been particularly difficult because of the confusing number of updates that have been made to the supporting environmental information. It became a paper chase, which was only partially helped by the appellant’s route map. Furthermore, the inconsistencies in some of Moorsyde’s assessments, and the errors in some of its photomontages and wireframes, have caused the Council additional difficulties and frustrations.
40. **Landscape character.** The wind farm would be poorly located. Indeed, the scheme appears to have been deliberately designed to interfere with key public views of the Cheviots. The importance of these key views has been recognised as far back as the landscape character assessment which underpinned the LP.

More recently, the Benson Report makes it clear that, when looking for wind farm sites within the ORF, impinging on key views of the Cheviots should be avoided (CD13.18 page 61). The B6354 road, which passes through the appeal site, provides one of these key views, as demonstrated by the photomontage from the West Allerdean viewpoint (Figure 40.8, CD1.6).

41. The massive scale and 110m height of the 7 turbines would dwarf any other feature in the locality. They would be discordant features in the views towards the Cheviots, and in the ORF landscape generally. Their rotating blades would be a further distraction. It is extraordinary that Moorsyde's landscape witness felt able to assert under cross examination that key views of the Cheviots would be *enhanced* by the presence of wind turbines in the foreground.
42. The effects would not be localised. The appellant concedes that there would be significant visual impacts up to 7km away. Significant adverse effects would therefore be perceived across a wide swathe of north Northumberland. The landscape is not of such a scale that it could absorb the turbines.
43. **Visual effects.** Within 5km of the appeal site there are nearly 100 dwellings, including those in the small settlements of Shoresdean and Grindon. The visual effects of the proposed turbines would be of major or major/moderate significance
44. There are 15 public rights of way within 3km of the appeal site from which views of the turbines would be available at close range. Each of the routes, amounting to a total of about 18km, lie within the Zone of Theoretical Visibility of the proposed wind farm. One footpath, which runs west from Ancroft Southmoor, would pass within about 150m of a turbine. There would be significant harm to the amenity and recreational experience of those using these rights of way.
45. For drivers, there would be clear and unobstructed views of the wind farm at close range on the B6354. One turbine would be on the west side of the road, and 6 would be on the east side. The road is a "brown signed" route between Berwick-upon-Tweed and the tourist attractions at Ford and Etal. When driving southwards, stretches of the road provide attractive uninterrupted views of the Cheviots. There would be significant harm to these views. Indeed, Moorsyde's ES acknowledges that "the close proximity of the turbines will dominate the skyline and interrupt long distant views to the Northumberland National Park" (paragraph 10.4.37, CD 7.3).
46. **West Ancroft.** A decision on the planning application for a wind farm at West Ancroft has not yet been made. Changes could still be made to the scheme. However, it is likely that, from some views, the 8 turbines of the West Ancroft wind farm would be seen as part of the Moorsyde wind farm. The nearest turbines on each wind farm would be only 1.25km apart, so there would be an almost continuous array of 15 turbines over a distance of about 4km.

APPEAL C - Toft Hill

47. **Cultural heritage – the Duddo Stone Circle.** The adverse effects of the Toft Hill proposal are in a different category to the adverse effects of the Barmoor and Moorsyde proposals. This is because the turbines would be about 1.7km from the Duddo Stone Circle, a SAM of national importance. It sits on the top of a low knoll, and is the only hilltop stone circle in the area. It has a

particularly dramatic setting which has changed little since the time when the stones were erected about 4000 years ago. It is within a fertile area which has been exploited by humans for over 5000 years. It is considered to be a significant place and, together with its setting, it is a monument of high value under the terms outlined by English Heritage in *Conservation Principles* (page 7, CD14.4)

48. It is one of very few Neolithic or Early Bronze Age monuments that can be readily visited by the public. It is the oldest extant man-made structure in the locality, and has been the subject of archaeological interest and antiquarian investigation for several hundred years. In 1811, the circle was recorded as having 6 stones; now there are only 5. Excavation in the 1890s revealed 2 additional stone holes and a central pit which contained charcoal and burnt bones. Radiocarbon dating of the bones confirmed that the cremation pit was a later insertion.
49. The 7 turbines at Toft Hill would radically alter, and adversely affect, the experience of visiting the Duddo Stone Circle. When approaching on the footpaths from the north and south, the prominence of the turbines would increase as the stones got nearer. From the stones there are views across the Tweed Valley to the north and north west, views of the Eildon Hills to the west, and views of the Cheviots to the south and south west.
50. English Heritage's *Conservation Principles* (paragraphs 76-77, CD14.4) make it clear that the setting of a monument is about how a place is experienced, and the viewer's perception of its relationships, past and present, with the wider landscape. It is not necessary to know about the stone circle's history, and the reason for its construction, in order to appreciate its setting. The setting of the stones is extensive, encompassing as far as the eye can see. A significant component of its setting is towards the direction of the Toft Hill site, as shown in the photomontages in CD4.11.
51. The turbines would interfere or obstruct the distant views. Their scale, movement and prominence would draw the eye and overwhelm the stones and their setting. For example, the sweeping motion of the blades on the southernmost turbine would substantially obscure the 3 peaks of Trimontium in the Eildon Hills. Views towards the north westerly part of the Cheviot range would be similarly affected. The hills would still be visible through the turbines, but their height and the movement of their blades would distract the eye.
52. In addition to the impacts arising from the Toft Hill wind farm, up to 5 of the proposed Moorsyde turbines would be partially visible from the stone circle itself, or on the approach to it along the nearby footpaths. If both wind farms were built, the stone circle would appear to be partially enclosed by turbines.
53. The Council's views about the harm to the setting of the stones are corroborated in a report by Professor Richard Bradley (CD14.18), an academic who is widely recognised as the leading expert in the UK on Neolithic and Bronze Age monuments. Further support comes from English Heritage's policies and guidance in *Wind Energy and the Historic Environment* (CD14.2), *Climate Change and the Historic Environment* (CD14.3) and *Conservation Principles* (CD14.4). *Wind Energy and the Historic Environment* advises that consideration should be given to the reversibility of developments, but it does

not advocate the approval of all developments simply because they are reversible.

54. Npower decided to press ahead with its proposal regardless of the conclusion in its own ES (Chapter 11, CD7.3) that there would be a significant adverse impact on the setting of the stones. Npower later commissioned a report, *The Setting of Duddo Stones* (CD4.7). The report contradicted the conclusions in the ES by arguing that the setting of the stones was extremely limited and did not extend as far as the Toft Hill site. This change of view, and the inconsistencies in the evidence given by Npower's cultural heritage witness, does not inspire confidence.
55. Paragraph 27 of PPG16 establishes that there should be a presumption against proposals which would have a significant impact on the setting of visible archaeological remains. The same principle is carried forward into PPS22's *Companion Guide* (Section 8, paragraph 80). Therefore, unless the proposed wind farm is considered to have benefits which carry unusually great weight, any significant impact on the Duddo Stone Circle should result in a dismissal of the appeal.
56. **Landscape and visual impacts.** In contemporary landscape and visual terms (that is, disregarding the SAM), the Council does not object to the proposed wind farm in its own right, but only when considered in combination with Moorsyde, or in combination with Moorsyde and Barmoor. There is no objection to Toft Hill in combination with Barmoor (Statement of Common Ground, paragraph 7.5 Doc 4.12).
57. **Conclusion.** The impact of the Toft Hill proposal on the setting of the Duddo Stone Circle would be grossly unacceptable; a view held instinctively by those who are familiar with stones, and by all the other cultural heritage experts at the Inquiry apart from the one representing Npower. NPower has failed to observe Key Principle (viii) of PPS22 which requires environmental impacts to be minimised through careful consideration of location, scale, design and other measures.

Issues common to all 3 appeal proposals

58. **Planning policy.** RSS policy 41 identifies a BALC south and west of Berwick which is capable of accommodating medium-scale (ie 20 to 25 turbines) wind energy development. All 3 appeal sites lie within the BALC and the "W" on the RSS's diagrammatic map. There is no clear guidance about how the BALC should be translated on the ground, but each wind farm has to be judged on its merits, in the light of the criteria of RSS policy 40.
59. It is acknowledged that the LP pre-dates PPS22, and must now be read in the light of that guidance. However, many of the LP's policies have been saved, in particular the ones that seek to protect the AHLV and IALV (LP policies F3, F4, C26 and C28).
60. **Cumulative landscape and visual effects.** Not only are the 3 wind farms considered to be unacceptable individually, for the reasons described above, they are also considered to be unacceptable in combination. The intensity of the cumulative effects would depend upon the separation between individual wind farms, and the extent to which they would be visible, individually or in combination.

61. The hierarchy below reflects the Council's view on the relative harm to the landscape and visual amenity that is likely to result from more than one wind farm. For completeness, the list incorporates the proposed West Ancroft wind farm even though the Council has yet to decide whether planning permission should be granted for it.
- 1) Barmoor+Toft Hill+Moorsysde+West Ancroft (the most harmful combination)
 - 2) Barmoor+Toft Hill+Moorsyde
 - 3) Toft Hill+Moorsyde
 - 4) Toft Hill+West Ancroft
 - 5) Toft Hill+Barmoor
 - 6) Barmoor+West Ancroft
 - 7) Barmoor+Moorsyde (the least harmful combination)
62. **The benefits of the schemes in relation to the need for renewable energy.** The renewable energy target for Northumberland is 212MW by 2010, with an aspiration to double this by 2020 to 424MW. This relates to all forms of renewable energy. The onshore wind energy *pro rata* targets (from the 2005 RRES, CD 12.26) are 193.6MW by 2010 and 387.2MW by 2020. It is clear that the 2010 target cannot be met. So far, only 23MW is being produced from all kinds of renewable energy, with a further 163MW consented. But given the large number of recent consents, together with the many wind farm proposals at various stages in the pipeline (200MW from schemes where there are appeals pending, and 67MW from schemes where planning applications have been submitted), very good progress towards the 2020 target is being made.
63. Appendix 1 of Doc 1.14 sets out the current situation as at 15 May 2009. It has been agreed by all 3 appellants. It does not include any schemes that are still at the scoping stage. If all the consented schemes were to be built, and all the schemes in the planning system were to be approved, the 2020 target would be significantly exceeded. Nevertheless, it is accepted that the target is not a ceiling.
64. **Tourism.** The effects on tourism are not a reason for refusal for any of the 3 schemes. Nevertheless, it is considered that the wind farms would diminish the landscape of north Northumberland, the principal asset of the tourism industry. This gives rise to concern.

Conclusion on all 3 wind farms

65. It is accepted that some people actively like wind turbines. However, decisions should not be based upon this. In landscape terms, the Council does not argue that the "W" on the RSS map is wrongly sited, or that there are no possible sites for wind farms within the "W". But a refusal of all 3 schemes would force the appellants to go away and find sites which do not have significant impacts upon important landscapes, or upon key views of the Cheviots, or upon the setting of SAMs.

66. The benefits and harms have to be balanced in the light of prevailing planning policies and guidance. This is inherent in the guidance in PPS22. Whilst significant weight should be given to the wider environmental benefits of wind energy, this has to be balanced against any adverse local environmental or other impacts.
67. The Council's serious concerns warrant a dismissal of all 3 appeals, even when the unmet need for renewable energy schemes is weighed in the balance.

APPEAL A

THE CASE FOR THE APPELLANT (CATAMOUNT) IN RESPECT OF THE BARMOOR PROPOSAL

The material points:

68. **Planning policy.** The site lies within one of the BALCs listed in RSS policy 41. The RSS is the most up-to-date part of the development plan. The studies that informed the RSS concluded that onshore wind farms could be satisfactorily accommodated in BALCs. Indeed, in a recent decision on a wind farm at Wandylaw (CD17.24) the Secretary of State made it clear that there would have to be "very good reasons" to prevent wind farms in BALCs. There is therefore a presumption in favour of a wind farm at Barmoor. Furthermore, the criteria of RSS policy 40 are all satisfied; and this adds further support to the scheme.
69. **Landscape character.** The likely effects on landscape character have been assessed in accordance with *Guidelines for Landscape and Visual Impact Assessment* (CD13.11). There would be some significant landscape character effects, but these would be localised. The appeal site is contained within a small area enclosed by Barmoor Ridge to the north, Broom Ridge to the west, Doddington Northmoor to the south, and the large areas of woodland at Moss Wood and Kemping Moss to the east. Within this area, the wind farm would be the dominant feature and, for a distance of about 1.5km from the turbines, there would be significant effects on the ORF landscape.
70. There would be no turbines in the OHE landscape to the south of the site. However, their presence could diminish the apparent height of the northerly part of Doddington North Moor, Goatscrag Hill and Broom Ridge, all of which lie within the OHE landscape, when viewed from the lower ORF landscape to the north. There would be a moderate effect on the nearest part of the OHE landscape, but no significant effects on the OHE landscape as a whole.
71. **Visual effects.** It is inevitable that, from a distance of about 5km, the turbines would give rise to some locally significant visual effects. Visualisations can be found in the ES (CD1.2). At about a dozen dwellings there would be major visual effects and a high magnitude of change.
72. The visual amenities at the Barmoor Castle Caravan Park and the Friendly Hound Guest House would also be affected, but not to the extent that there would be a significant impact on the overall level of amenity enjoyed by their residents. Nowhere would the effects be overwhelming or overbearing.

73. For drivers and cyclists on the A1 and the A697, there would be limited views of the turbines and no significant visual effects. However, there would be moderate visual effects on short stretches of the B6353 and B6525 which pass within 1km of the turbines. There is no evidence that the walkers on Broom Ridge, Goatscrag Hill and the nearby Open Access land would dislike the wind farm to such an extent that they would seek to avoid the area.
74. The visual effect on the Northumberland NP would be negligible. There are a number of locations from where the turbines could potentially be seen against the skyline of the Cheviots, but the hills' distinctive whaleback skyline would not be significantly affected. In views from the NP, the turbines would be seen as part of the settled agricultural landscape. Similarly, there would be no significant effects on the Heritage Coast and the coastal AONB, including Holy Island, where views tend to be focused on the sea and along the coastline.
75. **Cumulative effects.** If Barmoor was built, and either Moorsyde *or* Toft Hill were also built, a "landscape with occasional wind farms" would be created. If Barmoor was built, and Toft Hill *and* Moorsyde were also built, a "landscape with wind farms" would be the result. If West Ancroft wind farm were to be built as well, a "landscape with wind farms" would still be the result. Under no circumstances would a "wind farm landscape" be created. Barmoor's contribution to cumulative effects would be unremarkable.
76. **West Ancroft.** EIA law required that information on West Ancroft had to be presented to the Inquiry. However, in planning terms there is not much that can be said about the West Ancroft proposal at this stage.
77. **Tourism.** No clear evidence has ever emerged that any UK wind farm, or accumulations of wind farms, has had an adverse effect on tourism interests. The fears expressed are not based on credible evidence. No Inspector has ever dismissed a wind farm appeal on the basis of harm to tourism interests.
78. **Noise.** Neither the Council nor SOUL objects on noise grounds. The suggested noise conditions pass the 6 tests of Circular 11/95.
79. **Cultural heritage.** The proposed turbines would not affect the settings of the rock carvings at Routin Lynn or on Broom Ridge. Furthermore, the settings of the Duddo Stone Circle, Barmoor Castle, Ford Castle, Etal Castle and Flodden Battlefield would be unaffected. Ford Moss Colliery SAM, and its Grade II listed chimney, would also not be harmed by the turbines, the nearest of which would be about 950m away. The colliery lies within a low-lying bog area. There is woodland to the north and south which further encloses its setting. Outward views from the colliery would not be adversely affected by the turbines. Indeed, insofar as turbines represent energy production in a modern age, there would be some synergy between the historic and the modern developments.
80. **Air safety.** This is not considered to be a serious consideration. The Borders Gliding Club at Milfield is not claiming that the wind farm would affect the club's viability. Its concerns are limited to the rare occasions when inexperienced pilots, particularly those who do not have a Field Landing endorsement on their licences, fly in poor weather conditions and find themselves approaching the airfield at low altitudes over the wind farm.

81. Gliders are not equipped to go through cloud, so pilots must find gaps through which to descend. When bad weather approaches, pilots have ample opportunity to get down early. The club gives clear advice about leaving adequate margins for error on all flights. The wind farm would become a well-known landmark. Glider pilots would take it into account in the same way as they take into account any other obstacle.
82. **The benefits of the scheme in relation to the need for renewable energy.** Barmoor is being proposed in direct response to the vast range of international, EU and UK law relating to climate change and the security of domestic energy supplies. There is an overwhelming need for further renewable energy development in order to fulfil the government's policy and legislative commitments to reduce greenhouse gas emissions.
83. It is common ground that Northumberland's 212MW target for 2010 will not be met. Only 23MW of renewable energy generation has been installed so far. The target of 424MW target for 2020 will have to be met in small steps. Every proposed wind farm, including Barmoor, will need to be granted planning permission unless there are very good reasons to do otherwise.
84. **Conclusion.** There are no good reasons to reject the Barmoor proposal. The scheme is well designed, and the site is well located. Significant landscape and visual effects would be limited, and the effects would be contained within a localised area. It would not cause visual, or any other, offence. It would be acceptable by itself, and with the Moorsyde and/or Toft Hill schemes. The need for wind farm development, within a BALC where the RSS seeks to locate such proposals, outweighs any of the objections raised. The appeal should therefore be upheld.

THE CASE FOR SOUL (Save Our Unspoilt Landscape) the Rule 6 objector to the Barmoor proposal

The material points:

85. **Planning policy.** The "W" in the RSS's key diagram cannot be used to determine the appropriateness of a particular site especially one, like Barmoor, which is on the outer margins of the "W" and the BALC on which the "W" is based. A detailed plan defining the extent of the "W" has not yet been produced. It is therefore impossible to claim that the proposal has development plan support through RSS policy 41. It must be tested against the criteria of RSS policy 40.
86. **Landscape character.** The Benson Report attributed a "medium" sensitivity for wind farms in the ORF because of the landscape's scale, openness, lack of visual *foci*, simple composition and broad homogenous character. However, the Barmoor site and its surrounding area do not fit this description. The site occupies a bowl with an intimate enclosed feel and no expansive openness. Three of the 6 turbines would be where the ORF landscape joins the OHE landscape. The Benson Report attributes "medium-high" sensitivity for wind farms in the OHE landscape. The turbines would dwarf and dominate the OHE landscape. Indeed, their blade tips would be substantially higher than

Goatscrag Hill. The outcrop hills and escarpments would no longer stand out. The visual juxtaposition between the ORF and OHE landscapes, and the views from one to the other, would be significantly impaired by the wind farm.

87. **Visual effects.** The turbines would be in a curving arc, and would straddle an unclassified road. Furthermore, 2 bridleways form a crossroads within the site, and pass about 400m from turbines 4 and 5. The Open Access land and footpaths beyond the site, particularly those through Ford Moss and along Broom Ridge, are popular with walkers and have stunning views over the site. Broom Ridge and Goatscrag Hill would be dominated and dwarfed by the turbines.
88. About 378 dwellings would be within 3km of the nearest turbine, with 153 of these within 2km. Two homes are less than 700m from a turbine. Catamount has understated the visual effects and the amount of weight that should be given to them.
89. **Cumulative landscape effects.** Barmoor is an inappropriate site. This is a significant factor which should be taken into account when considering cumulative effects.
90. **Cultural heritage.** Catamount has played down the significance of the Ford Moss Colliery SAM and its Grade II listed chimney. It is an exceptionally well preserved example of how coal mining developed in the post-mediaeval rural economy of northern England. It is designated as being of national importance. The proposed wind farm would be within the setting of the colliery, and would be a dominant distracting element. The turbines' disproportionate height and scale, and their rotating blades, would dwarf the chimney and destroy the colliery's sense of place.
91. The "cup and ring" rock art on Broom Ridge and at Routin Lynn were incised about 4000 years ago. The rock art has major significance. The wind farm would detract from an appreciation of why prehistoric people considered these places to be of such importance.
92. To a lesser extent, the Barmoor wind farm would also affect the special interest of the Flodden Battlefield. It would also make it harder to remove the Grade II* listed Barmoor Castle from the "At Risk" register.
93. **Air safety.** Milfield airfield, used by the Borders Gliding Club, is unlicensed and is not officially safeguarded. However, as soon as the club understood the location and scale of the Barmoor development, it unanimously decided that there would be a significant safety issue. About 5% of all flights return to Milfield from the north east over the area where the wind farm would be located.
94. If weather conditions deteriorate unexpectedly, pilots have to lose height quickly and descend through gaps in the clouds. It would be foolish and reckless to fly less than 304m (1,000ft) above the turbines in bad weather, because gliders can lose height quickly. In bad weather, a detour around the wind farm would involve flying a greater distance and would therefore significantly increase the risk of having to land in a field. Field landings are the major single source of glider crashes.

95. Careful pilots would take extra care to avoid getting into such a situation. But unexpected circumstances can and do arise, and if the Barmoor wind farm was built, an opportunity for a safe route home would be lost. Given the potentially dangerous or fatal consequences, this is a matter which should be given considerable weight.
96. **Tourism.** The Barmoor wind farm would inevitably have an impact on the local tourism economy. This view is shared by Northumberland Tourism Ltd, the North Northumberland Tourism Association and the parish councils of Ford, Lowick, Tillside and Doddington. It is anticipated that the turbines would harm the key features that bring tourists to the local area; notably the landscape, the cultural heritage, and the tranquillity. It is essential that north Northumberland plays to its key strengths; enhancing and conserving its natural and cultural heritage assets, not spoiling them.
97. From studies in Scotland, Wales and the Isle of Wight, it appears that a wind farm can reduce visitor numbers by about 15%. Northumberland has a fragile economy. Tourism is the single most important industry and employer. A 15% reduction in visitor numbers would mean about £106 million in lost revenue, and at least 2000 jobs being affected.
98. There is no evidence to back up Catamount's claim that tourism would be unaffected. The prospect of more wind farms in the area has already caused small and large tourist businesses to delay their investment plans.
99. **The benefits of the scheme in relation to the need for renewable energy.** SOUL does not seek to undermine the government's policy on renewable energy, nor the RSS's targets for Northumberland. There has recently been a dramatic step-change in the number of planning applications and planning permissions, amounting to some 159MW in the last 18 months. Soon there will be a corresponding step-change in built capacity. There is nothing to suggest that the recently-approved Middlemoor and Wandylaw wind farms will not be built. There are more wind farms in the pipeline. For example, at Ray, Green Rigg and Steadings.
100. The RSS's "W" is having the desired effect. It is delivering that which it set out to deliver. There is therefore no imperative to grant permission for wind farms on inappropriate sites such as Barmoor.
101. **Conclusion.** Refusing planning permission would not undermine the development plan. It would simply force developers to do what the key principles of PPS22 tell them to do: minimise environmental impacts by giving careful consideration to location. The Barmoor site was not selected because of its appropriateness in terms of landscape or any other factor. It was chosen because it was offered by the landowner. It is in the wrong place. The appeal should be dismissed.

APPEAL B

THE CASE FOR THE APPELLANT (MOORSYDE) IN RESPECT OF THE MOORSYDE PROPOSAL

The material points:

102. **Planning policy.** Very little weight should be afforded to the policies in the LP and its landscape designations. The focus should be on the RSS policies that provide a positive framework for onshore wind energy development. The Moorsyde site lies within the South and West Berwick BALC which is described as having the ability to accommodate 20-25 turbines. It is therefore reasonable to expect the planning balance to shift in favour of the proposed scheme.
103. The emerging LDF should have no weight in the determination of this appeal.
104. **Landscape character.** Moorsyde's Consolidated Package of visualisations (MWFL/2/5, Doc 1.6) is sufficiently accurate to be relied upon, despite criticisms to the contrary. In any case, photomontages cannot represent reality and are merely a useful tool to demonstrate landscape and visual effects. They do not replicate what the human eye sees, nor can they show the movement of the turbine blades.
105. The fact that the methodology and approach adopted by Moorsyde's landscape witness differed from that of MAG's landscape witness does not undermine the credibility of the assessment carried out, or the conclusions reached. There is not a "one size fits all" methodology.
106. The turbines would relate well to the ORF landscape. The Benson Report is right to conclude that it has a "medium" sensitivity to wind energy development. The 7 turbines would become a defining characteristic of an area that, in places, extends 1.5km to the west, south and east, and 4.5km to the north and north east. Within this area, few of the key characteristics of this gently undulating agricultural landscape would be lost or changed. However at Shoresdean, Berrington Lough, Ancroft, Allerdean, Grievestead and Shoreswood, places with high or medium/high sensitivity, the magnitude of change would be substantial. (Photomontages for viewpoints 3, 3a, 5a, 11, 17 and 18 can be found in the Consolidated Package, MWFL/2/5, Doc 1.6).
107. The wind farm would also become a defining characteristic in the foreground of the long-distance southward views towards the Cheviots, particularly from certain stretches of the B6354. The turbines would be focal points, and their scale would match the scale of the landscape, the distant hills and the panoramic views. Indeed the turbines would enhance, not detract from, the dramatic visual lead-up to the Cheviots. In any case, the hills would still be clearly visible through the turbines.
108. There would be no significant or adverse effects on the Northumberland NP, the AONB or the Heritage Coast. They are between 9km and 13km away; outside the area where significant landscape effects would occur.
109. **Visual effects.** There are 200 occupied residential properties, and about 60 caravan pitches, within 3.5km of the site (Statement of Common Ground, Doc 4.10). Ten dwellings are within 1km. The nearest, at Ancroft Southmoor, is

770m away. Planning permissions have been granted for other wind farms where many more dwellings were within 3km, for example at Fullabrook (CD17.18), and at Withernwick (CD17.57).

110. This is a sparsely settled area. Residents with open views of the wind farm from one or more aspects from their dwellings would experience significant effects on their visual amenity. Those living closest to the site, at Shoreswood, Shoresdean, West Allerdean, Ancroft Northmoor and Ancroft Southmoor, would be the most affected. However, nowhere would the turbines be so close that they were over-bearing or overwhelming.
111. Visitors to the area staying at the camping and caravan site at the Salutation Inn on the A698 would find that the turbines were largely screened by the intervening topography. However, those at the 5-pitch caravan site at the Plough Inn at West Allerdean would have their visual amenities significantly affected because of the proximity of the turbines.
112. There would be no significant effects at Campshill and Foulden, popular scenic vantage points to the north of the River Tweed. Furthermore, there would be no significant effects on the visual amenity of walkers on the Open Access land, or users of the various long-distance cycle routes. However, there would be a significant effect on the visual amenities of those enjoying the footpaths and bridleways on and around the site. There are about 23km of these within 3km of the site where views of the turbines would be possible.
113. There would also be significant visual effects for motorists on the B6354 travelling south westwards from Berwick, or north eastwards from Duddo, and on other minor roads within 3km of the turbines.
114. **Cumulative landscape and visual effects.** The following combinations have been considered:
 - Moorsyde + Barmoor. The wind farms would be 5km apart. There would be a significant cumulative effect on landscape character but no significant cumulative impact on visual amenity.
 - Moorsyde+Toft Hill. The wind farms would be about 4km apart. There would be a significant cumulative effect on landscape character and, from certain locations, a significant cumulative impact on visual amenity.
 - Barmoor+Toft Hill. The wind farms would be about 10km apart. There would be a significant cumulative effect on landscape character, but no significant cumulative effect on visual amenity
 - Moorsyde+Barmoor+Toft Hill. There would be a significant cumulative effect on landscape character. The addition of Barmoor to the Moorsyde+Toft Hill scenario would not make any further significant cumulative impact on visual amenity.
 - Moorsyde+West Ancroft. The wind farms would be just over 1km apart. There would be a significant cumulative effect on landscape character. There would also be significant cumulative effects on the visual amenity of local residents. Drivers, cyclists and walkers on the B6354 and other minor roads and footpaths near the site would be similarly affected.

- Barmoor+Moorsyde+Toft Hill+West Ancroft. There would be significant effects on landscape character, and some further significant cumulative effects on the visual amenity of residents to the immediate north of Moorsyde, Toft Hill and West Ancroft. The presence of West Ancroft would add no further significant effects to the visual amenity of drivers, cyclists and walkers.
115. **Noise.** RoASM (Residents of Ancroft Southmoor, including Tamsin Faiers and Reg Watson) is the only party that has raised the issue of noise. Ms Faiers and Mr Watson purchased their property in March 2007, more than 2 years after the planning application for the 14 turbine scheme had been submitted, and prior to its reduction to 7 turbines.
 116. ETSU-R-97 is the correct standard against which noise from turbines should be assessed. It requires a balance to be struck between the interests of developers and the interests of nearby residents. There is no good reason to refuse the Moorsyde scheme on noise grounds.
 117. *Background noise.* In accordance with ETSU-R-97, the monitoring of background noise captured the prevailing south westerly wind direction. There is no evidence to suggest that the measuring equipment was unsuitable. All reasonable attempts were made to test the microphone's wind shield in a wind tunnel, but the tests were abandoned because it was not possible to produce data uncontaminated by the noise of the tunnel itself.
 118. Wind shear has been taken into account by referencing background noise measurements to hub height wind speed, standardised to 10m height.
 119. Wind speed measurements were made using LiDAR (Light Detection and Ranging) equipment. This is proven technology, used by the wind industry worldwide. On the advice of the operators, data below 4m/s, and the data for 27 February, were removed. However, RoASM's removal of "outliers", or data that were inconsistent with a particular pattern, is not standard practice amongst noise consultants and is not endorsed by ETSU-R-97. It skewed the results and caused background noise levels to be understated.
 120. *Noise predictions.* Turbine noise has been predicted using the methodology in ISO9613 *Acoustics – Attenuation of Sound During Propagation Outdoors Part 2, General Method of Calculation* (CD15.10). The methodology takes wind shear into account. It also allows flexibility in terms of input assumptions, particularly relating to ground effects. The harder the ground, the higher the predicted noise level. It has recently been agreed between acoustic professionals (*Institute of Acoustics Bulletin 2009*, CD15.25) that typical wind farm noise levels can be accurately and safely predicted assuming a ground factor of $G = 0.5$ (where 0 = hard ground, and 1 = porous ground), and a receiver height of 4m instead of 1.2m. Indeed, in view of the amount of grass and other vegetation around the noise monitoring locations, the use of $G=0.5$ is conservative.
 121. The predicted noise levels for the 2 candidate turbines (Enercon E70 and Repower MM82) meet the ETSU-R-97 limits with a minimum margin of at least 2dB except for properties at Ancroft Southmoor and The Lodge. For these properties, where the margin would be less than 2dB, mitigation could be effectively achieved by running the 3 turbines nearest to Ancroft Southmoor with a power cap of 1000kW when the wind is blowing from the westerly

quadrant at speeds of up to 8m/s. For “The Lodge”, this could be achieved by running the nearest turbine with a similar power cap when the wind is blowing from the easterly quadrant (Appendix ARMck3 of Rebuttal Proof, Doc 1.8).

122. *Aerodynamic Modulation (AM) also known as Amplitude Modulation or “blade swish”*. The ETSU-R-97 noise limits allow for the fact that there may be a degree of aerodynamic modulation (AM) in the noise from any wind farm. There is no reason to suggest that AM would be particularly prevalent at Moorsyde. The turbines would be well separated, and there would be a good relationship between the height of the towers and the diameters of the blades. Furthermore, the government’s position on AM is very clear: no changes to policy or noise standards are currently being considered.
123. *Low frequency noise*. The nearest buildings to the turbines would be those at Ancroft Southmoor which have planning permission for conversion to holiday cottages. Their facades would be 770m away; far enough away to ensure that low frequency noise would not be a problem.
124. *Tonal noise*. Any tonal noise output could be restricted by a planning condition. In any event, the supplier’s warranty agreement would ensure that noise emissions from the turbines would not require a correction for tonal noise.
125. *Noise conditions*. The suggested conditions meet the tests of Circular 11/95. They do not differ in any material way from those proposed for Barmoor and Toft Hill. The tests of precision and enforceability apply equally to all 3 schemes. No weight should be given to the argument that the conditions are more likely to be breached at Moorsyde.
126. **Tourism**. There are no tourist attractions within 5km of Moorsyde. The nearest are at Ford and Etal, about 6km away. A wind farm at Moorsyde would have little, if any, impact on overall tourist numbers, or on tourists’ experience or spending patterns.
127. The tourism business is dynamic and self-generating. When a particular type of tourist ceases to visit an area, perhaps because of the presence of wind turbines, they are frequently replaced by a different type of tourist, thus continuing the “tourist life cycle” of a destination. A wind farm appeal has never been dismissed on the grounds that it would have an adverse effect on tourism.
128. The Rule 6 parties’ case on tourism was based on flawed evidence, and should carry no weight. It relied upon research which adopted inappropriate sampling methods. These led to distorted survey results. Moreover, findings from one survey were extrapolated across broad geographical areas.
129. **West Ancroft**. The planning application for a wind farm at West Ancroft has not been through the rigorous planning process. The views of statutory consultees are not yet known, and no independent reviews of the proposal have been carried out. It should be noted that, compared with Moorsyde, the West Ancroft site is closer to the Heritage Coast and the AONB, the turbines would be 5m taller and they would be closer to residential properties (600m as opposed to 770m).

130. **The benefits of the scheme in relation to the need for renewable energy.** The objections of local residents should be balanced against the UK's binding commitment to reduce the harmful effects of climate change. The EU now requires 20% of all energy to be from renewable sources by 2020. The UK's "burden share" is 15%. This is a considerable challenge. There needs to be a 10-fold increase from the current levels of around 1.5%.
131. The Moorsyde scheme would contribute towards the achievement of the renewable energy generation targets for Northumberland, the North East and the UK. It would displace about 14,500 tonnes of carbon dioxide each year. The renewable electricity generated would be equivalent to the needs of about 7,200 households. This would equate to about 61% of the households in Berwick-upon-Tweed. There would also be additional pollution savings from the clean electricity generated.
132. It is common ground that Northumberland's 2010 target of 212MW will not be met. Installed capacity is only 23MW which is 189MW below the target. Furthermore, Moorsyde does not accept the Council's view that the 2020 target of 424MW is likely to be met.
133. **Conclusion.** The Moorsyde planning application was recommended for approval on 2 separate occasions. Despite later criticisms of the ES and its various supplements and updates, Council officers must have felt that there was sufficient information on which to base their recommendation for approval.
134. If planning permission were to be granted, there would be a 25-year time limit. The wind turbines would then have to be taken down unless another planning permission had been granted in the meantime. The fact that the turbines might not be there forever is a material consideration.
135. It would be impossible to site an onshore wind farm in the UK landscape without some significant effects on landscape and visual amenity. However, the significant effects of Moorsyde are not necessarily adverse, and should not necessarily be considered unacceptable. Noise can be adequately controlled by planning conditions. The site lies within a BALC. Compelling impediments would have to be demonstrated to prevent the development. None has been demonstrated. The Moorsyde scheme accords with RSS policies 39, 40 and 41. All of these matters indicate that the appeal should be allowed.

THE CASE FOR MAG (Moorsyde Action Group) – the Rule 6 party objecting to the Moorsyde proposal

The material points:

136. **Planning policy.** The RSS was informed by the Benson Report. However, the Benson Report does not give any guidance on turbine numbers for the ORF; nor does it describe the ORF's capacity to accommodate multiple developments. It should not be assumed that every part of the ORF landscape has a medium sensitivity to wind energy development. There are sub-areas with a greater sensitivity. The site of the proposed wind farm at Moorsyde is within one of these sub-areas.

137. **Landscape character.** The evidence of Moorsyde's landscape witness was inconsistent. The failures in her methodology affected its credibility, and the inaccuracies of the photomontages are a cause for great concern.
138. George Macaulay Trevelyan (1876-1962) correctly described this part of Northumberland as "the land of the far horizons", and the Cheviots as "frescoes on the walls....of heaven". The key views of the Cheviots give the landscape its distinctive character and unique quality. The local community has been afforded a hellish glimpse of how the Moorsyde proposal would desecrate the landscape.
139. **Visual effects.** The Benson Report advises that "turbines should be sited so as not to impinge on principal views of the Cheviots". The views are best experienced when travelling along the B6354 from the A1. On each rise of the road, it becomes clear that something special is coming up. The finale arrives at the Plough Inn on the West Allerdale ridge. Here the Cheviots come into full view in all their glory. It is one of the iconic views of north Northumberland.
140. Moorsyde's landscape witness claimed that the turbines would enhance this iconic view (paragraphs 245 and 355 of MWFL/2/2, Doc 1.6). Her judgement on this should be heavily discounted. She has become accustomed to assessing landscapes through a filter that holds turbines to be aesthetically pleasing.
141. The significant adverse visual effects on the key views to the Cheviots would be unacceptable. This alone justifies a dismissal of the appeal.
142. The thresholds of acceptability would also be exceeded in views towards the turbines from Ancroft Northmoor and Ancroft Southmoor (viewpoints 5a and 11 MWFL2/5, Doc 1.6)
143. The layout of the wind farm would be contrary to PPS22's Key Principle (viii) which advises that landscape and visual effects should be minimised by appropriate siting. A single turbine would stand on one side of the B6354; the remaining 6 turbines would be tightly clustered on the other side of the road. From some directions, the wind farm would appear to have 2 straight and regimented lines of turbines (Figure 40.8, Viewpoint 11, CD1.6).
144. There are 200 occupied residential properties within 3.5km of the turbines. There are also 60 caravan pitches and a holiday cottage from which there would also be views (page 10 of Statement of Common Ground, Doc 4.11). Residents' sensitivity should in all cases be rated "high". Residential amenity would be affected, particularly at Ancroft Southmoor, Ancroft Northmoor, West Allerdale and Shoresdean.
145. **Cumulative landscape and visual effects.**
 - Moorsyde + Toft Hill. The thresholds of acceptable change are exceeded by the cumulative effects of views from the West Allerdale/Shoreswood ridge, including properties at West Allerdale, East Allerdale, Shoreswood and Shoresdean. There would also be significant adverse cumulative effects on the setting of the Duddo Stone Circle SAM. Turbines would be visible on both sides of the SAM and they would dominate its setting. The wind farms would compete visually with the

Cheviots, an important natural landmark. There would be significant change to the ORF landscape.

- Moorsyde + Barmoor. There would be significant additional effects on views from Flodden and from north of Holburn. The area in which there would be significant adverse effects on landscape character would be increased, extending up to 4km-5km from the outer edge of the turbines.
- Moorsyde + Toft Hill + Barmoor. The Duddo Stone Circle would be perceived as being largely surrounded by wind farms, and this would result in an unacceptable impact on its setting. There would be significant additional effects on views from Bowsden West.

146. **The benefits of the scheme in relation to the need for renewable energy.** MAG acknowledges the favourable policy climate afforded to wind energy development. The direction of travel is clear.

147. **Conclusion.** The wider benefits of renewable energy are outweighed by the level and extent of the effects on key views of the Cheviots, on the character of the landscape generally, and on residential amenity, particularly at Ancroft Southmoor, Ancroft Northmoor, West Allerdean and Shoresdean. The appeal should therefore be dismissed.

THE CASE FOR RoASM (Residents of Ancroft Southmoor, including Tamsin Faiers and Reg Watson) – the Rule 6 party objecting to the Moorsyde proposal on the grounds of noise

The material points:

148. **Noise.** PPS22 and the RSS provide a positive planning framework for appropriately located wind farms. The Moorsyde turbines would be *in*appropriately located by reason of noise; an environmental impact that has not been taken into account.

149. The appeal site is large, but the turbines closest to Ancroft Southmoor have remained almost in the same positions as when the original scheme for 29 turbines was proposed. Indeed, one turbine (T13) has inexplicably moved slightly closer to the dwellings. All 7 turbines would be within 1500m of Ancroft Southmoor, and the closest turbine would be 770m from the front elevation of the nearest dwelling. The dwellings at Ancroft Southmoor are directly downwind of the proposed turbines.

150. **Noise assessments and wind shear.** Moorsyde carried out a noise assessment in 2007 using conventional anemometry data. Only 9% of the data could be correctly modelled using ETSU-R-97's logarithmic wind shear formula. Therefore 91% of the derived 10m wind speeds were incorrectly calculated.

151. RoASM performed the same check in 2009 using LiDAR (Light Detection and Ranging). LiDAR data are statistically more robust than anemometry data. They cover a wider altitude range, and there are 6 wind speed samples per time slot, compared with 2 for the conventional anemometry data. However,

only 7% of the 2009 LiDAR data could be correctly modelled using ETSU-R-97's logarithmic wind shear formula. It is therefore clear that the wind shear profile for Moorsyde does not follow that which is assumed in ETSU-R-97.

152. Furthermore, RoASM's data showed that there would be marked wind shear variations between night and day. But Moorsyde's 2007 noise assessment used a single wind shear value of 0.1275; not a different one for night and day. The complex meteorological phenomena that exist at the site were not taken into account. This reinforces RoASM's conclusion that Moorsyde's noise assessment is flawed.
153. **Background noise.** It is essential to measure background noise accurately in order to test whether the turbines would provide a noise environment that complies with ETSU-R-97.
154. Measurements should not be corrupted by rain, unexplained or inconsistent data, or by a failure to account adequately for wind shear. The appellant did not meet these requirements. For example, representative wind speeds and direction were not achieved during the 14 days of data collection (paragraphs 4.2-4.5, and Section 2 of Supplementary proof, Doc 1.19). Moorsyde's LiDAR data were not filtered appropriately; 42% of the 10 minute periods were excluded without any explanation. The daytime data (when wind shear is low) were not separated from the evening data (when wind shear is higher). Averaging of the data causes the background noise for the evening amenity hours to appear to be higher than it actually is.
155. Night time background noise levels at Ancroft Southmoor are below 20dB, even at wind speeds of 5m/s (Appendix 18, Doc 1.18). The levels appear to be at the noise floor of the microphone, rather than the actual noise floor (paragraphs 4.9 and 4.10, Doc 1.19). Microphone noise in exposed locations can lead to measured background noise being higher than actual background noise. The appellant did not test the microphone in a silenced wind tunnel.
156. The levels of background noise have been overstated by Moorsyde. At wind speeds between 5m/s and 8m/s, RoASM calculates that background noise levels are 2dB to 3dB lower than Moorsyde claims. This casts doubt on Moorsyde's noise predictions.
157. **Predicted turbine noise levels.** The appellant has used a methodology described in an article in the Institute of Acoustics Bulletin 2009 entitled *Prediction and assessment of wind turbine noise* (CD15.25). The article has not been peer-reviewed, nor has it been adopted by ETSU-R-97, or promoted by the government, or relied upon by a Planning Inspector. The methodology involves using a lower ground reflection factor of 0.5 and a higher (4m) receptor height. If the appellant had not applied this methodology, the ETSU-R-97 limits would be exceeded (paragraph 4.2 and Appendix 19, Supplementary Proof, Doc 1.18). There is no evidential base for Moorsyde's assertion that the customary ground factor is too conservative and causes over-stated noise predictions.
158. None of these points would matter except for the fact that Moorsyde has no room for manoeuvre. The margins are too tight. In order to secure an appropriate noise environment for the nearest residents, Moorsyde has offered to constrain the operation output of 3 of the 7 turbines. This would result in a margin below the ETSU-R-97 limits of no more than 2dB. Even with the

constraints in place, there would be a substantial loss of amenity for those living at Ancroft Southmoor. The amenity day time limit would be regularly exceeded. For substantial periods of time, noise from the wind farm would be 10dB or more above the pre-existing background noise levels. BS4142:1997 *Rating Industrial Noise Affecting Mixed Residential and Industrial Areas* (CD15.3) indicates that this is likely to give rise to complaints.

159. **Amplitude Modulation (AM).** ETSU-R-97 assumes that adjustments for AM are unnecessary. It is now known that multiple turbines in rows, such as that which is proposed by Moorsyde, can lead to AM (CDs15.9 and 15.36). Despite the risk of AM, no conditions have been offered to control it.
160. **Noise conditions.** For most wind farms, the predicted noise levels are comfortably below the ETSU-R-97 limits, and noise conditions are not so critical. However, at Moorsyde the noise levels would be right at the limit. There would be exceedances of 10dB or more for substantial periods. The noise conditions need to be robust and enforceable; but they are not.
161. It is extremely difficult to devise conditions that deliver what is required. Moorsyde changed its suggested wording 4 times. RoASM is not aware of similar conditions being imposed when (as in this case):
 - noise is a principal controversial issue
 - noise experts find fault with the conditions
 - the noise predictions are right on the ETSU-R-97 limits
 - the appellant concedes that there will be breaches from time to time.
162. Furthermore, the suggested conditions do not say when and how the power is to be constrained on the turbines nearest to dwellings, and how the mitigation measures would be enforced.
163. When a complaint is made about noise, the procedure set out in the guidance notes attached to the noise conditions would be difficult for the Council's environmental health officer to implement or enforce. If, after long and complex measurements, a breach was found to have occurred; what then? It is inconceivable that an injunction could be drafted to cover all the multitude of circumstances which could arise.
164. **Conclusion.** There is no policy support for a wind farm that would be sited in a location that pays no regard to the need to minimise environmental impacts. The Moorsyde wind farm would be right on the margin of ETSU-R-97 noise limits. The proposed noise condition is untested, unworkable and unenforceable. It would not deliver the noise environment expected by ETSU-R-97. The appeal should therefore be dismissed on noise grounds.

APPEAL C

THE CASE FOR THE APPELLANT (NPOWER) IN RESPECT OF THE TOFT HILL PROPOSAL

The material points:

165. **Planning policy.** The proposed wind farm at Toft Hill has full policy support. National energy policies require the deployment of renewable energy generation in the north east. Regional planning policy directs onshore wind energy development to the BALCs. It has been established in an earlier wind farm decision for Wandylaw (CD17.24) that, unless there is a compelling impediment to prevent it, planning permission should be granted for wind farms in BALCs. The Toft Hill wind farm would be within a BALC.
166. **Cultural heritage – the Duddo Stone Circle.** The stone circle would be 1.73km to the east of the nearest turbine. Photographs of it can be found at Appendices 1 and 4, Doc 1.12. As can be seen, the stones are not visually dominant except within a radius of about 300m.
167. The *Ancient Monuments and Archaeological Areas Act 1979* (CD14.1) provides protection for SAMs such as the Duddo Stone Circle, and for land in the vicinity of SAMs (Sections 15-17). But the proposed wind farm would be outside the “vicinity” of the stone circle. Its setting is not as far as the eye can see. It extends only for about 1km. There would be no meaningful or demonstrable relationship between the stones and the wind farm. It is therefore not surprising that English Heritage did not object to the Toft Hill proposal.
168. From the stones, westward views to the Eildon Hills would be altered by the presence of the turbines in the foreground, but not harmed. The turbines would be slender and unadorned, and would occupy a narrow arc of view. It would be easy to see through them. Southward views towards the Cheviot Hills and northward views to the Lammermuir Hills would be unaffected.
169. Using the 4 categories of “value” set out in English Heritage’s *Conservation Principles* (CD 14.4):
 - There would be no effect on the stones’ *evidential value*.
 - The *historical value* of the stone circle is discussed in academic papers and articles, including those by Harding (CD14.11), Topping (CD14.14) and Bradley (CD14.18). A relationship between the stones and the distant hills is suggested, but this is based upon extrapolation, conjecture and theoretical musing. The original function and purpose of the stones remains a mystery.
 - The stone circle’s *aesthetic value* is local, and would still be appreciable after the turbines were built. A DEFRA stewardship scheme is in place to secure its future integrity.
 - The stone circle has a degree of *communal value*. It is visited regularly, but the number of visitors is not great. For some visitors, the stones circle has a symbolic association.
170. Paragraph 18 of PPG16 advises that the setting of an ancient monument is a material consideration in determining planning applications; and paragraph 27

makes it clear that there should be a presumption against proposals which would have a significant impact on the setting of visible remains. However, the proposed Toft Hill wind farm would not have a significant impact on the setting of the Duddo Stone Circle, either on its own, or in combination with the proposed wind farms at Moorsyde or Barmoor, both of which would be outside the stone circle's setting.

171. **Landscape and visual effects.** In common with Moorsyde and Barmoor, the Toft Hill wind farm would be within the ORF landscape. It is a landscape that is described in the Benson Report as having a "medium" sensitivity to turbines. The turbines would introduce a strong sculptural quality, and would be consistent with the landscape's scale and openness.
172. There would be significant visual effects in places up to 5km away with reasonably unconstrained views of the turbines. This includes Grindon, Grindonrigg, Grievestead and Felkington. However, at none of these locations would the presence of the turbines be unacceptable, although some people might find them to be disagreeable or unpleasant, particularly those who live nearest. The nearest dwellings would be 770m to the west and 900m to the north of the nearest turbine.
173. On certain stretches of local roads, footpaths and bridleways there would be a significant visual effect. However, recreational amenity would not be so adversely affected that enjoyment of the open countryside would be prevented.
174. **Cumulative landscape and visual effects.** Taking each of the combinations of wind farms in turn:
 - Toft Hill + Barmoor + Moorsyde + West Ancroft. This "all four" combination would be unacceptable. The presence of the wind farms in the landscape would be too strong.
 - Toft Hill + Barmoor + Moorsyde. There would be no unacceptable cumulative effects. The wind farms would be a suitable distance from each other within the same kind of landscape. The landscape could comfortably accommodate them.
 - Toft Hill + Barmoor + West Ancroft. There would be no unacceptable cumulative effects for the same reasons as above, although the greater distance between the 3 schemes makes this permutation preferable to the one above.
 - Toft Hill + Barmoor. If only 2 schemes were to be granted consent, this would be the most acceptable combination taking into account the sense of space and distance between them, as well as the congruence of scale and appearance. It should be noted that the Council does not object to this combination (paragraph 7.5, Statement of Common Ground, Doc 4.12)
175. **Noise.** The Council does not object on noise grounds, and ISORES objects solely on the basis of Npower's choice of a proxy location for background noise measurements. The preferred site was Shellacres, but the owner refused access. An alternative location had to be found. (Photographs of it can be seen on page 7 of the rebuttal proof, Doc 1/13). Like Shellacres, the proxy

location has trees nearby and an open aspect with views towards the proposed wind farm. Whilst background noise levels at Shellacres may not be exactly the same as those at the proxy location, they are reasonably representative and the results provide sufficiently indicative background noise levels for the purposes of ETSU-R-97. When compared with the noise levels measured at the 3 other locations, the data from the proxy location are the lowest for both the day-time and night-time periods (Figures 3 and 4, page 9 of Rebuttal Proof, Doc 1.13).

176. The ETSU-R-97 noise limits can be met but, in case of any breaches, the proposed planning conditions would ensure that there is satisfactory control. The noise conditions are lawful, sufficiently precise and enforceable. No objections have been raised regarding their appropriateness.
177. **Tourism.** It is inevitable that commercial wind farms will be introduced into north Northumberland. Despite claims to the contrary since the mid 1990s, there is still no empirical evidence to show that visitor numbers decline when wind farms are built. Indeed, in a 2008 report for the Scottish government it was found that 99% of those interviewed who had seen a wind farm indicated that the experience would not have any effect on their decision to return. All the available evidence suggests that the proposed wind farm at Toft Hill would not have a significant adverse effect on the tourist economy.
178. **The benefits of the scheme in relation to the need for renewable energy.** The government's energy policy is clear. It is set out in the White Paper *Meeting the Energy Challenge* (CD12.18). When this document is read in conjunction with many other documents, including PPS22 and its *Companion Guide*, and PPS1 and its supplement *Planning and Climate Change*, there can be no dispute regarding the seriousness of the government's intention regarding renewable energy generation.
179. The urgent need for renewable energy generation in Northumberland stems from the fact that the target for 2010 will not be met. Common sense dictates that every effort should be made to meet the target as quickly as possible in order to start working towards the even more challenging target for 2020. The Toft Hill wind farm would make a valuable contribution towards this.
180. Furthermore, if climate change is left unchecked, the rate of erosion of the 5 stones at the Duddo Stone Circle is likely to accelerate. This argument is recognised by English Heritage in its *Conservation Principles* (CD14.4).
181. **Conclusion.** The wind farm would be outside the setting of the Duddo Stone Circle SAM, and would cause no harm to it. Even if an opposite view were to be taken, the SAM's historic character would still be protected. If Moorsyde and Barmoor were built as well, there would still be no harm to the setting of the SAM. In any case, when weighed in the planning balance, the national imperative for renewable energy development, and the policy support for the proposal, would outweigh any perceived cultural heritage detriment.
182. Paragraph 40 of the Supplement to PPS1 *Planning and Climate Change* says that developers for renewable energy schemes should expect "expeditious and sympathetic" handling of their applications. The appeal should be allowed.

THE CASE FOR ISORES (Inappropriate Siting of Renewable Energy Structures) – the Rule 6 party objecting to the Toft Hill proposal

The material points:

183. **Planning policy.** The proposed wind farm at Toft Hill would be in breach of the RSS. The provisions of policy 41 are of no effect because criteria (a), (c) and (i) of policy 40 would not be met. The proposal would also be contrary to Local Plan C28, which relates to Intermediate Areas of Landscape Value.
184. **Cultural heritage.** The interplay of topographic alignment between the east/west drumlin field and the north/south escarpment, creates a unique sense of place for the Duddo Stone Circle SAM. The stones are on the top of a slight knoll about 200m in diameter. This sense of place elicits a strong emotional response from visitors. It is a testament to those who built it 4000 years ago that their creation can still be so evocative. Despite its age, it retains the ability to inspire. It is not necessary to know its original function. The surrounding landscape has undergone many changes in the past 4000 years, but none has undermined the intrinsic qualities of the stone circle.
185. The expansive outlook from the stone circle to the north, west and south, towards the Lammermuir Hills, Eildon Hills and Cheviots, is in stark contrast to the eastern outlook which is confined by an escarpment. The most southerly of the proposed turbines is sited on a direct line between the stone circle and the Eildon Hills, as shown on the map and photographs in the A3 Appendix to Doc 1.25. To deny the relevance and immediacy of the long range views to the north, west and south, as Npower attempts to do, is to deny the obvious.
186. The absence of any objection from English Heritage is neither here nor there. Its jurisdiction extends to SAMs, and the control of works thereon; but not to the setting of SAMs. Quite rightly, English Heritage referred the matter to the Northumberland County Council.
187. There would be clear and unrestricted views of the turbines 1.7km away. Some people might regard these high and constantly moving structures as graceful and elegant, but they would nevertheless be incontestably foreign in a place where the landscape and the stone circle are inextricably entwined.
188. ISORES agrees with the Toft Hill Wind Farm Audit (CD6.3) that the adverse relationship between the wind farm and the stone circle is an overriding reason for refusing planning permission. To grant permission would be contrary to the guidance in PPG16. There would be a significant adverse effect on the setting of the stone circle, and the effect would be unacceptable. This unacceptable effect would last for at least a generation, and probably longer.
189. If the Moorsyde and Toft Hill schemes were *both* built, the turbines of both wind farms would be visible when approaching the stone circle along the public and permissive footpaths. This, too, would result in a significant adverse impact on the setting of the stone circle, contrary to PPG16 and RSS policy 32.
190. **Landscape character.** The seven 112m high turbines would lie within arable fields bounded by hedges. The sensitivity of the ORF landscape is considered to be “medium/high”, not “medium” as assessed in the Benson Report. Npower concedes that the magnitude of change would be high, but ISORES

considers that it would be even higher than Npower implies. There would be a substantial and significant landscape effect.

191. **Visual effect.** The turbines would not block out the Cheviots, but the movement of their blades would be a distraction in the foreground of important views towards them.
192. There would be 77 dwellings within 2km of the proposed turbines. For residents of these dwellings, there would be significant visual effects.
193. Although the proposed turbines would be on lower ground than the Duddo Stone Circle and the escarpment to its east, their blade tips would be higher than both. This would result in significant visual effects for users of the A698, B6457 and B6470 roads, together with the network of unclassified roads, footpaths, bridleways and cycleways which bisect the landscape.
194. **Cumulative landscape and visual effects.** Cumulative landscape and visual effects would be substantial and significant if Toft Hill and Moorsyde wind farms were both built. A new landscape sub-type would be created and, as such, there would be a high magnitude of change. Barmoor would have less of a cumulative impact because it is further away.
195. **Tourism.** The Ford and Etal Estates cover some 5,261ha (13,000 acres) of agricultural land and woodland, the villages of Ford and Etal, and parts of Crookham and Milfield. A map of the Estates is attached to Doc 1.28. The Estates have gained a reputation for the way in which they have developed and managed the natural and built assets to deliver a visually attractive environment for the benefit of local residents, businesses and visitors. The Estates' contribution to tourism is evidenced by the numbers of "brown signs" directing visitors to Ford and Etal. A wind farm at Toft Hill, with or without wind farms at Moorsyde and Barmoor, would have a long-term adverse impact. Large industrial structures in a cherished landscape would damage the stunning north Northumbrian landscape in which the Estates are located.
196. There would also be a long-term adverse impact on Tiptoe Farm, the centre of Till Fishing Holidays about 1km away from the nearest turbine at Toft Hill. Other tourist-dependent businesses in the same area include The Old School House B & B at Tillmouth, the Tillmouth Park Hotel, Tillmouth Fishing, the Collingwood Arms in Cornhill, and the Boathouse on the Tweed at Norham.
197. There is real concern for the viability of all of these businesses, and the many others that operate within the area, if the Toft Hill scheme were to go ahead.
198. **Noise.** The nearest dwellings to the wind farm are Shellacres Farmhouse and the adjoining 7 cottages. There would be 3 turbines within 1km and a fourth one just over 1km away. Permission was not given for background noise monitoring to take place at Shellacres and so Npower had to find a proxy location. The chosen location has a higher background noise than the sheltered gardens of Shellacres Farmhouse and the nearby cottages. Because of the inappropriateness of the proxy location, the background noise measurements cannot be relied upon. A downward adjustment should have been made. NPower has shown disregard for the residential amenities at the Shellacres Farmhouse and the 7 adjoining cottages.

199. It is doubted whether the noise conditions suggested by Npower would provide a practical and effective noise control mechanism.
200. **The benefits of the scheme in relation to the need for renewable energy.** Wind farms are an intrinsically inefficient and outmoded form of electricity generation. Their contribution to pollution savings is uncertain and could be very small. There is no certainty that Npower's claims about the environmental and economic benefits of the scheme are true. The disadvantages to the local community are manifest, and plain for all to see. These are matters that should be taken into account in the planning balance.
201. There are good reasons to be optimistic that Northumberland's renewable energy target for 2020 will be met and exceeded. There will be slow progress during the early years, and faster progress in the later years. There is therefore no pressing need to permit the Toft Hill wind farm. In any case, the weight to be given to the benefit of having additional generating capacity must be proportionate to the amount of capacity that would be installed. In this case, it would be small indeed.
202. **Conclusion.** Renewable energy policies require wind farms to be sited where environmental impacts can be satisfactorily accommodated or addressed. Npower chose the Toft Hill site because it was offered to them by the landowner. The adverse relationship between the proposed wind farm and the Duddo Stone Circle SAM is an overriding reason for refusing planning permission. This, together with the significant and unacceptable impacts on landscape character and visual amenity, indicates that Npower's appeal should be dismissed.

WRITTEN REPRESENTATIONS FROM CONSULTEES AND INTERESTED PERSONS AT THE PLANNING APPLICATION STAGE

APPEAL A - Barmoor

203. Copies of statutory consultation responses can be found in the blue folder (CD2.1). The responses are described in the Planning Officer's report (CD3.1), and I have briefly summarised them below:
204. The North East Assembly welcomed the reduction from 9 to 6 turbines because, amongst other things, this would reduce the overall landscape and visual impact of the scheme. Nevertheless it advised that the Council should be satisfied that any significant and adverse effect on local residents would be outweighed by the benefits arising from the development.
205. One North East expressed its support for renewable energy development and raised no objection provided that all the necessary environmental and visual impact issues were satisfied.
206. English Heritage advised that it did not wish to offer any comments.
207. Natural England, the Northumberland Wildlife Trust, the Woodland Trust, the Environment Agency and the RSPB raised no objections, but suggested various conditions.

- 208. No objections were raised by the Defence Estates, the Civil Aviation Authority, the National Air Traffic Service, Newcastle International Airport, Northumbrian Water or the Coal Authority.
- 209. The Ramblers' Association expressed concerns about visual impact and the effects on public rights of way.
- 210. The British Horse Society was concerned about temporary diversions of rights of way during the construction and the de-commissioning of turbines.
- 211. Northumberland Tourism Ltd requested a deferral of the application pending the completion and publication of an independent study commissioned to consider the impact of wind farms on tourism. North Northumberland Tourism Association objected on the grounds that the development would be detrimental to local businesses and the local tourist economy.
- 212. The Campaign to Protect Rural England (CPRE) was concerned about the inadequacy of planning policies relating to wind farms, and the lack of an agreed methodology for assessing cumulative impact. Further concerns were expressed about the potential impact on tourism, and on the character of the landscape and views from Flodden.
- 213. Ford, Bowsden, Tillside and Doddington Parish Councils expressed views that were repeated at the appeal stage, and are described later.
- 214. The written representations from interested persons can be found in the blue folder (CD2.2). According to the Planning Officer's report, 426 letters or emails were received from those who objected to the scheme, together with 504 "objection slips". There were 95 letters of support, and 8 "support slips". The points raised were repeated at the appeal stage, and are described later.

APPEAL B - Moorsyde

- 215. Copies of statutory consultation responses can be found in the blue folder (CD8.1). The responses are described in the Planning Officer's report (CD9.1), and I have briefly summarised them below:
- 216. The North East Assembly's response to the Moorsyde scheme was similar to that which it made to the Barmoor scheme. In addition, it stated that particular attention should be given to the impact on the Duddo Stone Circle.
- 217. The Scottish Borders Council advised that, if the site were located within the Scottish Borders, the proposal would not be supported, primarily because of the area's landscape character.
- 218. One North East, English Heritage, the Environment Agency, Natural England, Northumberland Wildlife Trust, the RSPB, the British Horse Society, the Ministry of Defence, the Civil Aviation Authority, the National Air Traffic Service, Newcastle International Airport, Northumberland Tourism Ltd, North Northumberland Tourism Association and the CPRE repeated the responses that they had made to the Barmoor proposal.
- 219. The Northumberland & Newcastle Society expressed concerns about the impact on the landscape, the loss of tranquillity, overhead transmission lines, the impact on archaeological and historic features, rights of way and the viability of wind farms.

- 220. No objections were received from the various utility companies.
- 221. Duddo, Shoreswood and Ancroft Parish Councils expressed views that were repeated at the appeal stage, and are described later.
- 222. The written representations from interested persons can be found in the blue folder (CD8.2). According to the Planning Officer's report, 355 letters or emails were received from those who objected to the scheme. In addition, a petition of 756 signatures was submitted by MAG. There were 439 letters of support. The points raised were repeated at the appeal stage, and are described later.

APPEAL C - Toft Hill

- 223. Copies of statutory consultation responses can be found in the blue folder (CD5.1). They are described in the Planning Officer's report (CD6.1), and I have briefly summarised them below:
- 224. The North East Assembly's response to the Toft Hill scheme was similar to that which it made to the Moorsyde and Barmoor schemes. In addition, it drew attention to the proximity of Toft Hill to Moorsyde, and the potential for adverse cumulative impact.
- 225. The Scottish Borders Council made no comment.
- 226. One North East, English Heritage, the Environment Agency, Natural England, Northumberland Wildlife Trust, the RSPB, the Ministry of Defence, the Civil Aviation Authority, the National Air Traffic Service, Newcastle International Airport, Northumberland Tourism Ltd, North Northumberland Tourism Association and the CPRE repeated the responses that they had made to the Barmoor and Moorsyde proposals.
- 227. No objections were received from the various utility companies.
- 228. The Ramblers' Association expressed concern about 2 rights of way that pass through the Toft Hill site, the visual impact of the scheme and its cumulative impact with Moorsyde and Barmoor. The impact on the Duddo Stone Circle and the Duddo Tower was also a matter of concern.
- 229. The British Horse Society was concerned about rider safety and the need for a buffer zone of 200m between turbines and any route used by riders, including minor roads.
- 230. Duddo and Norham Parish Councils, and the Foulden, Mordington and Lamberton Community Council, expressed views that were repeated at the appeal stage, and are described later.
- 231. The written representations from interested persons can be found in the blue folder (CD5.2). According to the Planning Officer's report, 22 letters or emails were received from those who objected to the scheme. There were also substantial representations from ISORES and a petition of 18 signatures from the residents of Ladykirk. The points raised by objectors were repeated at the appeal stage, and are described later.
- 232. There was one letter of support which stated "....having seen several wind farms in Scotland we know that they do not detract from the amenity or tourist value at all. In fact many tourists enjoy visiting the sites. Perhaps the

protesters should be reminded of the past filth and disease caused by previous coal mining industry”.

WRITTEN REPRESENTATIONS FROM INTERESTED PERSONS AT THE APPEAL STAGE

233. The letters received at the appeal stage, prior to the opening of the Inquiry, can be found in the red folders which form part of the appeal files.
234. In addition, 31 letters of objection (Docs 3.26 to 3.56) and 25 letters of support (Docs 3.1 to 3.25) were submitted during the Inquiry. The points raised in the objectors’ letters were largely repeated by the 38 objectors who spoke at the Inquiry, and whose representations are described in the next section of this Report.
235. The material points raised in the 25 letters of support can be summarised as follows:
- We have a global responsibility to meet carbon emission targets.
 - The threat of climate change is both real and immediate.
 - Northumberland has the ideal weather conditions to generate renewable energy.
 - Britain has the best land-based wind resource in Europe but we are woefully behind Germany and other European countries in using it.
 - Agricultural land could be used for a second purpose.
 - It is an area designated as having “least restraint” for wind turbines.
 - Nobody has a right to an unspoilt view.
 - The views of young people should be taken into account.
Approximately 90% of the pupils in the sixth form of Berwick High School believe a wind farm at Moorsyde is a good idea.
 - In 25 years, other forms of renewable energy may have been commercially developed but, for now, onshore wind power is available and affordable. The legacy of wind farms would be tiny compared with the legacy of nuclear or coal-fired power stations.
 - Turbines are beautiful and graceful additions to the landscape.
 - In other tourist areas of the UK where there are wind farms, it has been found that visitors like to see the turbines in the landscape. There would be no reduction in the number of tourists visiting north Northumberland.
 - The views of the silent majority who support wind farms should be taken into account.

VERBAL REPRESENTATIONS FROM INTERESTED PERSONS AT THE INQUIRY

All the representations were made by **objectors**, unless stated otherwise.

The material points:

236. **Peter Worlock, Chairman of SOUL.** SOUL has over 900 supporters most of whom live, or have holiday homes, in north Northumberland. SOUL is fully supportive of wind farms where they can generate electricity reliably; for example, off-shore on the west coast of the British Isles. But wind turbines are not right for north Northumberland, one of the least windy regions in the North East according to a DTI report. Any potential benefits from the 6 turbines proposed for Barmoor would be far outweighed by the adverse effect that they would have on the local landscape and the local community. (Doc 2.1)
237. **Mike Maud, Chairman of MAG.** As the Moorsyde scheme evolved, and numerous amendments and revisions were made to the ES, MAG continued to respond with its objections and observations. MAG considers that the opinions expressed in Ferguson McIlveen's *Moorsyde wind farm planning and visual impact appraisal: March 2007* (CD9.5), and Scott Wilson's *Moorsyde wind farm addendum: August 2007* (CD9.6) are unsubstantiated and should not have been relied upon by the Councillors or planning officers when determining the Moorsyde planning application. The reports contradict one another. They do not follow a described methodology, nor do they comply with the guidance in PPS22. (Doc 2.2)
238. **Ian Corsie, Chairman of West Ancroft Community Action (WACA).** WACA represents about 100 people, all of whom are concerned about the cumulative effect of the proposed 8-turbine wind farm at West Ancroft. It would be in the same area as the Barmoor, Moorsyde and Toft Hill wind farms that are the subject of the current appeals. If all 4 wind farms were built, there would be 28 turbines in a radius of about 7.5km. The tranquillity of the area is highly valued by residents.
239. The cumulative impact of the West Ancroft scheme and the other 3 schemes is a matter of great concern, as follows:
- West Ancroft + Moorsyde. The 2 wind farms would be separated by a minor road, with the closest turbines only 1.25km apart. The ragged turbine array would be evident to visitors leaving Holy Island; and in southward views, particularly from the Shoreswood-Allerdean ridge. The combined noise of 15 turbines would result in a significant long-term detrimental impact on the amenity of the residents of West Ancroft, Ancroft Southmoor and Ancroft Northmoor. If both wind farms were constructed at the same time, there could be more than 7000 HGV movements sharing the same access off the B6354. This would cause disturbance to roadside dwellings and damage to the road surface.
 - West Ancroft + Barmoor. The 2 wind farms would sandwich the village of Bowsden, and create a skyline dominated by moving turbine blades.
 - West Ancroft + Moorsyde + Barmoor. This triple combination would compound the problems identified in the double combinations above.

The northern skyline from Bowsden would have an almost continuous line of rotating blades. Southward views towards the Cheviots would face an even greater intrusion.

- West Ancroft + Moorsyde + Toft Hill. There would be an uneven east/west line of 3 clumps of turbines, 22 in total, over a distance of 8.3km. The turbines would be in the foreground of views of the Cheviots when approaching from Berwick-upon-Tweed.
- West Ancroft + Moorsyde + Toft Hill + Barmoor. This “full monty” combination compounds all the cumulative impacts outlined above. A “wind farm landscape” would be created.

240. Concern about the proposed wind farms is already blighting the local tourist economy. Those who were planning to invest in tourist-related ventures are now thinking long and hard about doing so. (Doc 2.3, including wire frames and photographs)
241. **Maggie Harker, representing Lowick Parish Council and herself.** The Parish Council voted with an overwhelming majority to object to the Barmoor proposal. The turbines would dominate the landscape to the west of Lowick village, dwarf the outcrops of Goatscrag Hill, Broom Ridge and Doddington Moor, and significantly impinge on views of the Cheviots. Visitors’ enjoyment of Ford Colliery, the Neolithic rock art on Goatscrag Hill and the nearby footpaths would all be significantly affected by noise and visual impact. People would be deterred from visiting the area, with consequential effects on the fragile local economy.
242. The variations in landscapes and skylines, and the tangible silence, make this area special. The views of the Cheviots draw the eye; it is a reflex action. The turbines’ moving blades would capture the gaze and limit the field of view. The solitude and serenity would be sliced and shredded by the sight and sound of the turbines. To quote Sir Martin Holdgate, we will be left with a “huge spatial footprint for a piddling little bit of electricity”. (Doc 2.4)
243. **Rodney Martin, Chairman of Shoreswood Parish Council.** The residents of Shoreswood parish would be directly affected by all 3 proposed wind farms, but especially by the Moorsyde one. The turbines would sit astride the B6354; the main route to Wooler and the tourist attractions at Ford and Etal. It is strange that the turbines would be as far from the landowner’s house as possible. This is an area of light, space and peace. It is precious to those who live here. Canon Alan Hughes, the vicar of Berwick-upon-Tweed rightly describes it as a “holy space”. (Doc 2.5)
244. **Ian Jackson, representing Bowsden Parish Council and himself.** The Parish Council objects to the Barmoor and Moorsyde proposals. The developers have had to choose sites where there are willing landowners. They have then tried to persuade everyone that the sites are suitable on planning grounds. This is not the right way to go about things. It seems incongruous that DEFRA has awarded grants for enhancing the local landscape, but the Secretary of State could now make a decision that would ruin much of the good work that has been done. (Doc 2.6)
245. **Don Brownlow, representing Duddo Parish Council.** The Parish Council objects to the Moorsyde and Toft Hill proposals, both of which lie within a very

small parish. Duddo has an ageing and diminishing population, and some of the worst income levels in the country. It has few resources beyond tourism. Tourism relies upon the area's attractive landscape, tranquillity, rich history and built heritage. Some of the proposed turbines would be only 750m away from houses. Living conditions would suffer. It seems odd that in Scotland, which is only a stone's throw away, large turbines are expected to be at least 2km away from houses. It also seems odd that Npower is so determined to pursue its appeal contrary to archaeologists' advice about the effect on the Duddo Stone Circle. Investment in local tourism ventures is now frozen, and existing ventures are being damaged. People are unlikely to invest in, or visit, a wind farm landscape. (Doc 2.7)

246. **Flora Simpson, former Ward Councillor for Islandshire.** There would be 80 houses within 2km of one of the turbines at the Moorsyde wind farm, and some would be less than 800m away. The introduction of 7 vast man-made objects into this quiet rural landscape would have a severe and substantial visual impact on nearby residents. At times, the noise levels would be 4 times greater than background noise. People have chosen to live here, or to visit the area as tourists, because of its tranquillity. Small tourism-based businesses would suffer. Other concerns include the danger of ice falling from the turbines, and the potential danger to the bat population. The Secretary of State is fervently requested to refuse planning permission for the Moorsyde wind farm. (Doc 2.8)
247. **Robert Seaton, representing Bourne Leisure.** Every year, 4 million people take holidays in the UK with Bourne Leisure. They stay in the company's 36 caravan parks, 13 Warner Leisure hotels and 3 Butlins resorts. In the area where the 3 wind farms are proposed, Bourne Leisure operates Berwick Holiday Centre, Haggerston Castle Caravan Park and the Collingwood Arms Hotel in Cornhill-on-Tweed. In the last 9 years, Bourne Leisure has spent £15.9 million on improvements to these holiday destinations.
248. Northumberland attracts those who love the open vistas of farmland, hills and the long views that stretch the eye. They come to enjoy this last unspoilt bit of English countryside. Granting planning permissions for the wind farms would be a huge risk to tourism; a risk that would be disproportionate to the amount of electricity generated. (Doc 2.9)
249. **G C Mills of Thornton.** The overarching position taken by MAG is supported. In the Thornton area, on the edge of the plateau leading to the Scottish hills, there would be about 33 dwellings within 3.5km of the Moorsyde site. The turbines would sit on the 80m contour, and be 110m high. Parts of the Thornton settlement are on lower ground, so the turbines would tower over them. There are open rolling views in between, with no possibility of screening or mitigation. This, together with views from a public footpath between Thornton Cottage and Royalty Bridge, appears to have been ignored in the ES.
250. The tranquillity of the area is astonishing. The noise of the turbines would be intolerable, particularly at night. The site overlies an aquifer which provides water to Berwick-upon-Tweed. When piles or concrete foundations are dug, the water could be contaminated by polluted mine workings. The turbines would distract drivers on the A698, a road that already has regular and frequent accidents. The dis-benefits of the Moorsyde scheme grossly outweigh the benefits. (Doc 2.10)

251. **Margaret McPhee of Grindon Rigg.** The open spaces, far-reaching views and sense of tranquillity in this part of Northumberland provide a much-needed respite. The tourism businesses need help, not hindrance. The average wage in the former Berwick-upon-Tweed Borough is one of the lowest in the country.
252. Grindon Rigg is a hamlet of 17 properties. The Toft Hill turbines would be about 1.1km away, and the Moorsyde turbines about 3.2km away. Their noise would spoil an environment that is absolutely quiet for most of the time. Any increase in noise would certainly be noticeable. Wind turbines do not belong in the setting of the Duddo Stone Circle. An industrial landscape would be created. In 25 years, Toft Hill would be an industrial brownfield site. (Doc 2.11)
253. **John Lodge of Barmoor Mill.** The Barmoor site forms part of an important landscape and visual corridor linking the Northumberland NP and the coastal AONB. The 6 turbines would be a major discordant feature that would neither relate to, nor respect, the character of this highly attractive landscape. The visual impact would also be severe. The main assets of the local tourist industry are the natural beauty of the countryside and its historical features. These need to be protected from developments such as the Barmoor wind farm. The cumulative impact of the 3 appeal schemes, and the West Ancroft scheme, is another great concern. (Doc 2.12)
254. **Ann Lamb of Barmoor Castle Country Park.** The protection of the landscape and cultural heritage is the key to the success of the local tourism industry which now employs about 42% of the population. The renovation of the Grade II* Barmoor Castle, currently on the "At Risk" register, depends on the growth and viability of the caravan park around it. A similar caravan park, near Harrogate, lost 25% of its pitch occupancy within a year of the opening of the nearby Knabbs Ridge wind farm and its trading figures for the 2009 season are showing a loss of £500,000. Barmoor Castle Country Park could become another sacrificial lamb in the stampede for onshore turbines. It would be a heartbreaking and cruel blow. The Northumberland landscape is to tourism what the Turner collection is to the Tate; both are national treasures, and both deserve preservation. (Doc 2.13)
255. **John Ferguson of Barmoor Ridge.** From Barmoor Ridge it would be possible to see the Barmoor, Moorsyde and West Ancroft wind farms; all within a distance of about 3km. There are over 60 sites of historical interest and archaeological finds within 3km of the Barmoor site. On the eve of the battle of Flodden in 1513, the Earl of Surrey with 26,000 men camped on the Barmoor estate. The 500th anniversary of the battle will be in 2013, and plans are afoot to establish a Flodden tourist trail which would involve Barmoor. The 6 turbines would be a jarring symbol of modernity which would spoil the appreciation of the battle.
256. When nearly 1000 people take the trouble to sit down and write to the Council it indicates an unusual intensity of feeling. Over 90% of the letters expressed opposition. Such a high level of opposition should be treated with respect.
257. Just because the Barmoor site lies within a BALC, it does not automatically make it acceptable. In any case, most of the site is not typical of its ORF landscape designation. The sub-station would be located next to the B6353 in a highly visible position, contrary to PPS22's requirement to minimise

environmental impact. The 110.5m height of the turbines would match the difference in height between the coastal plain and the upland on which they would be situated. Once the Cheviot skyline has been broken, the beauty of north Northumberland would be seriously compromised. The area's peaceful stillness should be protected against these vast churning machines. (Doc 2.14)

258. **David Golding, representing Make Poverty History North East and taking a neutral approach to the appeal proposals.** The main cause of global warming is the burning of fossil fuels. The gross injustice to the poor is obvious: we produce the pollution, and the poor are the first to suffer. The damage by global warming will increase 10,000-fold unless we change our ways rapidly and radically. The catastrophe will engulf our children and grandchildren. Never have we been offered such an opportunity to bring such benefit to humankind as that presented by the current challenge: to close the centuries-long chapter of carbon profligacy and to open a new chapter of environmental responsibility. (Doc 2.15)
259. **Garry Beaumont of Unthank.** Travelling south from Berwick-upon-Tweed on the B6354, drivers are teased by an increasing anticipation of a spectacular panoramic view of the Cheviots as each crest of the road is reached. The third such crest is close to Unthank. The Moorsyde wind farm would place these views under extreme threat. The view can be particularly experienced from the south-facing Murton White House, 4.4km from the northernmost turbine. This Victorian house was carefully positioned to take maximum advantage of the dramatic panorama. The prospect of adverse landscape impact, and the consequential loss of visual amenity, is a matter of great concern. It is also worrying that the developer has not said whether the transmission lines from the turbines would be laid underground or overground or, indeed, which route they would take. This too could have grave implications on the views of the Cheviots from the B6354. (Doc 2.16)
260. **Alan Bertram of St Boswells.** The nature reserve at Ford Moss is a remarkable place. It attracts walkers, ornithologists, botanists, geologists and those interested in industrial archaeology. Supreme peace and tranquillity can be found there. It is an SSSI, managed by the Northumberland Wildlife Trust on behalf of Ford and Etal Estates. The proposed wind farm at Barmoor would be about 100m to the east of the nature reserve. The turbines and their constant movement and noise would put an end to the peace and tranquillity. The nature reserve is overlooked by Broom Ridge. From here there are remarkable views of the Cheviots, the Till Valley, Flodden Field, the Eildon Hills, the Selkirk Hills, the Lammermuirs, the North Sea coast towards Holy Island, and Alnwick Moor to the south. The wind farm at Barmoor would be in direct line of the view towards Holy Island. It would be an absolute blemish. (Doc 2.17)
261. **Don Brownlow of Norham, a professional photographer.** There have been problems with Moorsyde's visualisations from the outset. They do not follow the 2002 Scottish Natural Heritage's best practice guidelines. The viewpoints are neither key nor representative, and there are technical failings in the photomontages. Recent updates and additional viewpoints, including those in the Consolidated Package (MWFL2/5, Doc 1.6) have not helped. It is not difficult to produce sharply delineated photomontages of properly-lit turbines against a contrasting sky. And yet important baseline images from

Shoresdean and West Allerdean, shown in Figure 10.9b (Viewpoint 3) and Figure 9b (Viewpoint 11) in the Consolidated Package, have been taken into the sun. It is not surprising that the Cheviots are lost in the haze.

262. Distances, times and dates are often wrongly described in the captions to the images in the Consolidated Package. Errors of this kind are considered to be a hanging offence in the world of editorial photography. Furthermore, turbines are shown in the wrong location. For example, in the view from the Plough Inn at West Allerdean (Figure 9b, Viewpoint 11 of the Consolidated Package), 6 out of the 7 turbines are shown in positions that do not accord with the site plan. These are not minor errors and they give a misleading impression of the visual impacts, especially when viewed from the houses at Ancroft Northmoor. (Doc 2.18, which includes visualisations to demonstrate some of Moorsyde's erroneous material)
263. **Thomas Carroll of Tiptoe.** There are six properties at Tiptoe, including Tiptoe Farm (awarded Britain's Most Beautiful Farm by Farm Business Magazine in 2006) and a holiday cottage which is run in conjunction with a fishing business on the River Till. The tranquillity of Tiptoe is appreciated by those who live there, and by the visitors in the holiday cottage. The nearest turbine at Toft Hill would be about 1km away. The huge turbines would be a visual eyesore in an otherwise beautiful landscape. Npower has not visited Tiptoe to assess the potential for noise disturbance. If noise were to become an issue, it would make the dwellings uninhabitable, and the financial loss would be ruinous. (Doc 2.19)
264. **Mike Maud of Ancroft Northmoor, speaking as a resident.** Ancroft Northmoor is a small settlement of 6 dwellings. Despite its proximity to the Moorsyde site, no attempt has been made by the developer to demonstrate the impact on any of the dwellings. Under cross-examination, Moorsyde's landscape witness admitted that the impact would be irritating. To those that live at Ancroft Northmoor, the impact would not be irritating; it would be quite unbearable, day in and day out, for 25 years. The 7-turbine scheme is nothing more than the remnant of the original 14-turbine scheme. According to Moorsyde's landscape witness, when the number of turbines was halved the scheme was not designed afresh because of "administrative inconvenience". There has been a confusing paper-chase of addenda, revisions and updates. Even after the Inquiry had started, the revisions continued. There are still many errors and misrepresentations which call into question Moorsyde's competence and reliability in presenting environmental information. The impacts of the wind farm have been repeatedly down-played or disguised. (Doc 2.20)
265. **Amanda Worlock, resident of Lowick and owner of a holiday cottage.** Visitors to the holiday cottage come for the marvellous landscapes, the tranquillity of the countryside, and the wonderful walks. Plans for a second holiday cottage have had to be delayed because a wind farm at Barmoor could affect its viability. Walkers on St Cuthbert's Way (from Melrose to Holy Island) have an uninterrupted view towards Holy Island to the east and the Cheviot Hills to the west. The view to the west would be seriously affected by all 6 turbines clearly visible above the horizon. It is regrettable that the developer has ignored requests to use this as a viewpoint for a photomontage. Walkers on Goatscrag Hill, another popular destination, would see the turbines' blades rising 50m above the top of the hill. The proposed site for the Barmoor wind

farm is inappropriate. If planning permission is granted, it is feared that a planning application would then be made for the 3 turbines that were removed from the original scheme, resulting in a 9-turbine wind farm after all. (Doc 2.21)

266. **John Daniels of Lowick.** The Barmoor proposal should be opposed. The surrounding area is particularly vulnerable to the impact of a large-scale industrial development. A walk from Lowick, via Routin Lynn, Goatscrag Hill and Ford Moss, demonstrates the area's landscape, wildlife, and cultural heritage. It is wrong to describe the landscape as ORF (Open Rolling Farmland); it is open land with woods, hills and escarpments. The wind turbines would become the most significant feature. The special qualities of Ford Moss and Routin Lynn would lose their appeal. From Goatscrag Hill, there would no longer be sweeping views across unspoilt countryside. (Doc 2.22)
267. **Frank Dakin, owner of a farm at Duddo.** There are huge financial rewards for land owners who agree to have turbines on their land. Those that have agreed, tend to live outside the area. It is wrong that one person can cause so much worry and concern, and have total disregard for their neighbours. (Doc 2.23, map of the Duddo Estate)
268. **Colin Wakeling of Berrington Lough.** From Berrington Lough, there would be massive intrusion from the proposed wind farms, particularly the Moorsyde wind farm which would be about 1.2km away. The movement of the blades would draw attention to the turbines. The Moorsyde scheme was indifferently conceived, and has evolved with constant changes and an incomplete paper trail. The visualisations have many inconsistencies. They do not instil confidence. It is also difficult to accept the credibility of the noise evidence. It appears that inconvenient data have been removed, other data have been massaged, and the methodology used by Moorsyde's noise expert has not been subject to peer-group scrutiny. (Doc 2.24)
269. **Noel Hodgson of Tillmouth, a local poet.** If turbines were built all over north Northumberland, the tourists and the artists would all go home, and the farmers could farm in peace. In fact it would be just like it was 50 years ago *provided* that you never looked up. However, it would be criminal to industrialise the landscape in that way.
270. **George MacKenzie of West Grindon.** The Toft Hill turbines would be visible from one side of West Grindon House, and the Moorsyde turbines from the other. There would be nothing to soften the view. The landscape would be blighted. Npower are showing breathtaking arrogance in proposing to build turbines so close to the Duddo Stone Circle. This Bronze Age monument has had the same rural setting for 4000 years.
271. **John Trotter of the Scottish Borders.** Those who live north of the border have had no say in the plans. This is undemocratic. The 3 wind farms would make no strategic difference to energy generation. They would impact on the AONB and the heart of a rural community.
272. **Roger Mikett of Wooler.** The Duddo Stone Circle is the finest stone circle in Northumberland. One of the stones was pulled out in the 19th century but, since then, the circle has remained intact. The turbines at Toft Hill would have a violent impact on the setting of the stones. This is a cause for dismay.

273. **Peter Usher of Chester-le-Street, owner of a mobile home at Barmoor Castle.** The Barmoor wind farm would intrude into the visual amenities of the area. The vast turbines would not help the local economy. Tourism is particularly important. Visitors would go elsewhere. Many battles have been won and lost in this part of Northumberland. If this battle is lost, the land would be doomed.
274. **Laura Parish of Duddo.** The unspoilt countryside around Duddo is a good place to live and work. Visiting the Duddo Stone Circle is a humbling experience, particularly early in the morning or at sunset. The stones have been there for 4000 years. It would be an insult to our ancestors if turbines were built within sight of them.
275. **Elizabeth Bennett of Ancroft Southmoor.** The Moorsyde turbines would be so close to Ancroft Southmoor. Homes would be down-wind of the turbines. It would be difficult to tolerate the noise. Noise is unusual in this tranquil spot.
276. **Peter Moore of Berwick-upon-Tweed, a member of the Ramblers' Association.** Despite the evidence of Npower's landscape witness (Doc 1.11, rebuttal proof paragraph 5.8), members of the Ramblers' Association use footpaths in the Toft Hill area. Furthermore, there are other groups of walkers who do the same.
277. **Dominic Coope of Rodham, a member of Northumberland and Newcastle CPRE.** The sites of the proposed wind farms are in a proud corner of an already proud and mighty County. It is a land of holy places and battlefields. It is the cradle of Christianity, and a destination for pilgrims. The landscape arguments put by many other objectors are supported.
278. **Clive Hallam-Baker, Chairman of Branxton Parish Council and the Glendale Group of Parish Councils.** The Flodden battlefield should be protected from turbines in the same way as the battlefields of Agincourt and East Trafalgar have recently been protected. Flodden is important for history, for tourists and for local businesses. At the battle of Flodden, the invaders were defeated. It is hoped that the same happens to the turbines.
279. **Mr Turnbull, representing Ford Parish Council and himself.** Ford Parish Council objects to all 3 proposals. The turbines cannot be screened. There are also concerns about turbine noise and dangers to migrating birds. The turbines would be too great a change for the landscape. Visitors are a "crop" to be cared for. The turbines would discourage visitors. Wind energy is being pursued with too much enthusiasm. Wind is not continuous, and energy from wind turbines has to be supported by other forms of stand-by energy.
280. **Geoffrey Sample of Wooler, an acknowledged expert on bird song.** A CD of the dawn chorus at Ford Moss has sold 10,000 copies. Bird song is often the only noise in this otherwise silent place. There is a rich mixture of birds, including warblers, peregrine falcons and all 5 species of British owls. The Northumberland NP is an ecological desert, but the Barmoor area is rich with wildlife. It is a high quality area of countryside. Catamount's ES plays down the natural history value of the site, and is misleading on the subject of collisions between barn owls and turbines.
281. **Sandie Reid of Scotland.** Turbines would be an unwanted feature in the landscape. Hedges and trees should not be relied upon for screening; they are

much smaller than turbines. Health and safety issues, such as turbines catching fire or ice being thrown from the blades, should be considered. Certain neurological conditions can make shadow flicker a serious problem. Turbine noise, including low frequency sounds, can be intolerable for those with hyper-sensitive hearing. The ETSU-R-97 noise limits are outdated and inadequate. Furthermore, there would be disruption and danger during the construction stage.

282. **Victor Dickinson, vicar of Lowick, Kyloe, Ancroft, Ford and Etal.** The Barmoor wind farm would be a wholly inappropriate development. It would despoil vistas. The landscape would be dotted with turbines. The wind farm would not help the tourism and farming economies. Once the turbines were built, more could follow. Turbines are the modern-day equivalent of a coal mine's spoil heap. But, unlike a coal mine, they would not provide employment. In fact the opposite would be true.
283. **John Barber of Brackenside (a supporter of the 3 appeal proposals).** All 3 proposed wind farms are on good sites. They should be welcomed. The farm at Brackenside was originally going to have 3 of the Barmoor turbines, until the scheme was reduced in size. Wind farms should be encouraged because the biggest threat to the landscape is global warming. It is selfish to say that a view is more important than global warming. We have to look to the future, and move on. The landscape is wonderful, but it is man-made. The visible remains of coal mining at Ford Moss are an example of this. The wind farms in Cornwall do not seem to bother tourists. In any case, tourism can spoil a landscape too.

PLANNING CONDITIONS

284. Planning conditions were discussed at the Inquiry by all the main parties. Each of the appellants submitted a list of suggested conditions (Docs 4.13, 4.14 and 4.16).
285. All 3 appellants suggest a 5-year commencement condition, instead of the standard 3-year condition which is currently imposed on most planning permissions. There is no evidence to suggest that the appellants want to delay or postpone the developments. However, I anticipate that they would be reluctant to start work until grid connections were confirmed; something that would be largely out of their hands and could take some time to organise. I therefore consider it practical to apply a 5-year commencement condition in case of unavoidable delays. In any case, so far as the Moorsyde application is concerned, I note that it was submitted in 2004, prior to the date when 3-year commencement conditions became the norm.
286. The anticipated design life of the turbines is 25 years. For that reason, there are conditions which limit the life of the planning permission to 25 years, and require the decommissioning of the turbines and the restoration of the site thereafter. A similar condition applies to any individual turbine that fails to produce electricity for a continuous period of 12 months.

287. A condition about the micro-siting of turbines allows developers to adjust to ground conditions but, in the interests of residential amenity and road safety, the amount of flexibility is restricted.
288. Method Statements are required, and working hours are restricted, in order to limit disturbance to road users and nearby residents during the construction of the wind farms. For the sake of consistency, I recommend that the same working hours condition be used for all 3 proposals, despite the minor variations in the appellants' suggestions.
289. In the interests of road safety, there is a condition about highway improvements and accesses. To protect visual amenity, there is a condition about the turbines' external appearance. There are also conditions about shadow flicker and television interference in order to control the effect that these might have on nearby residents. To ensure the safety of any archaeological features, a scheme of investigation is required. In the interests of protecting wildlife, there is also a condition requiring a Habitat Management Plan.
290. With minor site-specific variations, all the appellants propose the same noise conditions. The conditions are supported by Guidance Notes which explain the conditions and specify the methods to be deployed in the assessment of any complaints.
291. At the end of this Report, at Appendices 1, 2 and 3, I have provided a list of conditions for each of the proposed wind farms. Where appropriate, I have edited the appellants' suggestions, and produced a standardised wording for conditions that are common to all 3 proposals.
292. If the Secretary of State were minded to grant planning permission for any of the proposed wind farms, I consider that the conditions in Appendices 1, 2 and 3 should be imposed. In my view, they pass the 6 tests for conditions in Circular 11/95.

SECTION 106 UNILATERAL UNDERTAKING

293. A Section 106 Unilateral Undertaking (Doc 4.7) has been submitted by Moorsyde. It relates to the provision of a community fund. Each year, for the first 4 years, a sum of £2,500 for each installed megawatt of generating capacity would be deposited into a Scheme Fund. Thereafter, the annual sum would be reduced to £1,375 per installed megawatt of generating capacity. The money would be used for small-scale renewable energy projects, or other similar projects. The grants would be allocated by the Tyne and Wear Community Foundation.
294. The community fund is in accordance with the adopted Northumberland Protocol for Community Benefits from Wind Farm Developments (as referred to in the Statement of Common Ground, Doc 4.10).
295. I have assessed the Unilateral Undertaking against the 5 tests in paragraph B5 of Circular 05/2005 and found it to be acceptable.
296. At the Inquiry, it was generally agreed that the Unilateral Undertaking should be given only limited weight; a view that I share.

CONCLUSIONS

The numbers in square brackets [] refer to the paragraph numbers in the main body of the Report.

MAIN CONSIDERATIONS

- **For the Barmoor appeal**, I consider that the main considerations are the landscape and visual effects of the proposed wind farm; and the effect on cultural heritage, with particular reference to the setting of the Ford Moss Colliery and the “cup and ring” rock art Scheduled Ancient Monuments (SAMs).
- **For the Moorsyde appeal**, I consider that the main considerations are the landscape and visual effects of the proposed wind farm; and the effect of noise on living conditions at nearby dwellings.
- **For the Toft Hill appeal**, I consider that the main consideration is the effect of the proposed wind farm on the setting of the Duddo Stone Circle SAM.
- **For all 3 appeals**, I consider that the main considerations are the cumulative landscape and visual effects of the proposed wind farms; and the cumulative effect of the wind farms on tourism.

PLANNING POLICY

297. In my view the development plan policies with the most direct relevance to the appeals are RSS policies 39, 40 and 41. The RSS is the most up-to-date component of the development plan. Unlike the Local Plan, it post-dates PPS1 and PPS22. [28-30,68,85,102,103,136,165,183]
298. There is no doubt in my mind that all 3 appeal sites fall within the Broad Area of Least Constraint (BALC) to the south and west of Berwick-upon-Tweed, identified in RSS policy 41. The BALC is considered to have potential for medium scale wind energy development. RSS policy 41 makes it clear that the potential for wind farms within the BALCs should be further assessed in Local Development Frameworks. Unfortunately, this has not yet been done. [30,58,68,85,102,103,136,165]
299. So far as landscape character and sensitivity are concerned, I have relied heavily upon the Benson Report and attach considerable weight to it. PPS1 and PPS22, both of which post-date the 2003 Benson Report have not, in my view, diminished its value or relevance. Moreover, paragraph 3.187 of the RSS makes it clear that the Benson Report should be used to inform the location and design of wind energy developments.
300. Furthermore, I found the Benson Report to be of more relevance than the landscape designations of the Local Plan (LP). The LP is now 10 years old and, although LP policies F3, F4, C26 and C28 (relating to Intermediate Areas of Landscape Value and Areas of High Landscape Value) have been saved, I am mindful that paragraph 25 of PPS7 discourages the retention of local landscape designations.

APPEAL A - BARMOOR

Landscape character effects

301. To my mind, the landscape of the Barmoor site fits comfortably into the Benson Report's description of Open Rolling Farmland (ORF). The turbines would be within an extensive bowl of generally flat and open grazing land. The grazing land is contained by Barmoor Ridge to the north, Broom Ridge and Goatscrag Hill to the west, Doddington Northmoor to the south, and woodlands to the east. [33,34,86]
302. The 6 turbines proposed for Barmoor would be at least 1km away from Broom Ridge, Goatscrag Hill and Doddington Northmoor. These ridges and hills typify the Outcrop Hills and Escarpment (OHE) landscape which is described in the Benson Report as being more sensitive to wind energy development than the ORF landscape. It is true that the tips of the turbines' blades would be higher than the tops of these surrounding ridges and hills but, to my mind, the distance between them would reduce the turbines' impact on the OHE landscape to an acceptable degree. The turbines would not tower above the ridges. [70,241,257]
303. However, I am in no doubt that 6 turbines 110.5m high would create a dominant focus within the site itself. There is nothing nearby that would match them in scale or height. At close quarters, the turbines, tracks and ancillary structures would cause a high magnitude of change, and this would have a major effect on the ORF landscape. The scale of the development makes this inevitable. But, because of the site's containment by ridges, hills and woodlands, these major effects would not extend far from the site, and they would reduce rapidly as distance increased. [69]
304. The Northumberland National Park (NP), the AONB and the Heritage Coast are all at least 8km away and, to my mind, there would be only a negligible effect on their landscape character.
305. As required by Criterion (b) of RSS policy 40, I have assessed the Barmoor scheme in terms of its location and scale, and its impact on the surrounding landscape. Overall, I conclude that, despite the major landscape effects at close quarters, the containment of the site by hills and woodlands would prevent the significant effects spreading more than about 1km from the site. I have therefore reached the view that the effect on landscape character would be acceptable.

Visual effects

306. According to SOUL, there would be 378 dwellings within 3km of the proposed wind farm. The nearest dwellings include "Barmoor Ridge" (720m away from the nearest turbine) and "Barmoor South Moor" (770m away from the nearest turbine). I have no doubt that the visual effect of the turbines from these, and many of the other dwellings within the 3km range, would be dramatic; but, to my mind, it would not be overwhelming. [37,71,88]
307. Barmoor Castle Country Park, and the many mobile homes within it, is surrounded by trees. In my opinion, these trees and the other areas of woodlands between the park and the proposed wind farm about 1.6km away,

would significantly reduce the impact of the turbines on the visual amenities of those staying at the park. [72,254]

308. The proposed wind farm would be fully apparent to those on the B6353 Ford to Lowick road which runs to the north of the site. Turbine 6 would be only 200m away. To the south of the site, drivers and cyclists on the unclassified road between Milfield and Lowick, would pass through the wind farm. Turbines 1 and 2 would be about 200m to the east of the road, and turbine 3 would be about 500m to the west of the road. Furthermore, walkers on the public bridleway which passes through the site would, in places, be only 200m away from turbines 5 and 6. In my view, some road users and walkers on these routes would find it exciting to be so close to the turbines, others might find it unsettling. However, I consider that their visual amenities would not be so seriously affected that the routes become unacceptably unpleasant to use. [73]
309. Walkers on Broom Ridge, Goatscrag Hill, the nearby Open Access land and the circular path around the Ford Moss SSSI would be able to see the turbines (photomontages at Figures 45.8 and 45.9, CD1.6). However, in my view, this would not reduce walkers' enjoyment to the extent that their walk would no longer be pleasurable. They would not be surrounded by turbines, and there would be many distant and close-up views that did not have turbines in them. [38,73,87,260,265,266,280]
310. I conclude that, in certain places and for some people, the visual effects would be major but, overall, they would be acceptable.

Cultural heritage - Ford Moss Colliery and the rock art SAMs

311. In my opinion, the setting of Ford Moss Colliery SAM and its Grade II listed chimney would be changed by the proposed wind farm, but not to an unacceptable degree. The turbines would be visible, but not prominent. Indeed, in my view, the juxtaposition of 17th century and 21st century examples of energy generation, about 1km apart, would add a new perspective to the colliery's historical interest. [12,79,90]
312. The "cup and ring" examples of rock art on Broom Ridge and beside the waterfall at Routin Lynn are inconspicuous except at close quarters. That is not to say that they are unimportant but, to my mind, they have an intimate setting which would not be materially affected by the presence of a wind farm at least 1km away. [12,79,91]
313. Paragraph 27 of PPG16 establishes that there should be a presumption against proposals which would have a significant impact on the setting of the visible remains of a SAM. However, in my view this presumption does not come into play because the Barmoor wind farm would not have a significant impact on the setting of the Ford Moss Colliery and the rock art SAMs.
314. Furthermore, I consider that there would be no material impact on the castles at Barmoor, Ford and Etal, nor on the Duddo Stone Circle or the Flodden Battlefield. The turbines would be too far away to materially affect their settings. [92,278]
315. Overall, I consider that there would be no conflict with RSS policy 16 which seeks to promote culture.

Air safety

316. The glider pilots flying to and from the airstrip at the Borders Gliding Club, some 8km to the south west of the appeal site, have to follow strict rules and regulations. They also have to watch the weather carefully. If clouds gather, they have to find gaps through which to make their descent. If there are only a few gaps to choose from, and the wind is blowing from the south west, a detour around the wind farm would have to be made, and homeward routes might be longer than usual. Pilots without Field Landing endorsements on their licences would have to be particularly cautious.
317. Nevertheless, there is no evidence to suggest that air safety would be unacceptably prejudiced, or that the club would become less popular. Pilots would still be able to enjoy the high altitude “wave soaring” conditions for which this area is renowned. [80,81,93,94,95]

Interim conclusion on Barmoor

318. I have reached the view that the effect on landscape character would be limited to a closely contained area. Visual effects in certain places and for some people would be major but, overall, they would be acceptable. The settings of SAMs and other cultural heritage features would not be significantly affected, and air safety for glider pilots would not be unacceptably prejudiced. Overall, I consider that the proposed wind farm would not have any detracting features of substantial weight.

APPEAL B - MOORSYDE

Landscape character effects

319. The quantity of revisions, updates and inconsistencies in the visualisations provided by Moorsyde made it difficult and time-consuming for everyone involved in this appeal to fully understand the potential effects of the proposed wind farm on the landscape. [39,104,137,261,262,268]
320. For this, and the other 2 appeals, my own site visits had the greatest influence on my assessment of landscape character effects. Visualisations, and to a lesser extent the blimps flown by the Rule 6 parties, were of assistance; but they cannot replicate the experience of seeing the landscape first-hand.
321. According to the Benson Report, the whole of the ORF landscape has a “medium” sensitivity to wind energy development. However, to my mind, the Moorsyde site is in a part of the ORF landscape where the sensitivity is greater than “medium” because of the distinctive and unique views of the Cheviots. The turbines would be an unwelcome distraction in the foreground of many much-loved vistas and, as such, they would become a dominant focus in the ORF landscape. In my view, their presence would pass the threshold of acceptability. [40,138]
322. The Moorsyde site is within a lowland landscape which is largely uncontained by hills or escarpments. The irregular area over which there would be a significant change in landscape character is far-ranging. In places, it would extend about 8km from north to south, and about 6km from east to west, as shown on the appellant’s map at Figure 8 of Doc 4.22. [106]

323. Using the methodology and terminology of the *Guidelines for Landscape and Visual Impact Assessment* (CD13.11), I consider that the landscape character hereabouts has a “high” sensitivity to the proposed wind farm, and there is negligible scope for successful mitigation. There would therefore be a “high” adverse magnitude of change. This would lead to a “major” effect on the landscape. This is something to which I ascribe substantial weight.

Visual effects

324. My site visits confirmed the widely-held opinion that, in the vicinity of the Moorsyde site, the views of the Cheviots are magnificent. The hills are about 20km away. It is indeed “the land of the far horizons”, as George Macaulay Trevelyan has described. On many occasions during my site visits I experienced the brightness of the light and the purity of the air for which this part of Northumberland is renowned. Distant views are crisper and more arresting under such conditions.
325. Moorsyde concedes that the 7 turbines would become a defining characteristic of the long-distance southward views to the Cheviots. I agree. There are many stretches of the local road and footpath network from which the Cheviots can be seen (the roads are shown on the map at Figure 9, Doc 4.22). Most notably, the wind farm would straddle the B6354, a “brown signed” road that links Berwick-upon-Tweed and the A1 to the popular tourist destinations of Ford and Etal with their castles, picturesque village streets, light railway and visitor centres. The undulating B6354 heads straight towards the Cheviots and, in my opinion, the views of the hills on the horizon are a highlight of the trip. [45,139,243]
326. I do not share Moorsyde’s view that the turbines would *enhance* this dramatic visual lead-up to the Cheviots. Indeed, I consider that the opposite would be true. The 7 sets of rotating blades, up to 110m high, would confuse the distinctive whale-back shape and muted colours of the hills. At present, these can be enjoyed without interruption. [41,107,140]
327. The importance of protecting the views of the Cheviots is well documented. The Benson Report (page 61, CD13.18) advises that “turbines should be located so as not to impinge on principal views of the Cheviots”. The North East Regional Renewable Energy Strategy, which informed the RSS, states “in the north of the Borough (of Berwick-upon-Tweed) turbines should be sited so as not to impinge on principal views of the Cheviots” (page 53, CD12.26). Furthermore, Local Plan policy F4 seeks to protect the long-range views important to the character and quality of the landscape. The supporting text specifically mentions the “dramatic visual lead-up to the Cheviots” as being a characteristic of north Northumberland (CD10.2).
328. The “principal” views of the Cheviots are not identified in any of the above documents. Nevertheless, to my mind there are several points on the B6354 which would qualify. One of these is from the Plough Inn at West Allerdean. A photomontage of the proposed turbines from this viewpoint can be found at Figure 40.8 of CD1.6. I use the West Allerdean viewpoint merely as an example. There are many other views where the density and height of the 7 turbines, and the movement of their rotating blades would, in my opinion, be seriously harmful to the principal views of the Cheviots. This is a matter to which I give substantial weight.

329. This part of north Northumberland is rural, but it is generally agreed that there are about 200 dwellings and 60 caravan pitches within 3.5km of the Moorsyde site. The nearest dwellings are at Ancroft Southmoor and Ancroft Northmoor. The photomontage at Figure 7b of MWFL/2/5 Doc 1.6, gives some idea how large the turbines would look from there. Moreover, when viewed from the small settlements and outlying dwellings of Shoreswood, Shoresdean and West Allerdean, they would look almost as big. From all of these places I consider that the presence of the turbines would dominate the views from one or more aspects of many of the properties. Residents would experience material harm to their visual amenity, but not to the extent that living conditions would become intolerable. [109,110,111,144,264]

The effect of noise on living conditions in nearby dwellings.

330. ETSU-R-97 (*The Assessment & Rating of Noise from Wind Farms*, CD15.1) is generally agreed by Moorsyde and RoASM to be the appropriate standard against which noise from turbines should be assessed. I take the same view. Despite the fact that the document is over 10 years old, I consider its methodologies to be sufficiently robust. They have been endorsed in the *Companion Guide* to PPS22, and by parliamentary clarification in 2007. They continue to be used by decision-makers. [116,148]
331. The Residents of Ancroft Southmoor (RoASM) have criticised Moorsyde's calculations of background noise and predicted noise. Even if the criticisms are without foundation, it is clear to me that it would be a challenge for the wind farm operator to meet the ETSU-R-97 noise limits at all times. Indeed, Moorsyde accepts that, at certain times and in certain places, the ETSU-R-97 limits would be met with only 2dB to spare. Indeed, at 3 properties there would be a significant potential for the noise limits to be exceeded. For that reason, Moorsyde has offered to cap the power of the 3 nearest turbines in certain wind conditions. [115,121,150-156,246]
332. This suggests to me that the noise limits set out in ETSU-R-97, and in the noise condition suggested by Moorsyde, would be breached from time to time. If the breaches were serious enough to harm living conditions, it is reasonable to suppose that residents would complain to the Council. The procedure to check whether a breach had indeed taken place would be long and complicated. If a breach was found to have occurred, enforcement action would also be long and complicated. [157,158]
333. This is not a unique problem. Noise conditions often require difficult and time-consuming technical and arithmetic exercises to be undertaken when complaints are made. Where noise levels are predicted to be well below the ETSU-R-97 noise limits, Councils and developers rarely have to grapple with these complexities. However, at Moorsyde, there would be a significant potential for the noise limits to be exceeded. This is a matter that causes me considerable concern. [125,160-163]
334. I also find it hard to understand why, when the 14 turbine scheme was reduced to 10 and then 7 turbines, the turbines nearest to Ancroft Southmoor were amongst those that were retained. Indeed, there is no evidence to indicate that Moorsyde's final scheme was designed with the objective of keeping noise disturbance to a minimum, contrary to PPS22's Key Principle (viii). [149,275]

335. At the Inquiry, RoASM expressed concern about the possibility of Amplitude Modulation (AM). The 2007 Salford report *Research into Aerodynamic Modulation of Wind Turbine Noise* found that AM was not generally a factor in noise complaints. I also note that the government has decided that there is currently no compelling case for further research about it. The ETSU-R-97 recommendations take AM into account, without requiring any further correction to be applied. I find the evidence about AM to be inconclusive. In my view, a planning condition to control AM would therefore not pass the Circular 11/95 test of necessity. [122,159]
336. So far as low frequency (LF) noise is concerned, I am guided by paragraph 45 of Section 8 in the Technical Annex to the *Companion Guide* to PPS22 which indicates that there is no evidence that ground-transmitted LF noise from wind turbines is at a sufficient level to be harmful to human health. [123]

Interim conclusion on Moorsyde

337. My concerns about visual effects and noise are, in themselves, of insufficient weight to make the wind farm unacceptable. But, when taken together with the major effects on the landscape generally, and on the views of the Cheviots in particular, I have reached the view that the proposed wind farm has serious detracting features.

APPEAL C - TOFT HILL

The Duddo Stone Circle Scheduled Ancient Monument (SAM)

338. The 7 turbines of the Toft Hill wind farm would be about 1.7km to the west of the Duddo Stone Circle, and fully visible. [166]
339. Much has been written about the Duddo Stone Circle SAM. It is generally agreed that it is nationally important. It dates back to about 2000BC. The original purpose of the stones has been the subject of much academic debate. However, despite the profusion of theories, the reason why the Neolithic or Early Bronze Age people chose to erect them on this particular site remains a mystery. All that is known for sure is that the stone circle has, at some time, been associated with the commemoration of the dead. [47,48]
340. The 5 weatherworn stones form a circle about 10m across. It is the only hilltop stone circle in this part of north Northumberland, and one of very few that can readily be visited by the public. It can be reached only on foot, along footpaths that approach from the north and the south through farmland. It takes about 20 minutes to walk from the nearest roads. To the east of the stones, about 500m away, there is a tree-covered escarpment that blocks views to the coast. To the north, west and south there are open and extensive views towards the Lammermuir Hills, the Eildon Hills and the Cheviot Hills. [21,184,185]
341. In my view, the stone circle has high evidential, historical, aesthetic and communal value; the 4 categories of “value” set out in English Heritage’s *Conservation Principles* (page 28, CD14.4). [47,169]
342. According to paragraph 3.2 of the same document, the significance of this and other similar places embraces all the diverse cultural and natural heritage values that people associate with it, or which prompt them to respond to it. It is therefore impossible for me to crystallize into words what the significance of

the stone circle would be to each and every visitor. Suffice it to say that my own visits to the stone circle confirmed what many others have described; this is a serene and remarkable place. Its solitary position on a low knoll, the extensive and open views to the north, south and west, the fact that it can be reached only on foot, and the mystery surrounding its *raison d'être*, combine to give it a very special atmosphere. The photographs and photomontages in Figures 42.1 to 42.9 in CD1.6, and Figures 6.23 and 6.24 of CD4.4, give an idea of the stone circle and its setting, but they do not do justice to the quality of its atmosphere. Close-up photographs of the stones can be found on the front cover of *Archaeology in Northumberland* and on page 23 of the same magazine (CD14.5). [167,270,272,274]

343. To my mind, the 112m turbines, even at a distance of 1.7km, would dwarf the human scale of the stones. Visitors' personal thoughts about the mystery of the stone circle would be seriously interrupted. The turbines and their rotating blades would be a distraction in the direct line of sight westwards towards the Eildon Hills. They would also be a distraction in northward and southward views towards the Lammermuir Hills and the Cheviots. [49,51,168,187,188]
344. The setting of a SAM is not protected by statute [167], but paragraph 18 of PPG16 makes it clear that the desirability of preserving a SAM's setting should be a material consideration in the determination of planning applications. The extent of the stone circle's setting was therefore the subject of much debate at the Inquiry. Opinions varied. Npower's archaeologist considered that the setting extended only 1km from the stones. The Council's archaeologist considered that it extended "as far as the eye could see". [50,170]
345. In my consideration of this matter, I have been guided by English Heritage's definition of "setting", namely "The surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape" (page 72, CD14.4).
346. I find it hard to believe that those who went to the extreme efforts of erecting the stone circle 4000 years ago intended it to have a relationship with nothing more than its immediate surroundings. The setting, as I experienced it, includes the landscape that can be seen from all directions when standing at the stone circle. Various archaeologists are of the same opinion, including Nicholas Best, the Council's witness (Doc 1.16), Anthony Harding (CD14.11) Peter Topping (CD14.14) and Professor Richard Bradley (CD14.18). It therefore follows that the proposed wind farm at Toft Hill, only 1.7km away, would be well within the setting of the Duddo Stone Circle.
347. In the opposite direction, about 2.5km to the east, the blades of the Moorsyde wind turbines, if erected, would also be visible over the top of the wooded escarpment. To my mind, this would further increase the harm to the stone circle's setting. [22,189]
348. Taking all these matters into account, and notwithstanding English Heritage's lack of objection [167,186,206,218,226], I have reached the view that the proposed wind farm at Toft Hill would have a significant adverse impact on the setting of the Duddo Stone Circle.
349. Having arrived at this view, well-established policies provide further guidance on what to do. PPG16 advises that there should be a presumption against development that would have a significant impact on the setting of visible

archaeological remains. The thrust of PPG16's advice is carried through into paragraph 80 of Section 8 of the *Companion Guide* to PPS22. LP policy F26 takes the same line. Furthermore, RSS policy 32 seeks to conserve and enhance the historic environment, and RSS policy 16 seeks to promote culture. I find the consistency and clarity of these policies to be compelling. All the indications are that a wind farm should not be built at Toft Hill because of the significant adverse impact that it would have on the setting of the Duddo Stone Circle SAM. This is a matter to which I give substantial weight.

Landscape character

350. I share the Council's view that, were it not for the Duddo Stone Circle, the ORF landscape could accommodate the turbines without undue harm. Photomontages in the ES (CD4.4) show the likely appearance of the turbines in the landscape from various viewpoints. Viewpoints 1 (from the A698 north of the site), 2 (from Shellacres), 3 (from the road between Grindon Rigg and Grindon), 4 (from Grindon) and 5 (from Grindonrigg) are amongst those that indicate a high magnitude of change in the vicinity of the wind farm. Nevertheless, I am satisfied that the scale of the wider landscape could absorb the scale of the turbines. It is a landscape that, according to the Benson Report, has a medium sensitivity to wind energy development; a view that I share. To my mind, any changes to the key characteristics of the contemporary landscape would be within acceptable limits. [56,171,190]

Visual effects

351. The proposed wind farm would be in a predominantly rural area. Within 2km of the nearest turbines there would be only about 77 dwellings. From some of these dwellings, the view would change dramatically. However, in my opinion, there are no dwellings where living conditions would be harmed to an unacceptable degree. [172,192]
352. The same could be said for those using the local roads, footpaths and bridleways. In places, the turbines would loom large but, to my mind, their presence would not make the day-to-day or recreational use of these routes unacceptably unpleasant. [173,193,276]

Noise

353. The nearest dwellings to the turbines would be Shellacres Farmhouse and the nearby cottages, just under 900m away. Figures 7.3 to 7.9 of Volume 2 of the ES (CD4.4) show that the predicted turbine noise would not exceed the ETSU-R-97 limits at any of the monitoring locations, although I note that during the quiet daytime hours the predicted noise at Shellacres would be on the limit at certain wind speeds (Figure 7.6, CD4.4). [175]
354. ISORES has criticised Npower's choice of a proxy location for background noise monitoring at Shellacres (the monitoring locations are shown at Figure 7.1 of Volume 2 of CD4.4). Nevertheless, there is no evidence to show that noise from the Toft Hill turbines would worsen living conditions to an unacceptable degree at Shellacres, or at any of the other more distant dwellings. I have therefore reached the view that noise is a matter to which only limited weight should be ascribed. In that respect, I note that the Council does not object to the proposed Toft Hill wind farm on the grounds of noise. [176,198]

Interim conclusion on Toft Hill

355. The significant adverse impact on the setting of the Duddo Stone Circle is, in my view, a serious detracting feature of the Toft Hill scheme, and one to which I give substantial weight. Landscape and visual effects, and the likelihood of noise disturbance, are matters that concern me far less.

MATTERS COMMON TO ALL 3 APPEALS

Cumulative landscape effects

356. Criterion (i) of RSS policy 40 requires cumulative impact of wind farm developments to be considered. Paragraph 21 of PPS22 does the same.
357. In my assessment of cumulative landscape and visual effects I have been guided by RSS policy 41 which identifies the South and West Berwick-upon-Tweed BALC as having potential for medium scale wind energy development, broadly defined in RSS paragraph 3.192 as “up to 20-25 turbines”.
358. In view of the sites’ proximity to Scotland, and the lack of English guidance on cumulative effects, I have referred to Scottish Natural Heritage’s *Cumulative Effect of Windfarms* (paragraphs 52-59, CD13.1). This makes it clear that the critical factor is the threshold beyond which wind farms in a particular area become unacceptable. As more wind farms are developed, and at closer distances to each other, they begin to be perceived as a key landscape characteristic. The character of the landscape is changed and the threshold is passed.
359. In March 2009, the 3 appellants produced a set of cumulative ZTVs of various combinations of the 3 appeal proposals together with the existing wind farm at Black Hill, and the permitted (but not yet built) wind farms at Drone Hill, Border Precision, Wandylaw and Middlemoor (figures 10-30, CD1.6) [26,27]. In April 2009, soon after the West Ancroft planning application had been validated, the appellants produced another cumulative ZTV and further visualisations that included the proposed wind farm at West Ancroft (CD13.41) [24]. All of these ZTVs and visualisations have aided me in my consideration of cumulative effects.
360. In my opinion, it is essential that the West Ancroft proposal be included in any consideration of cumulative effects, despite the fact that the planning application has yet to be determined and its outcome cannot be pre-judged. Paragraph 18 of Scottish Natural Heritage’s *Cumulative Effect of Windfarms* (CD13.1) suggests that once an application has been formally registered and the design information is in the public domain, it should be taken into account. West Ancroft’s proximity to the Moorsyde site and, to a lesser extent, the Toft Hill and Barmoor sites, makes this even more imperative. [24,25,46,76,129,238]
361. I share the commonly-held view that the most harmful scenario would be the quadruple combination of all four wind farms: Barmoor + Moorsyde + Toft Hill + West Ancroft. There would be 28 turbines, thereby exceeding the 20-25 turbines referred to in RSS paragraph 3.192. This part of the ORF landscape would be dominated by turbines and, in my view, it would turn into a “wind farm landscape”. To my mind the magnitude of change would be unacceptable.

362. In my view, the same unacceptable result would occur with the triple combination of Toft Hill + Moorsyde + West Ancroft. There would be 22 turbines on a west/east line only about 10km long. In the vicinity of this line I consider that a “wind farm landscape” would also be created.
363. The triple combination of the 3 appeal sites, Barmoor + Moorsyde + Toft Hill, would be less harmful because of the distance between them. They would be at the 3 corners of a triangle. In my view, the ORF landscape would become an “ORF landscape with occasional wind farms”. The threshold of unacceptable change would not be passed. However, until the fate of the West Ancroft planning application is known, this triple combination carries a risk of turning into the unacceptable quadruple combination described above; a matter of considerable concern to me.
364. The double combinations of Barmoor + Moorsyde, and Barmoor + Toft Hill, would, to my mind, also create an “ORF landscape with occasional wind farms” because of the distance between them. The threshold of unacceptable change would not be passed.
365. The double combination of Toft Hill + Moorsyde would also be acceptable. There is less distance between them than the double combinations above, but the accumulation of their individual effects on the ORF landscape would be diminished by the wooded escarpment which would lie between them.
366. However, I consider that the double combination of Moorsyde + West Ancroft would be unacceptable because they would be so close together that they would appear as a single wind farm of 15 turbines. In my opinion, that would be more than this part of the ORF landscape could accommodate without passing the threshold of unacceptable change. [46,61,75,89,114,145,174]

Cumulative visual effects

367. In accordance with the guidance in paragraph 5.22 of PPS22’s *Companion Guide*, I have considered cumulative visual effects separately from cumulative landscape effects. Cumulative visual effects relate to the degree to which combinations of wind farms would become a feature in particular views, or a sequence of views, and the effect that this would have on the people experiencing those views.
368. In my opinion, the quadruple combination of Barmoor + Moorsyde + Toft Hill + West Ancroft would be clearly and prominently seen from certain viewpoints, including West Allerdean and Shoreswood (Viewpoints 11 and 23, CD13.41). I consider that the cumulative visual effect would be unacceptable. The views, and peoples’ experience of them, would be dramatically changed for the worse. For the same reason, I am equally concerned about the triple combination of Moorsyde + Toft Hill + West Ancroft, and the double combination of Moorsyde + West Ancroft. This is because of their proximity to each other, and their proximity to dwellings in and around Ancroft Northmoor, Ancroft Southmoor and Ancroft.
369. In my opinion, there are no other triple or double combinations that would have an unacceptable visual effect, whether viewed statically from viewpoints, or sequentially from the road and footpath networks or from the east coast railway line.

The effect of the proposed wind farms on tourism

370. I can understand and sympathise with the concerns of people whose income derives from local tourist enterprises such as those at Barmoor Castle Country Park, Haggerston Castle Holiday Park, the Ford and Etal Estates [195], Tiptoe Farm, Till Fishing Holidays, and all the local hotels, guest houses, holiday cottages and B & Bs. By all accounts, the tourist industry is vital to the economy of this part of north Northumberland because other job opportunities are so scarce. [196,240, 245-248,253,254,263,273,283]
371. There is, in my view, a fundamental knowledge gap about how a local, as opposed to an overall, tourist economy might fare after a wind farm development has taken place. The available research, none of which relates to north Northumberland, suggests that individual wind farms would be unlikely to have a serious effect on tourist numbers. However, I am less confident about the effect of an accumulation of 3, or possibly 4, wind farms in an area roughly 10km by 10km which is a popular tourist destination for those who seek unspoilt countryside, distant horizons and tranquillity.
372. I have already concluded that the quadruple combination of Barmoor + Moorsyde + Toft Hill + West Ancroft, and the triple combination of Toft Hill + Moorsyde + West Ancroft, would create a “wind farm landscape” with unacceptable landscape and visual effects. This leads me to the view that the same combinations could deter more tourists than they would attract, and that this could have an adverse effect on the local economy. However, the lack of empirical evidence about the effect of multiple wind farms on tourism makes it difficult to reach a firm conclusion about this. Nevertheless, in my view, the quadruple and triple combinations described above would fail to *promote* tourism; an objective of RSS policy 16. [64,77,96-98,126-128,177]

The need for wind energy developments

373. The Climate Change Act 2008, the Energy Act 2008 and the UK Renewable Energy Strategy 2009 are amongst the more recent indicators of the government’s commitment to tackling climate change. [146,178,200]
374. At regional level, RSS policy 39 sets out Northumberland’s renewable energy targets. By 2010 there should be 212MW of installed capacity. By 2020 this should have doubled to 424MW. There are many different types of renewable energy; onshore wind energy is just one. Using the same proportions as those indicated in the 2005 Regional Renewable Energy Strategy (CD12.7), the *pro rata* 2010 target for onshore wind energy in Northumberland is about 193MW. By 2020 this should have doubled to 387MW. [62]
375. Unfortunately, the *pro rata* target for 2010 will not be met. By 2010 there will be only 4.5MW of installed capacity of onshore wind energy, not 193MW; a shortfall of 188.5MW. [132,179]
376. The outlook for 2020 is more promising. If all the wind farms in the pipeline were to come to fruition, there would be 434.5MW of installed capacity; exceeding the *pro rata* 2020 target of 387MW by 47.5MW. The figures (from the agreed statement at Appendix 1, Doc 1.14) are made up as follows:

4.5MW from existing installed capacity

163MW from wind farms with planning permission

200MW from wind farms with appeals pending (including about 49MW from the 3 wind farms that are the subject of this Report)

67MW from wind farms which are the subject of current planning applications.

377. The 2020 target should not be thought of as a “ceiling”. As explained in paragraph 3 of PPS22 “The fact that a target has been reached should not be used in itself as a reason for refusing planning permission for further renewable energy projects”. In any case, common sense suggests that not *all* of the wind farms in the pipeline *will* come to fruition. Some may be refused planning permission; others may not be built. The predicted figures, which cannot be entirely relied upon, merely indicate an encouraging increase in the number and size of onshore wind energy proposals in Northumberland. [63,83,99,201]
378. However, in my view, the amount of renewable energy that would be generated by the Barmoor, Moorsyde and Toft Hill wind farms (about 43MW in total) should not be down-played because of the encouraging progress being made towards the 2020 target. There is, and there will continue to be, an urgent need for renewable energy developments; a matter to which I attach substantial weight. [82,130]

OTHER MATTERS

Reversibility

379. All 3 appellants are seeking planning permission for a period of 25 years. The turbines would then be removed, unless another planning permission had previously been granted for them. The reversibility of the proposed developments was used as an argument in favour of all 3 schemes.
380. However, to my mind, 25 years is an unreasonable length of time to wait for a respite from harms. It is about a third of a person's lifetime; the span of a generation. In my view, none of the harms that I have identified would be diminished by the long-term prospect of the turbines' removal. In any case, the removal of the turbines after 25 years cannot be certain. In the future, the wind farms might receive planning permissions which allowed them to remain. I therefore give little weight to the reversibility of the 3 schemes. [53]

Grid connections

381. Criterion (h) of RSS policy 40 requires me to consider the visual impact of new grid connection lines. Much to the frustration of local residents, the appellants were unable to give full details about this, other than to say that underground cabling was the general intention. But, if over-ground cables were proposed, separate applications supported by environmental impact assessments would have to be made. I am therefore satisfied that the impact of any grid connection would be fully and properly assessed at the relevant time. [259]

THE PLANNING BALANCE

382. As with all other planning appeals, benefits have to be weighed against harms.
383. In my opinion, there are 3 benefits that are common to all the appeal schemes. Firstly, the wider environmental and economic benefits that flow from renewable energy generation. I attach significant weight to this, in

accordance with Key Principle (iv) of PPS22. I will refer to this matter as “renewable energy generation”.

384. Secondly, all the appeal sites are within a BALC, as identified in RSS policy 41, where there is potential for medium scale wind energy development. In a recent decision on the proposed Wandylaw wind farm, the Secretary of State considered that there would need to be “very good reasons” and “compelling impediments” to prevent a wind farm in a BALC (paragraphs 13 and 14, CD17.24). The location of the 3 sites within a BALC is something to which I attach considerable weight. I will refer to this matter as “the BALC location”
385. Thirdly, each of the schemes would offer some potential for new jobs, particularly during the construction phase. However, I attach limited weight to this because long-term job opportunities would be modest. I will refer to this matter as “job opportunities”.
386. Taking each of the appeals in turn:

Barmoor

387. The benefits to be weighed in favour of the scheme:

- Renewable energy generation.
- The BALC location.
- Job opportunities.
- The containment of the site by hills and woodland would prevent major landscape effects spreading more than about 1km from the site.
- Overall, the visual effects would be acceptable.
- There would be no significant impact on the setting of Ford Moss Colliery and the rock art SAMs, or on the more distant cultural heritage features.
- The safety of glider pilots would not be unacceptably prejudiced, and the Borders Gliding Club would not become any less popular.

388. The harms to be weighed against the scheme:

- There would be major landscape effects within about 1km of the site. However, the containment by hills and woodlands would prevent these major effects spreading further.
- In certain places and for some people, the visual effects would be major.

389. On balance I have reached the view that the benefits of the Barmoor scheme outweigh the harms. In accordance with Key Principle (i) of PPS22, the proposed wind farm would be located where the environmental, economic and social impacts could be satisfactorily addressed. Furthermore, I am satisfied that the relevant criteria of RSS policy 40 are met.

Moorsyde

390. The benefits to be weighed in favour of the scheme:

- Renewable energy generation.
- The BALC location.
- Job opportunities.
- Living conditions for nearby residents would not be intolerable.
- The turbines would not harm visual amenities to such an extent that the day-to-day and recreational use of roads and footpaths in the vicinity of the wind farm would become unacceptably unpleasant.

391. The harms to be weighed against the scheme:

- There would be a major adverse effect on the landscape.
- Serious harm to principal views of the Cheviots would be caused by the location, density and height of the 7 turbines in the foreground. This would be contrary to the well-established objective of protecting principal views of the Cheviots.
- Nearby residents would have views dominated by turbines, and their visual amenities would be materially harmed.
- The noise limits set out in ETSU-R-97, and in the noise condition suggested by Moorsyde, would be breached from time to time. The Council and the wind farm operator would have to grapple with the complexities of the noise conditions.
- Three of the turbines might need to have their power capped in certain wind conditions to protect nearby residents from noise.

392. On balance, I have reached the view that the harms of the Moorsyde scheme outweigh the benefits. This is principally because of the substantial weight I give to the serious harm that would be caused to principal views of the Cheviots. I consider this to be a compelling impediment notwithstanding the site's location in a BALC. Furthermore, I take the view that criterion (b) of RSS policy 40 would not be satisfied. This is because the wind farm's location and scale, and its visual impact in relation to the character and sensitivity of the surrounding landscape, would be unacceptable. The proposed wind farm would be located where the environmental impacts would not be satisfactorily addressed. This would be contrary to Key Principle (i) of PPS22.

Toft Hill

393. The benefits to be weighed in favour of the scheme:

- Renewable energy generation.
- The BALC location.
- Job opportunities.

- The contemporary ORF landscape (disregarding the Duddo Stone Circle) could accommodate the turbines without undue harm.
- There are no dwellings where living conditions would be harmed to an unacceptable degree.
- The presence of the turbines would not make the day-to-day or recreational use of roads and footpaths unacceptably unpleasant.
- The noise from the turbines would not worsen living conditions to an unacceptable degree at Shellacres, or at any other more distant dwellings.

394. The harms to be weighed against the scheme:

- The wind farm would have a significant adverse impact on the setting of the Duddo Stone Circle SAM. According to paragraph 27 of PPG16 there should therefore be a presumption against it.
- It would fail to promote culture, contrary to RSS policy 16.
- It would fail to conserve and enhance the historic environment, contrary to RSS policy 32.

395. On balance, I have reached the view that the harms of the Toft Hill scheme outweigh the benefits. This is principally because of the substantial weight that I give to the significant adverse impact that the turbines would have on the setting of the Duddo Stone Circle SAM. The presumption against such development is clearly established in PPG16. In my view it is a compelling impediment notwithstanding the site's location in the BALC. If built, the wind farm would be located where environmental impacts could not be satisfactorily addressed. This would be contrary to Key Principle (i) of PPS22.

OVERALL CONCLUSIONS

396. In the light of these findings, I have come to the following conclusions:

397. The **Barmoor** proposal is acceptable. The appeal should be allowed, and planning permission granted subject to the conditions listed in Appendix 1.

398. The **Moorsyde and Toft Hill** proposals are unacceptable. The appeals should be dismissed.

399. However, if the Secretary of State were to take a different view, and decide to allow either or both of the Moorsyde or Toft Hill appeals, I recommend that my concerns about cumulative landscape and visual effects should be borne in mind. The possibility that another wind farm could be built next to Moorsyde, at West Ancroft, is something that should also be taken into account. If the Secretary of State decides that the cumulative effects of 2, 3, or possibly 4 wind farms are insufficient reason to withhold planning permission, then I recommend that the conditions listed in Appendix 2 (Moorsyde) and Appendix 3 (Toft Hill) be attached to the planning permissions.

RECOMMENDATIONS

APPEAL A - Barmoor

File Ref: APP/P2935/A/08/2078347

400. I recommend that the appeal be allowed and planning permission be granted, subject to the conditions listed at Appendix 1.

APPEAL B – Moorsyde

File Ref: APP/P2935/A/08/2079520

401. I recommend that the appeal be dismissed.

APPEAL C - Toft Hill

File Ref: APP/P2935/A/08/2077474

402. I recommend that the appeal be dismissed.

Ruth V MacKenzie

INSPECTOR

APPEARANCES

For Catamount Energy Limited:

Marcus Trinick and Paul Maile

Partner and Associate of
Eversheds Solicitors

They called:

Marc Van Grieken Ingenieur, CMLI BNT

Principal of Land Use Consultants

Peter Frampton
BSc(Hons) TP MRICS MRTPI

Director of Framptons
Town Planning Consultants

Malcolm Spaven MA(Hons) MSc

Principal of Spaven Consulting

For Moorsyde Wind Farm Ltd

Elizabeth Dunn

Associate of Burges Salmon

She called:

David Bell BSc(Hons) DipUD MRTPI MIHT

National Director, Jones Lang LaSalle

Kay Hawkins BSc(Hons) BLD CMLI

Director of E4environment Ltd

Andrew McKenzie PhD BSc MIOA

Director of Hayes McKenzie Partnership

Cara Aitchison
MA(Hons) PgDRLP Cert Ed MA PhD AcSS

Dean of the Faculty of Education and
Sport, University of Bedfordshire

For Npower Renewables Ltd

David Hardy LLB(Hons) BCL(Oxon)

Partner of Cobbetts LLP

He called:

Jeffrey Stevenson MA MPhil CMLI MRTPI
MIES FRGS

Principal of Jeffrey Stevenson
Associates Ltd

Jonathan Edis PhD BA(Hons) MA

Director of CgMS Limited

David Stewart MA(Cantab) DipTP MRTPI

Principal of David Stewart Associates

Mark Jiggins MSc MIOA

Executive Acoustics Engineer
Hoare Lea Acoustics

For the Local Planning Authority:

Paul Tucker and John Hunter, of Counsel	Instructed by the Head of Legal Services, Northumberland County Council
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They called:

Bob Taylor DipTP MRTPI	Director of Taylor and Hardy Ltd
R D Woolerton MA(LD) BA(Hons) FLI	Director of Woolerton Dodwell Associates Ltd
Nicholas Best BA(Hons) MLitt AIFA	Assistant County Archaeologist Northumberland County Council

For MAG (Moorsyde Action Group)

Michael Druce, of Counsel	Instructed by Dickinson Dees
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He called:

Stephen Kirkpatrick BSc BLD CMLI	Chris Blandford Associates
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For RoASM (Residents of Ancroft Southmoor, including Tamsin Faiers and Reg Watson)

David Forsdick, of Counsel	Instructed by Richard Buxton Environmental and Public Law
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He called:

Lee Hoare PhD	Expert data analyst
Richard Bines BTech CEng FIMechE FIOA	Principal of RdB Associates

For SOUL (Save Our Unspoilt Landscape)

David Forsdick, of Counsel	Instructed by Stephen Arnold Development Planning Partnership
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He called:

Stephen Arnold MA(Cantab) MA(TP) MRTPI MRICS	Equity Partner Development Planning Partnership
Geoffrey Sinclair	Principal, Environment Information Services
George Lambrick MA(Oxon) FSA MIFA	Archaeology and heritage consultant

Brian Brown BSc PhD	Vice-Chair of Borders Gliding Club
Richard Spencer BSc(Hons) MBA MRTPI	Principal Tourism & Planning Practice
For ISORES (Inappropriate Siting of Renewable Energy Structures)	
John Campbell QC	Instructed by Graham and Sibbald
He called:	
Ian Kelly MRTPI	Head of Planning Graham and Sibbald
Mark Steele BA DipLD CMLI	Principal of Mark Steele Consultants
Stephen Carter BSc PhD FSA(Scot) MIFA	Consultant Headland Archaeology
Dick Bowdler BSc CEng FIOA MCI Arb	Acoustic Consultant
Mark Cuddigan FRICS	Resident Agent, Ford and Etal Estates
John Constable PhD	Director of Policy and Research Renewable Energy Foundation

Appearances by interested persons

Peter Worlock representing SOUL
 Mike Maud, Chairman of MAG
 Ian Corsie representing WACA (West Ancroft Community Action)
 Maggie Harker representing Lowick Parish Council and herself
 Rodney Martin representing Shoreswood Parish Council
 Ian Jackson representing Bowsden Parish Council and himself
 Don Brownlow representing Duddo Parish Council
 Flora Simpson, former Ward Councillor for Islandshire
 Robert Seaton of Bourne Leisure
 G C Mills of Thornton Cottage
 Margaret McPhee of Grindon Rigg
 John Lodge of Barmoor Mill
 Ann Lamb of Barmoor Castle Country Park
 John Ferguson of Barmoor Ridge
 David Golding on behalf of Make Poverty History North East
 Garry Beaumont of Unthank
 Alan Bertram of St Boswells
 Don Brownlow of Norham
 Thomas Carroll of Tiptoe
 Mike Maud of Ancroft North Moor
 Amanda Worlock of Lowick
 John Daniels of Lowick
 Frank Dakin of Duddo

Colin Wakeling of Berrington Lough
Noel Hodgson of Tillmouth
George MacKenzie of West Grindon
John Trotter of the Scottish Borders
Roger Miket of Wooler
Peter Usher of Chester-le-Street
Laura Parish of Duddo
Elizabeth Bennett of Ancroft Southmoor
Peter Moore of Berwick-upon-Tweed
Dominic Coope of Rodham
Clive Hallam-Baker of Branxton
Mr Turnbull of Ford
Geoffrey Sample of Wooler
Sandie Reid of Scotland
Victor Dickinson, vicar of Lowick, Kyloe, Ancroft, Ford and Etal
John Barber of Brackenside

PROOFS OF EVIDENCE

On behalf of Catamount Energy Limited

DOC 1.1 Peter Frampton BSc(Hons) TP MRICS MRTPI - planning policy
DOC 1.2 Andrew Bullmore BSc(Hons) PhD MIOA - noise (did not give oral evidence)
DOC 1.3 Marc Van Grieken CMLI BNT - landscape and visual impact
DOC 1.4 Malcolm Spaven MA(Hons) MSc - air safety

On behalf of Moorsyde Wind Farm Ltd

DOC 1.5 David Bell BSc(Hons) DipUD MRTPI MIHT - planning policy
DOC 1.6 Kay Hawkins BSc(Hons) BLD CMLI - landscape and visual impact
DOC 1.7 Tim Neighbour BSc MIA FSA(Scot) - cultural heritage (did not give oral evidence)
DOC 1.8 Andrew McKenzie PhD BSc MIOA - noise
DOC 1.9 Cara Aitchison MA(Hons) PgDRLP Cert Ed MA PhD AcSS - tourism

On behalf of NPower Renewables Ltd

DOC 1.10 David Stewart MA(Cantab) DipTP MRTPI - planning policy
DOC 1.11 Jeffrey Stevenson MA MPhil CMLI MRTPI MIES FRGS – landscape and visual impact
DOC 1.12 Jonathan Edis PhD BA(Hons) MA - cultural heritage
DOC 1.13 Mark Jiggins MSc MIOA - noise

On behalf of Northumberland County Council

DOC 1.14 Bob Taylor DipTP MRTPI - planning policy
DOC 1.15 R D Woolerton MA(LD) BA(Hons) FLI - landscape and visual impact
DOC 1.16 Nicholas Best BA(Hons) MLitt AIFA - cultural heritage

On behalf of MAG

DOC 1.17 Stephen Kirkpatrick BSc BLD CMLI - landscape and visual impact

On behalf of RoASM

DOC 1.18 Lee Hoare PhD - noise

DOC 1.19 Richard Bines BTech CEng FIMechE FIOA - noise

On behalf of SOUL

DOC 1.20 Stephen Arnold MA(Cantab) MA(TP) MRTPI MRICS - planning policy

DOC 1.21 Geoffrey Sinclair - landscape and visual impact

DOC 1.22 George Lambrick MA(Oxon) FSA MIFA - cultural heritage

DOC 1.23 Brian Brown BSc PhD - air safety

On behalf of ISORES

DOC 1.24 Ian Kelly MRTPI - planning policy

DOC 1.25 Mark Steele BA DipLD CMLI - landscape and visual impact

DOC 1.26 Stephen Carter BSc PhD FSA(Scot) MIFA - cultural heritage

DOC 1.27 Dick Bowdler BSc CEng FIOA MCI Arb - noise

DOC 1.28 Mark Cuddigan FRICS - Ford and Etal estates

DOC 1.29 John Constable PhD - renewable energy

On behalf of SOUL, ISORES and MAG

DOC 1.30 Richard Spencer BSc(Hons) MBA MRTPI - tourism

WRITTEN STATEMENTS BY INTERESTED PERSONS

DOC 2.1 Peter Worlock representing SOUL

DOC 2.2 Mike Maud, Chairman of MAG

DOC 2.3 Ian Corsie representing WACA (West Ancroft Community Action)

DOC 2.4 Maggie Harker representing Lowick Parish Council and herself

DOC 2.5 Rodney Martin representing Shoreswood Parish Council

DOC 2.6 Ian Jackson representing Bowsden Parish Council and himself

DOC 2.7 Don Brownlow representing Duddo Parish Council

DOC 2.8 Flora Simpson, former Ward Councillor for Islandshire

DOC 2.9 Robert Seaton of Bourne Leisure

DOC 2.10 G C Mills of Thornton Cottage

DOC 2.11 Margaret McPhee of Grindon Rigg

DOC 2.12 John Lodge of Barmoor Mill

DOC 2.13 Ann Lamb of Barmoor Castle Country Park

DOC 2.14 John Ferguson of Barmoor Ridge

DOC 2.15 David Golding on behalf of Make Poverty History North East

DOC 2.16 Garry Beaumont of Unthank

DOC 2.17 Alan Bertram of St Boswells

DOC 2.18 Don Brownlow of Norham

DOC 2.19 Thomas Carroll of Tiptoe

DOC 2.20 Mike Maud of Ancroft North Moor

DOC 2.21 Amanda Worlock of Lowick
DOC 2.22 John Daniels of Lowick
DOC 2.23 Frank Dakin of Duddo
DOC 2.24 Colin Wakeling of Berrington Lough

LETTERS SUBMITTED BY THIRD PARTIES DURING THE INQUIRY

Letters of support

DOC 3.1 Mary Barber of Bowsden
DOC 3.2 Magdalena Reid of Riding Mill
DOC 3.3 Dr Joe Lannon of Berwick-upon-Tweed
DOC 3.4 Berwick High School Sixth Form Senior Student Council
DOC 3.5 Julian and Alison Dines of Edinburgh
DOC 3.6 Mark Adderley of Edinburgh
DOC 3.7 Charlotte Gunner of Edinburgh
DOC 3.8 Neil Hollow of Edinburgh
DOC 3.9 John Bragdie of Eastcalder
DOC 3.10 Doug and Fiona Bowie of Horncliffe
DOC 3.11 Debbie Reed of Ovingham
DOC 3.12 Carl Selden of Middle Dalton
DOC 3.13 Roger Higgins of Hexham
DOC 3.14 Richard Court of Consett
DOC 3.15 Johnny Krause of Foulden
DOC 3.16 David Griggs of Chathill
DOC 3.17 Lynda Wright of Berwick-upon-Tweed
DOC 3.18 George Scougal of Eyemouth
DOC 3.19 Andrew Causebrook of AC Renewables Ltd
DOC 3.20 Rachel Roberts of Alnwick
DOC 3.21 Mr & Mrs C Black of Scremerston
DOC 3.22 David Farrar of Alnwick
DOC 3.23 Jeff Rice of Chesterfield
DOC 3.24 Tansy Clift of Berwick-upon-Tweed
DOC 3.25 Anne and John Gladstone of Belford

Letters of objection

DOC 3.26 Mrs B Morris, Planning Adviser Berwickshire Civic Society
DOC 3.27 John Firth of Longridge
DOC 3.28 Hilary Almond of Grindon Rigg
DOC 3.29 C A Glenton of Rothbury
DOC 3.30 Chris Telford of Worksop
DOC 3.31 Clare Dakin of Duddo (suggesting a visit to Aikengall wind farm)
DOC 3.32 Rosaline Telford of Grindon Rigg
DOC 3.33 Jonathan Maud of Milne Graden
DOC 3.34 Roy Hudson of Bowsden
DOC 3.35 Leendert Brouwer of Mierlo, Netherlands
DOC 3.36 Mary Louise Wiley-Brouwer of Mierlo, Netherlands
DOC 3.37 Susan Round of Duddo
DOC 3.38 Stan Beckensall of Hexham
DOC 3.39 Graham White of Coldstream
DOC 3.40 Judith Hodgson of Tillmouth
DOC 3.41 Noel Hodgson of Tillmouth

DOC 3.42	Donald Gunn of Shoreswood by Norham
DOC 3.43	David Reed of Berrington Law
DOC 3.44	John Firth of Longridge
DOC 3.45	Joan Firth of Longridge
DOC 3.46	Morag Smith of Duddo
DOC 3.47	Graham Harvey, lecturer for the Open University
DOC 3.48	Ann Ferguson of Cold Harbour
DOC 3.49	Clare Dakin of Duddo
DOC 3.50	Andrew Joicey of New Etal
DOC 3.51	J D Reavley of Ancroft
DOC 3.52	Richard and Susan Persse of High Letham
DOC 3.53	Roy Hudson of Bowsden
DOC 3.54.	Howard and Caroline Culley of Bowsden
DOC 3.55	Ann Lamb of Barmoor Castle
DOC 3.56	Ian Aikman, Development Manager Scottish Borders Council

DOCUMENTS HANDED IN DURING THE INQUIRY

DOC 4.1	Opening submissions on behalf of Catamount Energy Limited
DOC 4.2	Opening submissions on behalf of Moorsyde Wind Farm Ltd
DOC 4.3	Opening submissions on behalf of NPower Renewables Ltd
DOC 4.4	Opening submissions on behalf of the Council
DOC 4.5	Opening submissions on behalf of SOUL
DOC 4.6	Opening submissions on behalf of MAG
DOC 4.7	Unilateral Undertaking by Moorsyde Wind Farm Ltd and the landowners
DOC 4.8	Statement of Common Ground between the Council and the 3 appellants about planning and renewable energy policy
DOC 4.9	Statement of Common Ground between Catamount Energy Limited and the Council
DOC 4.10	Statement of Common Ground between the Council and Moorsyde Wind Farm Ltd
DOC 4.11	Statement of Common Ground between MAG and Moorsyde Wind Farm Ltd
DOC 4.12	Statement of Common Ground between the Council and NPower Renewables Ltd
DOC 4.13	List of suggested conditions for the Barmoor wind farm
DOC 4.14	List of suggested conditions for the Moorsyde wind farm
DOC 4.15	Comments by RoASM on the list of suggested conditions for the Moorsyde wind farm
DOC 4.16	List of suggested conditions for the Toft Hill wind farm
DOC 4.17	Northumberland County Council Consolidated Planning Policy Framework April 2009
DOC 4.18	Agreed statement by the landscape witnesses for MAG and Catamount Energy Limited regarding Cumulative Photomontage No 7
DOC 4.19	Agreed statement by the landscape witnesses for MAG and Moorsyde Wind Farm Ltd regarding viewing distances for the photomontages in the Consolidated Package
DOC 4.20	Response to MAG by the landscape witness for Moorsyde Wind Farm Ltd relating to the accuracy of 2 photomontages in the Consolidated Package
DOC 4.21	Response to the above response (Doc 4.20) by Don Brownlow and

	Mike Maud
DOC 4.22	Maps submitted by Moorsyde Wind Farm Ltd showing where the Moorsyde turbines would result in a significant change in landscape character, and where the Cheviots can be seen from roads
DOC 4.23	Letter from English Heritage to NPower Renewables Ltd dated 20 March 2007
DOC 4.24	Record of visitors to Duddo Stone Circle, submitted by Clare Dakin
DOC 4.25	A Guide to the Stone Circles of Britain, Ireland and Brittany by Aubrey Burl, submitted by the Council
DOC 4.26	Duddo Stones Landscape Characterising Effects, submitted by Jeffrey Stevenson
DOC 4.27	Kay Hawkin's proof of evidence for an appeal relating to Green Rigg Wind Farm
DOC 4.28	Cumulative Impact Assessment Summary Tables 1 & 2 relating to Toft Hill Wind Farm, submitted by Mark Steele
DOC 4.29	High Court Judgement dated 7 April 2009 relating to a proposed wind farm at Guestwick, submitted by the Council
DOC 4.30	Closing submissions on behalf of RoASM
DOC 4.31	Closing submissions on behalf of ISORES
DOC 4.32	Closing submissions on behalf of MAG
DOC 4.33	Closing submissions on behalf of SOUL
DOC 4.34	Closing submissions on behalf of the Council
DOC 4.35	Closing submissions on behalf of NPower Renewables Ltd
DOC 4.36	Closing submissions on behalf of Moorsyde Wind Farm Ltd
DOC 4.37	Closing submissions on behalf of Catamount Energy Limited

APPLICATION PLANS REFUSED BY THE COUNCIL

Barmoor

- A 1:5,000 plan showing turbine location and planning site boundary, Figure 1.0 Revision B
- B 1:20,000 land ownership plan, Figure 2.0

Moorsyde

- C Application plan showing turbine location, site boundary, new and existing tracks, November 2004
- D Proposed 7 turbine site layout, Figure 4.1d

Toft Hill

- E 1:15,000 A3 Figure 1 site plan, September 2006
- F 1:12,000 A3 Figure 2 proposed site layout, October 2006

CORE DOCUMENTS

BARMOOR

Planning application

- CD1.1 Planning application and decision notice (on appeal file Ref No APP/P2935/A/08/2078347)
- CD1.2 Environmental Statement February 2006: Non-Technical Summary, Volume 1 –Text, Volume 2 – Figures, Volume 3 – Appendices, Planning Statement, Wintering Bird Surveys
- CD1.3 Addendum to Environmental Statement September 2007:Amendment to description of development (6 turbines), amendment to application plan and viewpoints, supplementary photomontages, amendments to Chapter 6 - Landscape and Visual Impact Assessment and Chapter 7 - Ecological Assessment
- CD1.4 Update to Zone of Theoretical Visibility, 9 January 2008
- CD1.5 Revised Noise Predictions, 15 January 2008
- CD1.6 Cumulative Landscape and Visual Information (Volumes 1 and 2), March 2009
- CD1.7 Barmoor Windfarm Scoping Report by LUC, September 2004
- CD1.8 A4 maps showing extent of likely cumulative effects on landscape character, May 2009: Toft Hill + Barmoor, Moorsyde + Toft Hill

Consultation responses at the application stage

- CD2.1 Statutory Consultee Responses (blue folder)
- CD2.2 Third party representations (blue folder)

Council documents

- CD3.1 Planning Officer's Report
- CD3.2 Committee minutes of 27 March 2008
- CD3.3 Scott Wilson Audit

TOFT HILL

Planning application

- CD4.1 Planning application and decision notice (on appeal file Ref No APP/P2935/A/08/2077474)
- CD4.2 Planning Statement, October 2006
- CD4.3 Design and Access Statement, October 2006
- CD4.4 Environmental Statement, October 2006: Non-Technical Summary, Volume 1 –Text, Volume 2 – Figures, Volume 3 - Appendices
- CD4.5 Archaeological Evaluation, October 2007
- CD4.6 Audit of Landscape and Visual Assessment Response prepared by Entec UK Limited
- CD4.7 The Setting of the Duddo Stones, November 2007 by CgMs Limited
- CD4.8 Toft Hill Scoping Request
- CD4.9 Supplementary Bat Survey and Assessment, January 2009
- CD4.10 Further Environmental Information – Operational Noise, March 2009
- CD4.11 Letter of 6 June 2007 with visualisations of the potential impact on the Duddo Stone Circle and Twizel

Consultation responses at the application stage

- CD5.1 Statutory Consultee Responses and third party representations (in blue folder)

Council documents

- CD6.1 Planning Officer's Report
- CD6.2 Committee minutes of 27 March 2008 (see CD 3.2)
- CD6.3 Scott Wilson Audit

MOORSYDE

Planning application

- CD7.1 Planning application and decision notice (on appeal file Ref No APP/P2935/A/08/2079520)
- CD7.2 Planning Statement, November 2004
- CD7.3 Environmental Statement Volume 1, November 2004
- CD7.4 Environmental Statement Volume 2, November 2004
- CD7.5 Non-Technical Summary, November 2004
- CD7.6 Addendum Report Volume 1, March 2006
- CD7.7 Addendum Report Volume 2, March 2006
- CD7.8 Environmental Statement Update, December 2006
- CD7.9 Photomontages - 7 turbines, December 2006
- CD7.10 Environmental Statement Update, September 2007
- CD7.11 Archaeology Evaluation, July 2007
- CD7.12 Photomontages - 7 Turbines, September 2007
- CD7.13 Correspondence relating to noise, November 2007
- CD7.14 Revised ZTVs - 7 turbines, November 2007
- CD7.15 Correspondence between North East Assembly and Berwick-upon-Tweed Borough Council regarding the wind capacity studies, January 2006
- CD7.16 Figure 1b of the Arup (2007) Wind Farm Development and Landscape Capacity Studies: South and West Berwick-upon-Tweed annotated by MWFL

Consultation responses at the application stage

- CD8.1 Statutory Consultee Responses (in blue folder)
- CD8.2 Third party representations (in 2 blue folders)

Council documents

- CD9.1 Planning Officer's Report (7 turbines)
- CD9.2 Committee minutes of 27 March 2008 (see CD3.2)
- CD9.3 Audit of Environmental Assessment (14 turbines), November 2005
- CD9.4 Planning and Visual Impact Appraisal (Revised Draft) by Fergus McIlveen LLP, November 2006
- CD9.5 Planning and Visual Impact Appraisal (Final Report) by Fergus McIlveen LLP, March 2007
- CD9.6 Scott Wilson Addendum: Issue Report, August 2007
- CD9.7 Planning Officer's Report (10 turbines) December 2006

REGIONAL AND LOCAL PLANNING POLICIES

- CD10.1 North East of England Plan Regional Spatial Strategy to 2021, July 2008
- CD10.2 Berwick-upon-Tweed Local Plan (April 1999) and Saving Direction
- CD10.3 Northumberland and National Parks Joint Structure Plan 2005 (Saved Policy S5)
- CD10.4 Regional Economic Strategy 2006 – 2016
- CD10.5 LDF Core Strategy October 2007

GOVERNMENT POLICIES

- CD11.1 PPS1 Delivering Sustainable Development
- CD11.2 Supplement to PPS1 - Planning Climate Change
- CD11.3 PPS7 Sustainable Development in Rural Areas
- CD11.4 PPS9 Biodiversity of Geological Conservation
- CD11.5 PPG15 Planning and the Historic Environment

- CD11.6 PPG16 Archaeology and Planning
- CD11.7 PPS22 Renewable Energy
- CD11.8 Planning for Renewable Energy - A Companion Guide to PPS22
- CD11.9 PPS23 Planning and Pollution Control
- CD11.10 PPG24 Planning and Noise
- CD11.11 ODPM Circular 11/95: The Use of Conditions in Planning Permissions
- CD11.12 Circular 02/99: Environmental Impact Assessment 12 March 1999
- CD11.13 Environmental Impact Assessment: A guide to good practice and procedures, DCLG June 2006
- CD11.14 Amended Circular on Environmental Impact Assessment. A Consultation Paper, DCLG June 2006

RENEWABLE ENERGY BACKGROUND DOCUMENTS AND POLICIES

- CD12.1 The Kyoto Protocol, February 2005
- CD12.2 Securing the Future and Delivering UK Sustainable Strategy, H M Government March 2005
- CD12.3 Ministerial Statement by Malcolm Wicks, Minister for Energy, 21 July 2008
- CD12.4 SPP6 Renewable Energy
- CD12.5 Positive Planning for Onshore Wind, RSPB March 2009
- CD12.6 Planning for a Sustainable Future, White Paper May 2007
- CD12.7 North East Regional Renewable Energy Strategy, Review September 2005
- CD12.8 Towards a Sustainable Energy Strategy for Cornwall, August 2003
- CD12.9 The Appropriate Development of Wind Energy. RegenSW October 2003
- CD12.10 Public Attitudes to Climate Change, Motivators and Barriers to Action: Newcastle and the North East, September 2005
- CD12.11 North East England Climate Change Adaptation Study, April 2008
- CD12.12 Sustainable Energy Policy, Natural England 2008
- CD12.13 Climate Change Policy, Natural England 2008
- CD12.14 And the Weather Today is.....Climate Change in the North East, July 2003
- CD12.15 Wind Power in the UK, Sustainable Development Commission 2005
- CD12.16 The Energy Challenge, H M Government 2006
- CD12.17 The Stern Review: Economics of Climate Change, October 2006 (Executive Summary)
- CD12.18 Meeting the Energy Challenge – White Paper May 2007
- CD12.19 UK Renewable Energy Strategy and EU Renewable Energy Directive, Ministerial Statement 23 January 2008
- CD12.20 UK Renewable Energy Strategy, BERR Consultation Draft June 2008
- CD12.21 Climate Change 2007: Synthesis Report, IPCC 2007
- CD12.22 PAN45: Renewable Energy Technologies, Scottish Government 2002
- CD12.23 Our Energy Future – Creating a Low Carbon Environment, White Paper DTI 2003
- CD12.24 Development of a Regional Geographical Information System for the North East Renewable Energy Strategy 2003, Northumbria University September 2003
- CD12.25 Climate Change: the UK Programme 2006, H M Government
- CD12.26 North East Regional Renewable Energy Strategy, March 2005
- CD12.27 The North East Declaration on Climate Change (signed 17 September 2007)
- CD12.28 North East Strategy for the Environment. March 2008
- CD12.29 Climate Change Action Plan for the North East, May 2008
- CD12.30 2020 Vision – How the UK Can Meet its Target of 15% Renewable Energy, Renewable Advisory Board, 2008
- CD12.31 Natural England board papers and draft policy on wind energy

- CD12.32 North East of England Regional Renewable Strategy, Final Report 2003
- CD12.33 Natural England's Policy on Wind Energy, March 2009
- CD12.34 The EU's Target for Renewable Energy: 20% by 2020, House of Lords EU Committee 2008
- CD12.35 Proposal for a Directive of the European Parliament and of the Council on the Promotion and Use of Energy from Renewable Sources, 2008
- CD12.36 Responding to the impacts of climate change on the natural environment: The Cumbria High Fells, Natural England 2008
- CD12.37 The natural environment: adapting to climate change, Natural England 2008
- CD12.38 Commons Hansard Written Answers, Energy and Climate Change Renewable Energy: North East, 25 November 2008

LANDSCAPE

- CD13.1 Cumulative Effect of Windfarms, SNH 2005
- CD13.2 Strategic Locational Guidance for Onshore Wind Farms in respect of the Natural Heritage, SNH 2005
- CD13.3 Visual Representation of Windfarms: Good Practice Guidance, SNH 2006
- CD13.4 "Green on Green": Perceptions of Wind Power in Scotland and Ireland, JEPM Vol 48 2005
- CD13.5 Wind Farm Development and Landscape Capacity Studies: South and West Berwick-upon-Tweed, Ove Arup & Partners Ltd 2007
- CD13.6 Landscape Character Assessment, SNH and The Countryside Agency, 2002
- CD13.7 The Countryside Agency and Scottish Natural Heritage (2002) Landscape Character Assessment Guidance for England and Scotland, Topic Paper 6, Techniques and Criteria for Judging Capacity and Sensitivity
- CD13.8 Landscape Character Assessment Guidance Topic Paper 9: Climate change and natural forces - consequences for landscape character, SNH and the Countryside Agency 2002
- CD13.9 South and Central Aberdeenshire: Landscape Character Assessment, Environmental Resources Management SNH 1998
- CD13.10 Cumulative Effects of Wind Turbines, Guide to Assessing Cumulative Effects of Wind Energy Development, ETSU 2000
- CD13.11 Guidelines for Landscape and Visual Impact Assessment by the Landscape Institute and the Institute for Environmental Management and Assessment (Second Edition 2002)
- CD13.12 The Landscape Institute Advice Note 01/99, Guidelines for Landscape and Visual Impact Assessment
- CD13.13 Public Perceptions of Wild Places and Landscapes in Scotland, SNH Commissioned Report No 291 2008
- CD13.14 Designing Wind Farms in the Landscape, consultation draft SNH 2008
- CD13.15 Guidelines on the Environmental Impacts of Windfarms and Small Scale Hydroelectric Schemes, SNH 2001
- CD13.16 Borough of Berwick-upon-Tweed Landscape Assessment Final Report, 1993
- CD13.17 Countryside Character: The Character of England's natural and manmade landscape: Volume 1: North East, Countryside Commission 1999
- CD13.18 Landscape Appraisal for Onshore Wind Development, Benson et al 2003
- CD13.19 National Trust climate change report
- CD13.20 Public Attitudes to Windfarms, MORI Scotland 2003
- CD13.21 Lambrigg Wind farm – Public Attitude Survey, RBA Research 2002
- CD13.22 Visual Assessment of Windfarms: Best Practice, SNH 2002

- CD13.23 Landscape architecture and the challenge of climate change, Landscape Institute 2008
- CD13.24 Northumberland National Park Authority Core Strategy & Development Policies Submission, 2008
- CD13.25 Tranquillity Mapping: Developing a Robust Methodology for Planning Support, Northumbria University 2004
- CD13.26 Northumberland Coast AONB Management Plan 2004-2009
- CD13.27 The Borders Landscape Assessment, Ash Consulting Group 1998
- CD13.28 Public Support for Wind Power, press release BWEA 1994
- CD13.29 Wind Turbine Power Station Construction Monitoring Study, Chris Blandford Associates 1994
- CD13.30 Impact Assessment Matrices, Durham County Council (unpublished) 1996
- CD13.31 A Summary of Research Conducted into Attitudes to Wind Power from 1990-1996, Anne Marie Simon Planning and Research 1996
- CD13.32 Planning for Renewables, Friends of the Earth of Scotland 1997
- CD13.33 Novar – Public Opinion Survey, RBA for National Wind Power 1998
- CD13.34 Taff Ely Residents Survey, RBA for National Wind Power 1998
- CD13.35 Public Attitudes towards Wind Farms in Scotland, Scottish Executive 2000
- CD13.36 Mapping Tranquillity, CPRE 2005
- CD13.37 Saving Tranquil Places, CPRE 2006
- CD13.38 Tranquillity Map: North East, CPRE 2006
- CD13.39 Gardening in the Global Greenhouse, The National Trust 2002
- CD13.40 Barmoor Updated Photomontages, April 2009
- CD13.41 Cumulative Landscape and Visual Information for Barmoor, Toft Hill, Moorsyde and West Ancroft, April 2009
- CD13.42 Spare
- CD13.43 Spare
- CD13.44 Wind Farm Development and Landscape Capacity Studies: North/South Charlton, ARUP 2007
- CD13.45 Windfarm Development and Landscape Capacity Studies: Knowesgate and Harwood Forest, ARUP 2007
- CD13.46 Future Character and Function of England's Landscapes, Land Use Consultants 2006
- CD13.47 Letters from the Planning Inspectorate regarding the Regulation 19 Request for cumulative landscape and visual material
- CD13.48 Natural England's European Landscape Convention 2008/2009 Action Plan
- CD13.49 Visualisations for the Proposed Calliacher Windfarm Development, commissioned by Perth and Kinross Council, March 2009
- CD13.50 Landscape Institute Advice Note 01/09, Use of Photographic and Photomontage in Landscape and Visual Assessment
- CD13.51 Letter about Wind Farm Photographic Visualisation from the Scottish Government, dated 20 January 2009
- CD13.52 Parliamentary question about European Landscape Convention, Hansard March 2006

CULTURAL HERITAGE

- CD14.1 Ancient Monuments and Archaeological Areas Act 1979
- CD14.2 Wind Energy and the Historic Environment, English Heritage 2005 plus correspondence about the photograph on the cover
- CD14.3 Climate Change and the Historic Environment, English Heritage 2008
- CD14.4 Conservation Principles, Policies and Guidance, English Heritage 2008
- CD14.5 Archaeology in Northumberland Vol 15 2005
- CD14.6 Archaeology in Northumberland Vol 16 2006

- CD14.7 Archaeology in Northumberland Vol 17 2007
- CD14.8 Yeavinger, Rediscovering the landscape of the Northumbrian Kings, Gefrin Trust 2009
- CD14.9 The Prehistoric Rock Art of England, English Heritage et al 2009
- CD14.10 The Protection of the Settings of Archaeological Sites in Scotland, Heritage Planning Unit Scottish Executive
- CD14.11 Neolithic Orkney in its European Context (p267- 274), McDonald Institute Monograph
- CD14.12 Environmental Impact Assessment of Windfarms: Cultural Heritage and the Problem of 'Setting' by Paul Masser The Archaeologist Summer 2006
- CD14.13 Duddo Stone Circle, article by Hewat Craw in the History of the Berwickshire Naturalists' Club Vol XXVIII 1932
- CD14.14 Different Realities: the Neolithic in the Northumberland Cheviots, article by Peter Topping Oxbow Monograph 86, 1997
- CD14.15 Land of Legend: Discovering ancient Northumberland, Clive Waddington
- CD14.16 Maelmin – a pocket guide to archaeological walks, Clive Waddington
- CD14.17 Northumberland Historic Landscape Characterisation (Draft), Northumberland County Council 2008
- CD14.18 The Duddo Stones in Its Wider Context, article by Prof Bradley 2009
- CD14.19 Archaeology In Northumberland Vol 18 2008
- CD14.20 Duddo Stone Circle Interpretation Panel
- CD14.21 Correspondence and attachments regarding the erosion of the Duddo Stones, 2009
- CD14.22 Letter from Roger Miket about his archaeological report on the Duddo Stones, 2009

NOISE

- CD15.1 ETSU-R-97: The assessment and Rating of Noise from Wind Turbines 1996
- CD15.2 Guidelines for Community Noise, WHO 1999
- CD15.3 BS 4142:1997 Rating Industrial Noise affecting mixed residential and industrial areas
- CD15.4 The Measurement of Low Frequency Noise at Three UK Wind Farms, DTI 2006
- CD15.5 The National Noise Incidence Study 2000/2001, BRE 2002
- CD15.6 BS 5228:1997 Noise and Vibration Control on Construction and Open Sites
- CD15.7 BS 5228-1:2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise
- CD15.8 BS EN 61400-11:2003 Wind Turbine Generator Systems, Part 11: Acoustic Noise Measurement Techniques
- CD15.9 Van den Berg, G.P., Effects of the Wind Profile at Night on Wind Turbine Sounds, Journal of Sound & Vibration (2003)
- CD15.10 ISO 9613-2, Acoustics – Attenuation of sound during propagation outdoors, 1996
- CD15.11 Development of a Wind Farm Noise Propagation Prediction Model, J H Bass et al 1998
- CD15.12 BS 8233:1999 Sound insulation and noise reduction for buildings – Code of practice
- CD15.13 Mineral Policy Statement 2, Annex 2:Noise, ODPM 2005
- CD15.14 A Review of Published Research on Low Frequency Noise and its Effects, DEFRA 2003

- CD15.15 Low Frequency Noise and Wind Turbines, rebuttal by Keele University 2005
- CD15.16 Low Frequency Noise and Wind Turbines, BWEA Briefing Sheet 2005
- CD15.17 Low Frequency Noise, report by Casella Stanger for DEFRA 2001
- CD15.18 Proposed criteria for the assessment of low frequency noise disturbance, report for DEFRA by Dr A Moorhouse et al 2005
- CD15.19 Research into aerodynamic modulation of wind turbine noise, report by the University of Salford for BERR 2007
- CD15.20 New Report Eases Concerns Over Wind Turbine Noise, news release by BERR 2007
- CD15.21 Government Statement regarding the findings of the Salford University Report into Aerodynamic Modulation of Wind Turbine Noise, BERR 2007
- CD15.22 Advice on findings of the Hayes McKenzie report on noise arising from Wind Farms, DTI 2006
- CD15.23 Noise Measurements in Windy Conditions, ETSU 1996
- CD15.24 BS 4142:1990 Rating industrial noise affecting mixed residential and industrial areas
- CD15.25 Prediction and assessment of wind turbine noise, Institute of Acoustics Bulletin 2009
- CD15.26 Measurement of Noise Emission from a Bonus 2.3 MW VS Wind Turbine, Test Report DANAK 2005
- CD15.27 Low Frequency Noise and Vibration Measurements at a Modern Wind Farm, ETSU 1997
- CD15.28 Visual and acoustic impact of wind turbine farms on residents, University of Gothenburg 2008
- CD15.29 Research into Aerodynamic Modulation of wind turbine noise, report by University of Salford 2007
- CD15.30 Judicial review claim, and Judge's decision April 2008 (The Queen on the application of Renewable Energy Forum Ltd –v- Secretary of State for BERR)
- CD15.31 Onshore Wind Energy Planning Conditions Guidance Note, 2007
- CD15.32 Location, Location, Location: An Investigation into wind farms and noise by The Noise Association. 2006
- CD15.33 Lincolnshire Valuation Tribunal decision, 17 July 2008
- CD15.34 Wind power: environmental and safety issues, DTI 2001
- CD15.35 ASA Adjudication on Infinergy Ltd, 25 March 2009
- CD15.36 The Beat is Getting Stronger, G P van den Berg 2004
- CD15.37 Natural Power, ZephIR LiDAR Anemometer Calibration and Correlation

TOURISM

- CD16.1 North East England Accommodation Study, 2007
- CD16.2 The Economic Impacts of Wind Farms on Tourism, Report for the Scottish Government 2008
- CD16.3 North East England Tourism Strategy 2005 – 2010
- CD16.4 Good Practice Guide on Planning for Tourism, DCLG 2006
- CD16.5 The Impact of wind farms on the tourist industry in the UK, BWEA 2006
- CD16.6 Fullabrook Wind Farm Proposal, North Devon, UWE 2004

APPEAL DECISIONS

- CD17.1 Middlemoor (ELEC/2005/2004 – GDBC/001/602456)
- CD17.2 Bradwell (APP/X1545/A/06/2023805)
- CD17.3 Kiln Pit Hill (APP/R2928/A/08/2075/105)
- CD17.4 Deeping St Nicholas (APP/A2525/A/02/1099738)
- CD17.5 Bradworthy, Torridge (APP/W1145/A/02/1105474)

CD17.6 Darracott, Torridge (APP/W1145/A/03/1119641)
 CD17.7 St. Breock (T/APP/C0820/A/92/207958/P2)
 CD17.8 Little Cheyne Court (Section 36 Application, DTI GDBC/003/00001C)
 CD17.9 Ovenden Moor (YH 5113/219/22)
 CD17.10 Parc Cynog (APP/M6825/A/99/513157)
 CD17.11 Penrhys (APP 54-4)
 CD17.12 Den Brook (APP/Q1153/A/08/2017162)
 CD17.13 Whinash (GDBC/001/00135C)
 CD17.14 Carsington (APP/P1045/A/07/2054080)
 CD17.15 Knabbs Ridge, Harrogate (APP/E2/34/A/04/1161332)
 CD17.16 Roskrow (APP/Y0815/A/03/1129335)
 CD17.17 Shooters Bottom (APP/Q3305/A/05/1181087)
 CD17.18 Fullabrook Down (GDBC/003/00024C)
 CD17.19 Yelland (APP/Q1153/A/05/1187563)
 CD17.20 Crimp (APP/C0820/A/07/2047583)
 CD17.21 Wern Ddu (APP/R6830/A/05/1185359 and APP/1198835)
 CD17.22 Shipdham (2 decisions) (APP/F2605/A/03/1109816 and APP/F2605/A/05/1174295)
 CD17.23 Lynemouth (APP/T2920/A/07/2046453)
 CD17.24 Wandylaw (APP/V2913/A/08/2062307)
 CD17.25 Burnham-on-Sea (APP/V3310/A/06/2031158)
 CD17.26 Drone Hill (P/PPA/140/357)
 CD17.27 Aston Grange (APP/L0635/A/07/2047477)
 CD17.28 Hirwaun, Rhonda (APP/L6940/A/07/2058755)
 CD17.29 Kessingland (APP/T3535/A/08/2064982)
 CD17.30 Grove, Retford (APP/A3010/A/06/2017850)
 CD17.31 Ellands Farm (APP/G2815/A/06/2019989)
 CD17.32 Cramlington (APP/N2915/A/07/2051193)
 CD17.33 Former Lynemouth Coal Handling Store (APP/T2920/A/07/2048596)
 CD17.34 Spare
 CD17.35 Wandysteads (APP/Q2908/A/02/1099718)
 CD17.36 Langhope Rig (P/PPA/140/357)
 CD17.37 Spare
 CD17.38 Snowgoat Glen (Extracts) (PPA/340/490)
 CD17.39 Merranblo, Orkney (NA/ORK/001)
 CD17.40 Shipdham (third decision) (APP/F2605/A/08/2089810 ex 1174295)
 CD17.41 Between Boxworth and Connington (APP/W0530/A/05/1190473)
 CD17.42 Jordanston (13/09/2001)
 CD17.43 Pineham Farm, Langdon (APP/X2220/A/08/2071880)
 CD17.44 Laughton (APP/N2535/A/07/2048474/NWF)
 CD17.45 Long Bennington (APP/E2530/A/08/2073384)
 CD17.46 Langdon (APP/X2220/A/08/2071880)
 CD17.47 Hoff Moor (APP/H0928/A07/2053230)
 CD17.48 Guestwick (APP/K2610/A/05/1180685)
 CD17.49 Boxworth (APP/W0530/A/05/1190473)
 CD17.50 Burnham (APP/V3310/A/06/2031158)
 CD17.51 Mynydd y Gwrhyd (APP/Y6930/A/05/1189610)
 CD17.52 Wogaston (APP/N6845/A/00/1050866)
 CD17.53 Holderness (APP/E2001/A/99/11029745 and 1028074)
 CD17.54 Margam (APP/Y6930/A/02/1103415)
 CD17.55 Llethercynon (APP/T6850/A/03/1122720)
 CD17.56 Goverton (APP/K1128/A/08/2072150)

CD17.57 Silloth (APP/G0908/A.08/2073524)

CD17.58 Withernwick (APP/E2001/A/05/2088796)

MISCELLANEOUS DOCUMENTS

CD18.1 Moorsyde - Timeline of Events

CD18.2 Moorsyde - Guide to Environmental Information

CD18.3 Ordnance Survey 1:25,000 Explorer Maps (Nos 339, 340, 351)

CD18.4 West Ancroft Environmental Statement Non-technical summary

APPENDIX 1

SUGGESTED LIST OF CONDITIONS FOR BARMOOR WIND FARM (APPEAL A)

Time Limits and Site Restoration

1. The development hereby permitted shall begin not later than 5 years from the date of this decision.
2. Within one month of the first generation of electricity to the grid, the local planning authority shall be informed in writing of the date of such generation. By the end of 25 years from that date, all surface elements of the development shall have been removed from the site in accordance with a scheme which shall be submitted to and approved in writing by the local planning authority not later than 12 months prior to the expiry of the said period of 25 years.
3. If any turbine fails to produce electricity to the grid for a continuous period of 12 months it, and its associated ancillary equipment, shall be removed from the site within a period of 6 months from the end of that 12 month period. The land shall be reinstated in accordance with a scheme to be submitted to and approved in writing by the local planning authority, and implemented as approved. The scheme shall include the management and timing of the works, and a traffic management plan.

Micro-siting

4. Turbines 4 and 5, and tracks relating solely to those turbines, may be micro-sited within 30m of the positions shown on Plan A (Figure 1.0 Planning Application, Revision B, 10 October 2007), so long as neither turbine shall be situated closer to a public highway or dwelling (in existence at the date of this permission) than is shown on that plan. A plan showing the final position of the turbines and tracks shall be submitted to the local planning authority within one month of the completion of development.

Construction Traffic Method Statement and Construction Method Statement

5. No development shall commence until a Construction Traffic Method Statement and a Construction Method Statement have been submitted to and agreed in writing by the local planning authority. They shall both be implemented as approved in writing by the local planning authority.
6. The Construction Traffic Method Statement shall include: vehicle routing; the management of junctions to, and crossings of, the public highway and other public rights of way; the scheduling and timing of vehicular movements; details of escorts for abnormal loads; and temporary warning signs.
7. The Construction Method Statement shall include: the timing of construction works; the construction method and surface treatment of all hard surfaces and tracks; details of site compounds and parking areas; details of wheel washing facilities, highway cleaning and pollution control; the means of disposal of surplus materials; the timing and methods of cable trenching and foundation works; the

timing, construction method and external materials of any substation/control buildings; the timing and construction method of the anemometry mast; dust management; noise management (including identification of access routes, locations of materials lay-down areas, details of equipment to be employed, operations to be carried out, mitigation measures and a scheme for the monitoring of noise); and details of the reinstatement of any temporary working areas.

Construction Hours

8. The hours of work during the construction phase, and any traffic movements to or from the site associated with the construction of the development, shall be 07.30hrs to 19.00hrs Mondays to Fridays, and 07.30hrs to 14.00hrs on Saturdays. No work shall take place outside these hours (including on Bank Holidays). Exceptionally, the delivery of large turbine and crane components may take place outside the construction hours specified above, subject to at least 24 hours prior notice being given to the local planning authority and prior approval in writing being granted by the local planning authority.

Highways

9. No development shall commence until details of the proposed access to the site from the public highway and temporary or permanent improvements to the public highway have been submitted to and approved in writing by the local planning authority. The works shall be implemented in accordance with the approved details.

Appearance

10. No development shall commence until details of the semi-matt external finish and colour of the turbines have been submitted to and approved in writing by the local planning authority. The turbines shall be built in accordance with the approved details. The turbines shall not be illuminated, or display any name, sign, symbol or logo. All the blades shall rotate in the same direction.

Shadow Flicker

11. No development shall commence until a scheme for the avoidance of any shadow flicker effect for dwellings within 10 rotor diameters of any turbine has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Television interference

12. No wind turbine shall be erected until a scheme to secure the investigation and alleviation of any electro-magnetic interference to terrestrial TV caused by the operation of the turbines has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Archaeology

- 13.No development shall commence until a scheme of investigation for archaeological work has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Wildlife

- 14.No development shall commence until a Habitat Management Plan has been submitted to and approved in writing by the local planning authority. The Plan shall include a scheme for the management and enhancement of hedgerows and biodiversity, a scheme for pre-construction badger and otter surveys, and a scheme to minimise disturbance to nesting birds during the construction works. The Habitat Management Plan shall be implemented as approved.

Noise

- 15.The rating level of noise immissions from the combined effects of the wind turbines (including the application of any tonal penalty), when calculated in accordance with the Guidance Notes below, shall not exceed the values set out in Tables 1 and 2 below. Where there is more than one property at a given location, the noise limits apply to all properties at that location. Noise limits for properties within 2km of a wind turbine which are lawfully existing at the date of this decision but not listed in the Tables shall be those of the nearest location listed in Tables 1 and 2 unless otherwise requested by the local planning authority.
- 16.At the request of the local planning authority, following a complaint to it, the wind farm operator shall, at its expense, employ a consultant approved by the local planning authority, to assess the level of noise immissions from the wind farm at the complainant's property following the procedures described in the Guidance Notes below.
- 17.Wind speed, wind direction and power generation data for each wind turbine shall be continuously logged and provided to the local planning authority at its request, and in accordance with the Guidance Notes below, within 28 days of receipt in writing of such a request.

GUIDANCE NOTES RELATING FOR NOISE CONDITIONS

NOTE 1

- (a) Values of the $LA_{90,10min}$ noise statistic should be measured at the complainant's property, using a sound level meter of IEC 651 Type 1, or BS EN 61672 Class 1, standard (or the equivalent relevant UK adopted standard in force at the time of the measurements) set to measure using a fast time weighted response. This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent relevant UK adopted standard in force at the time of the measurements).
- (b) The microphone should be mounted at 1.2 - 1.5m above ground level, fitted with a two layer windshield or suitable equivalent approved by the local authority, and placed outside the complainant's dwelling. Measurements should be made in "free-field" conditions, so that the microphone should be

placed at least 3.5m away from the building facade or any reflecting surface except the ground.

- (c) The $L_{A90,10min}$ measurements should be synchronised with measurements of the 10-minute arithmetic average wind speed and with operational data from the turbine control systems of the wind farm or farms.
- (d) The wind farm operator shall continuously log arithmetic mean wind speed and arithmetic mean wind direction data in 10 minute periods from the nacelle anemometers of each turbine, duly corrected for the presence of the rotating blades, to enable compliance with the conditions to be evaluated. Such data shall be averaged over the data from all turbines and 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05m.

NOTE 2

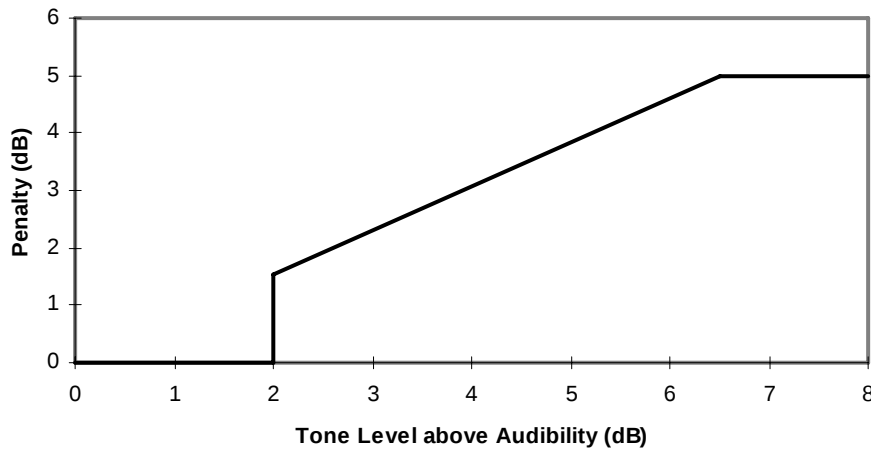
- (a) The noise measurements should be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b). Such measurements should provide valid data points for the range of wind speeds, wind directions, times of day and power generation requested by the local planning authority. In specifying such conditions the local planning authority shall have regard to those conditions which were most likely to have prevailed during times when the complainant alleges there was disturbance due to noise. At its request, the wind farm operator shall provide all of the data to the local planning authority
- (b) Valid data points are those that remain after all periods during rainfall have been excluded.
- (c) A least squares, "best fit" curve of a maximum 2nd order should be fitted to the data points and define the rating level at each integer speed.

NOTE 3

Where, in the opinion of the local planning authority noise immissions at the location or locations where assessment measurements are being undertaken contain a tonal component, the following rating procedure should be used.

- (a) For each 10-minute interval for which $L_{A90,10min}$ data have been obtained, as provided for in Note 1, a tonal assessment is performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be regularly spaced at 10 minute intervals provided that uninterrupted clean data are available. Where clean data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from standard procedure shall be reported.
- (b) For each of the 2 minute samples, the margin above or below the audibility criterion of the tone level difference, ΔL_{tm} , should be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104-109 of ETSU-R-97.

- (c) The margin above audibility is plotted against wind speed for each of the 2 minute samples. For samples for which the tones were below the audibility criterion, or no tone was identified, substitute a value of zero audibility.
- (d) A linear regression should then be performed to establish the margin above audibility at the assessed wind speed for each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic average shall be used.
- (e) The tonal penalty is derived from the margin above audibility of the tone according to the figure below. The rating level at each wind speed is the arithmetic sum of the wind farm noise level, as determined from the best fit curve described in Note 2, and the penalty for tonal noise.



NOTE 4

If the rating level is above the limit set out in the noise conditions, measurements of the influence of background noise should be made to determine whether or not there is a breach of condition. This may be achieved by repeating the steps in Note 2, with the wind farm switched off, and determining the background noise at the assessed wind speed, L_3 . The wind farm noise at this speed, L_1 , is then calculated as follows where L_2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{\frac{L_2}{10}} - 10^{\frac{L_3}{10}} \right]$$

The rating level is re-calculated by adding the tonal penalty (if any) to the derived wind farm noise L_1 . If the rating level lies at or below the values set out in the noise conditions then no further action is necessary. If the rating level exceeds the values set out, then the development fails to comply.

TABLE 1**Between 23:00 and 07:00 hours (Noise Level in dB $L_{A90, 10min}$):**

Location	Wind speed at 10m height, m/s											
	1	2	3	4	5	6	7	8	9	10	11	12
Routin Lynn	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.5	47.5	49.9
Fordwood House	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.5	47.5	49.9
Property at [396200,637900]	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.5	47.5	49.9
Fordcommon Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.7	48.0	51.0	53.3
Friendly House B+B	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.7	48.0	51.0	53.3
Watchlaw	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.7	48.0	51.0	53.3
Barmoor Ridge	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.7	47.4	49.5
Barmoor Ridge*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	47.4	49.5
Coal Harbour	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.3	47.5	49.1
Brackenside Farm	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.8	47.5	50.8	53.4	55.1
Brackenside*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	47.5	50.8	53.4	55.1
Barmoor South Moor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	46.0	49.6	52.6	54.7
Barmoor South Moor*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.0	49.6	52.6	54.7
Dunsall	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.7	47.4	49.5
Barmoor Castle	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.1	48.9	51.3	53.2
Barmoor Home Farm	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.1	48.9	51.3	53.2
Barmoor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.1	48.9	51.3	53.2
Barmoor Lane End	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.1	48.9	51.3	53.2
Ham Hall	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.1	48.9	51.3	53.2
Moss Hall	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
White House	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Blue House	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Lowick High Stead	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Barmoor Red House	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Lowick South Moor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Kemping Moss Farm	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
Biteabout	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1

Doddington Northmoor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.0	48.9	52.4	55.2	57.1
All other properties lawfully existing at the date of this permission located 2km or more from any wind turbine	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.5	47.4	49.1

- a property occupied by someone with a financial interest in the development, as defined on page 66 of 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97).

TABLE 2

At all other times (Noise Level in dB $L_{A90, 10min}$):

Location	Wind speed at 10m height, m/s											
	1	2	3	4	5	6	7	8	9	10	11	12
Routin Lynn	35.0	35.0	35.0	35.0	35.0	35.0	35.9	38.6	41.5	44.7	47.8	50.9
Fordwood House	35.0	35.0	35.0	35.0	35.0	35.0	35.9	38.6	41.5	44.7	47.8	50.9
Property at [396200,637 900]	35.0	35.0	35.0	35.0	35.0	35.0	35.9	38.6	41.5	44.7	47.8	50.9
Fordcommon Cottage	35.0	35.0	35.0	35.0	35.8	37.8	40.2	42.9	45.8	48.7	51.6	54.4
Friendly House B+B	35.0	35.0	35.0	35.0	35.8	37.8	40.2	42.9	45.8	48.7	51.6	54.4
Watchlaw	35.0	35.0	35.0	35.0	35.8	37.8	40.2	42.9	45.8	48.7	51.6	54.4
Barmoor Ridge	35.0	35.0	35.0	35.0	35.7	37.2	38.9	40.9	43.0	45.3	47.7	50.1
Barmoor Ridge*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.3	47.7	50.1
Coal Harbour	35.0	35.0	35.0	35.0	35.0	36.2	38.5	40.9	43.4	45.9	48.2	50.3
Brackenside Farm	35.0	35.0	35.0	35.0	36.2	38.8	41.7	44.9	48.1	51.3	54.3	56.9
Brackenside *	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	48.1	51.3	54.3	56.9
Barmoor South Moor	35.0	35.0	35.0	35.0	35.0	37.1	39.9	43.0	46.3	49.6	52.7	55.5
Barmoor South Moor*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.3	49.6	52.7	55.5
Dunsall	35.0	35.0	35.0	35.0	35.7	37.2	38.9	40.9	43.0	45.3	47.7	50.1
Barmoor Castle	35.9	35.9	35.9	36.4	37.7	39.6	41.9	44.5	47.2	50.0	52.6	55.0
Barmoor	35.9	35.9	35.9	36.4	37.7	39.6	41.9	44.5	47.2	50.0	52.6	55.0

Home Farm								5	.2			0
Barmoor	35.9	35.9	35.9	36.4	37.7	39.6	41.9	44.5	47.2	50.0	52.6	55.0
Barmoor Lane End	35.9	35.9	35.9	36.4	37.7	39.6	41.9	44.5	47.2	50.0	52.6	55.0
Ham Hall	35.9	35.9	35.9	36.4	37.7	39.6	41.9	44.5	47.2	50.0	52.6	55.0
Moss Hall	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
White House	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Blue House	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Lowick High Stead	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Barmoor Red House	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Lowick South Moor	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Kemping Moss Farm	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Biteabout	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
Doddington Northmoor	35.0	35.0	35.2	36.4	38.3	40.8	43.6	46.7	49.9	52.9	55.6	57.9
All other properties lawfully existing at the date of this permission located 2km or more from any wind turbine	35.0	35.0	35.0	35.0	35.0	35.0	35.9	38.6	41.5	44.7	47.7	50.1

- a property occupied by someone with a financial interest in the development, as defined on page 66 of 'The Assessment and Rating of Noise from Wind Farms' (ETSU-R-97)).

APPENDIX 2

SUGGESTED LIST OF CONDITIONS FOR MOORSYDE WIND FARM (APPEAL B)

Time Limits and Site Restoration

- 1 The development hereby permitted shall begin not later than 5 years from the date of this decision.
- 2 Within one month of the first generation of electricity to the grid, the local planning authority shall be informed in writing of the date of such generation. By the end of 25 years from that date, all surface elements of the development shall have been removed from the site in accordance with a scheme which shall be submitted to and approved in writing by the local planning authority not later than 12 months prior to the expiry of the said period of 25 years.
- 3 If any turbine fails to produce electricity to the grid for a continuous period of 12 months it, and its associated ancillary equipment, shall be removed from the site within a period of 6 months from the end of that 12 month period. The land shall be reinstated in accordance with a scheme to be submitted to and approved in writing by the local planning authority, and implemented as approved. The scheme shall include the management and timing of the works, and a traffic management plan.

Micro-Siting

- 4 The tracks and turbines shall be situated within 30m of the positions shown on Plan D (Figure 4.1d, Proposed 7 Turbine Site Layout), except that no turbine shall be situated closer than 140m to any public right of way or road, and Turbines 10 and 12 shall not be moved further east unless otherwise agreed in writing by the local planning authority. A plan showing the final position of the turbines and tracks shall be submitted to the local planning authority within one month of the completion of development.

Construction Traffic Method Statement and Construction Method Statement

- 5 No development shall commence until a Construction Traffic Method Statement and a Construction Method Statement have been submitted to and agreed in writing by the local planning authority. They shall both be implemented as approved in writing by the local planning authority.
- 6 The Construction Traffic Method Statement shall include: vehicle routing; the management of junctions to, and crossings of, the public highway and other public rights of way; the scheduling and timing of vehicular movements; details of escorts for abnormal loads; and temporary warning signs.
- 7 The Construction Method Statement shall include: the timing of construction works; the construction method and surface treatment of all hard surfaces and tracks; details of site compounds and parking areas; details of wheel washing facilities, highway cleaning and pollution control; the means of disposal of surplus materials; the timing and methods of cable trenching and foundation works; the timing, construction method and external materials of any substation/control buildings; the timing and construction method of the anemometry mast; dust management; noise management (including

identification of access routes, locations of materials lay-down areas, details of equipment to be employed, operations to be carried out, mitigation measures and a scheme for the monitoring of noise); and details of the reinstatement of any temporary working areas.

Construction Hours

- 8 The hours of work during the construction phase, and any traffic movements to or from the site associated with the construction of the development, shall be 07.30hrs to 19.00hrs Mondays to Fridays, and 07.30hrs to 14.00hrs on Saturdays. No work shall take place outside these hours (including on Bank Holidays). Exceptionally, the delivery of large turbine and crane components may take place outside the construction hours specified above, subject to at least 24 hours prior notice being given to the local planning authority and prior approval in writing being granted by the local planning authority.

Highways

- 9 No development shall commence until details of the proposed access to the site from the public highway and temporary or permanent improvements to the public highway have been submitted to and approved in writing by the local planning authority. The works shall be implemented in accordance with the approved details.

Appearance

- 10 No development shall commence until details of the semi-matt external finish and colour of the turbines have been submitted to and approved in writing by the local planning authority. The turbines shall be built in accordance with the approved details. The turbines shall not be illuminated, or display any name, sign, symbol or logo. All the blades shall rotate in the same direction.

Shadow Flicker

- 11 No development shall commence until a scheme for the avoidance of any shadow flicker effect for dwellings within 10 rotor diameters of any turbine has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Television interference

- 12 No wind turbine shall be erected until a scheme to secure the investigation and alleviation of any electro-magnetic interference to terrestrial TV caused by the operation of the turbines has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Archaeology

- 13 No development shall take place until a scheme of investigation for archaeological work has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Wildlife

- 14 No development shall commence until a Habitat Management Plan has been submitted to and approved in writing by the local planning authority. The Plan shall include a scheme for the management and enhancement of hedgerows and biodiversity, a scheme for pre-construction badger and otter surveys, and a scheme to minimise disturbance to nesting birds during the construction works. The Habitat Management Plan shall be implemented as approved.

Noise

- 15 The rating level of noise immissions from the combined effects of the wind turbines on the development site (including the application of any tonal penalty) when calculated in accordance with the Guidance Notes below, shall not exceed the values set out in the tables below. Where there is more than one property at a given location these noise limits apply to all properties at that location. Noise limits at properties lawfully existing at the date of this decision but not listed in the tables shall be taken from the nearest listed location.

Between 23:00 and 07:00 hours (Noise Level in dB L_{A90, 10min}):

	Standardised Wind Speed at 10 m height (m/s)											
Location	1	2	3	4	5	6	7	8	9	10	11	12
The Lodge	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.5	48.8	51.8
Felkington	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.5	48.8	51.8
Ancroft Northmoor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.0	48.1	51.9	55.2	57.9
West Ancroft	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.0	48.1	51.9	55.2	57.9
Shoresdean	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.2	48.7
Ancroft Southmoor	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	44.0	48.2	51.8	54.3
Berrington Lough	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	45.6	48.4	50.7
The Gables	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.3	46.6	49.8	53.0

At all other times (Noise Level in dB L_{A90, 10min}):

	Standardised Wind Speed at 10 m height (m/s)											
Location	1	2	3	4	5	6	7	8	9	10	11	12
The Lodge	35.0	35.0	35.0	35.0	35.0	35.0	37.1	40.5	43.8	46.8	49.3	51.0
Felkington	35.0	35.0	35.0	35.0	35.0	35.0	37.1	40.5	43.8	46.8	49.3	51.0
Ancroft Northmoor	35.0	35.0	35.0	35.0	35.0	37.2	41.1	45.2	49.1	52.4	54.7	55.4
West Ancroft	35.0	35.0	35.0	35.0	35.0	37.2	41.1	45.2	49.1	52.4	54.7	55.4
Shoresdean	35.0	35.0	35.0	35.0	35.0	35.0	35	38.	40.9	43.6	45.9	47.4

							.1	0				
Ancroft Southmoor	35.0	35.0	35.0	35.0	35.0	35.0	37.1	40.9	44.8	48.3	51.0	52.3
Berrington Lough	35.0	35.0	35.0	35.0	35.0	35.0	36.4	39.3	42.2	45.0	47.6	50.0
The Gables	35.0	35.0	35.0	35.0	35.0	35.1	38.4	41.7	44.8	47.6	50.0	51.9

- 16 At the request of the local planning authority, following a complaint to it, the wind farm operator shall, at its expense, employ a consultant approved by the local planning authority to assess and report on the level of noise immissions from the wind farm at the complainant's property following the procedures described in the Guidance Notes below.
- 17 Wind speed, wind direction and power generation data for each wind turbine shall be continuously logged and provided to the local planning authority at its request, and in accordance with the Guidance Notes below, within 28 days of receipt in writing of such a request.

GUIDANCE NOTES FOR NOISE CONDITIONS

NOTE 1

(a) Values of the $L_{A90,10min}$ noise statistic shall be measured at the complainant's property using a sound level meter of IEC 651 Type 1, or BS EN 61672 Class 1, standard (or the equivalent relevant UK adopted standard in force at the time of the measurements) set to measure using a fast time weighted response. This shall be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent relevant UK adopted standard in force at the time of the measurements).

(b) The microphone shall be mounted at 1.2 - 1.5m above ground level, fitted with a two layer windshield or suitable alternative approved by the local planning authority, and placed at the complainant's property. Measurements shall be made in "free-field" conditions, so that the microphone shall be placed at least 3.5m away from the building facade or any reflecting surface except the ground.

(c) The $L_{A90,10min}$ measurements shall be synchronised with measurements of the 10 minute arithmetic average wind speed and with operational data from the wind turbine control systems.

(d) The wind farm operator shall continuously log arithmetic mean wind speed and arithmetic mean wind direction and power generation data in 10 minute periods from the nacelle anemometers of each wind turbine, duly corrected for the presence of the rotating blades to enable compliance with the conditions to be evaluated. Wind speed and wind direction shall be averaged from the data from all wind turbines and 'standardised' to a reference height of 10m as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05m.

NOTE 2

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b). Such measurements shall provide valid data points for the range of wind speeds, wind directions, times of day and power generation requested by the local planning authority. In specifying such conditions the local planning authority shall have regard to those conditions which were most likely to have prevailed when the complainant alleges there was disturbance due to noise. At its request, the wind farm operator shall provide all of the data collected to the local planning authority.

(b) Valid data points are those that remain after all data collected during rainfall have been excluded.

(c) A least squares, "best fit" curve of a maximum 2nd order shall be fitted to the valid data points to define the wind farm noise level at each integer speed.

NOTE 3

Where, in the opinion of the local planning authority noise immissions at the complainant's property contain a tonal component, the following rating procedure shall be used.

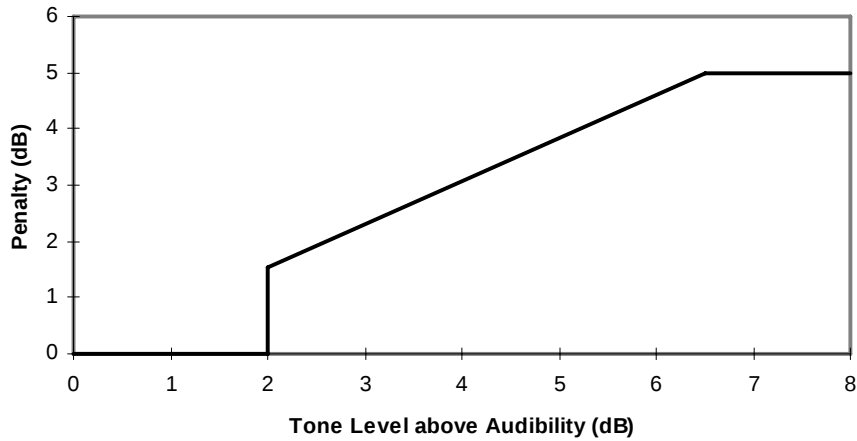
(a) For each 10 minute interval for which $L_{A90,10min}$ data have been obtained, as provided for in Note 1, a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods shall be regularly spaced at 10 minute intervals provided that uninterrupted clean data are available.

(b) For each of the 2 minute samples the margin above or below the audibility criterion of the tone level difference, ΔL_{tm} , shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104-109 of ETSU-R-97.

(c) The margin above audibility shall be plotted against wind speed for each of the 2 minute samples. For samples where the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be assumed.

(d) A linear regression shall be performed to establish the margin above audibility at the assessed wind speed for each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic average shall be used.

(e) The tonal penalty shall be derived from the margin above audibility of the tone according to the figure below. The rating level at each wind speed is the arithmetic sum of the wind farm noise level, as determined from the best fit curve described in Note 2, and the penalty for tonal noise.



NOTE 4

If the rating level is above the limits set out in the noise conditions, measurements of the influence of background noise shall be made to determine whether or not there is a breach of condition. This may be achieved by repeating the steps in Note 2, when all the wind turbines are not operating, and determining the background noise at the assessed wind speed, L_3 . The wind farm noise at this speed, L_1 , is then calculated as follows where L_2 is the measured level with wind turbines operating normally but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{\frac{L_2}{10}} - 10^{\frac{L_3}{10}} \right]$$

The rating level is re-calculated by adding the tonal penalty (if any) to the derived wind farm noise L_1 . If the rating level exceeds the limits set out in the noise conditions then the development fails to comply.

APPENDIX 3

SUGGESTED LIST OF CONDITIONS FOR TOFT HILL WIND FARM (APPEAL C)

Time limits and site restoration

1. The development hereby permitted shall begin not later than 5 years from the date of this decision.
2. Within one month of the first generation or electricity to the grid, the local planning authority shall be informed in writing of the date of such generation. By the end of 25 years from that date, all surface elements of the development shall have been removed from the site in accordance with a scheme which shall be submitted to and approved in writing by the local planning authority not later than 12 months prior to the expiry of the said period of 25 years.
3. If any turbine fails to produce electricity to the grid for a continuous period of 12 months it, and its associated ancillary equipment, shall be removed from the site within a period of 6 months from the end of that 12 month period. The land shall be reinstated in accordance with a scheme to be submitted to and approved in writing by the local planning authority, and implemented as approved. The scheme shall include the management and timing of the works, and a traffic management plan.

Micro-siting

4. The turbines may be micro-sited within 20m of the following co-ordinates:

Turbine 1	390209	644210
Turbine 2	390402	643907
Turbine 3	390657	643657
Turbine 4	391091	643962
Turbine 5	390880	643365
Turbine 6	391335	643606
Turbine 7	391230	643154

Tracks within the site may be micro-sited within 20m of the position shown on Plan F (Figure 2 Proposed Site Layout, October 2006), subject to prior written approval from the local planning authority. A plan showing the final position of the turbines and tracks shall be submitted to the local planning authority within one month of the completion of development.

Construction Traffic Method Statement and Construction Method Statement

5. No development shall commence until a Construction Traffic Method Statement and a Construction Method Statement have been submitted to and agreed in writing by the local planning authority. They shall both be implemented as approved in writing by the local planning authority.
6. The Construction Traffic Method Statement shall include: vehicle routing; the management of junctions to, and crossings of, the public highway and other public rights of way; the scheduling and timing of vehicular movements; details of escorts for abnormal loads; and temporary warning signs.

7. The Construction Method Statement shall include: the timing of construction works; the construction method and surface treatment of all hard surfaces and tracks; details of site compounds and parking areas; details of wheel washing facilities, highway cleaning and pollution control; the means of disposal of surplus materials; the timing and methods of cable trenching and foundation works; the timing, construction method and external materials of any substation/control buildings; the timing and construction method of the anemometry mast; dust management; noise management (including identification of access routes, locations of materials lay-down areas, details of equipment to be employed, operations to be carried out, mitigation measures and a scheme for the monitoring of noise); and details of the reinstatement of any temporary working areas.

Construction Hours

8. The hours of work during the construction phase, and any traffic movements to or from the site associated with the construction of the development, shall be 07.30hrs to 19.00hrs Mondays to Fridays, and 07.30hrs to 14.00hrs on Saturdays. No work shall take place outside these hours (including on Bank Holidays). Exceptionally, the delivery of large turbine and crane components may take place outside the construction hours specified above, subject to at least 24 hours prior notice being given to the local planning authority and prior approval in writing being granted by the local planning authority.

Highways

9. No development shall commence until details of the proposed accesses to the site from the public highway and temporary or permanent improvements to the public highway have been submitted to and approved in writing by the local planning authority. The works shall be implemented in accordance with the approved details.

Appearance

10. No development shall commence until details of the semi-matt external finish and colour of the turbines have been submitted to and approved in writing by the local planning authority. The turbines shall be built in accordance with the approved details. The turbines shall not be illuminated, or display any name, sign, symbol or logo. All the blades shall rotate in the same direction.

Shadow Flicker

11. No development shall commence until a scheme for the avoidance of any shadow flicker effect for dwellings within 10 rotor diameters of any turbine in the development has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Television Interference

12. No wind turbine shall be erected until a scheme to secure the investigation and alleviation of any electro-magnetic interference to terrestrial TV caused by the operation of the turbines has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Archaeology

- 13.No development shall take place until a scheme of investigation for archaeological work has been submitted to and approved in writing by the local planning authority. The scheme shall be implemented as approved.

Wildlife

- 14.No development shall commence until a Habitat Management Plan has been submitted to and approved in writing by the local planning authority. The Plan shall include a scheme for the management and enhancement of hedgerows and biodiversity, a scheme for pre-construction badger and otter surveys, and a scheme to minimise disturbance to nesting birds during the construction works. The Habitat Management Plan shall be implemented as approved.

Noise

- 15.The rating level of noise immissions from the combined effects of the wind turbines, (including the application of any tonal penalty) when assessed in accordance with the Guidance Notes below, shall not exceed the values set out in the tables below. Where there is more than one property at a given location these noise limits apply to all properties at that location. Noise limits at properties lawfully existing at the date of this decision, but not listed in the tables, shall be taken from the nearest listed location:

Between 23:00 and 07:00 hours (Noise Level in dB $L_{A90, 10min}$):

	Wind Speed at 10 m height (m / s)											
Location	1	2	3	4	5	6	7	8	9	10	11	12
Shellacres, Tiptoe, Heaton Mill and Heaton Farm	43	43	43	43	43	43	43	43	45	46	47	47
Tillmouth Farm Bungalows, Tillmouth Farm, The Smithy and West Newbiggin	43	43	43	43	43	43	43	44	47	49	50	50
West Grindon House, Grindon Village and Grievestead	43	43	43	43	43	43	43	46	49	51	52	52
Houses North of Grindonrigg and Grindonrigg Village	43	43	43	43	43	43	43	45	48	51	53	53
All Other Properties lawfully existing at the date of this permission	43	43	43	43	43	43	43	43	45	46	47	47

At all other times (Noise Level in dB L_{A90, 10min}):

Location	Wind Speed at 10 m height (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Shellacres, Tiptoe, Heaton Mill and Heaton Farm	35	35	35	35	36	38	41	43	46	49	51	52
Tillmouth Farm Bungalows, Tillmouth Farm, The Smithy and West Newbiggin	35	35	35	35	36	39	42	46	49	51	53	53
West Grindon House, Grindon Village and Grievestead	35	35	35	35	36	40	43	47	50	52	54	54
Houses North of Grindonrigg and Grindonrigg Village	35	35	35	35	36	39	42	45	48	50	52	53
All Other Properties lawfully existing at the date of this permission	35	35	35	35	36	38	41	43	46	49	51	52

16. At the request of the local planning authority, following a complaint to it, the wind farm operator shall, at its expense, employ a consultant approved by the local planning authority, to assess the level of noise immissions from the wind farm at the complainant's property following the procedures described in the Guidance Notes below.

17. The wind farm operator shall continuously log wind speed and wind direction data, and power generation data for each wind turbine, and provide it to the local planning authority on its request, and in accordance with the Guidance Notes below, within 28 days of receipt in writing of such a request.

GUIDANCE NOTES FOR NOISE CONDITIONS

NOTE 1

- (a) Values of the L_{A90,10min} noise statistic should be measured at the complainant's property, using a sound level meter of IEC 651 Type 1, or BS EN 61672 Class 1, standard (or the equivalent relevant UK adopted standard in force at the time of the measurements) set to measure using a fast time weighted response. This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent relevant UK adopted standard in force at the time of the measurements).

- (b) The microphone should be mounted at 1.2 - 1.5m above ground level, fitted with a two layer windshield or suitable equivalent approved by the local planning authority, and placed outside the complainant's dwelling. Measurements should be made in "free-field" conditions, so that the microphone should be placed at least 3.5m away from the building facade or any reflecting surface except the ground.
- (c) The $L_{A90,10min}$ measurements should be synchronised with measurements of the 10 minute arithmetic average wind speed and with power generation data from the turbine control systems of the wind farm.
- (d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed and arithmetic mean wind direction data in 10 minute periods by direct measurement of 10m height wind speeds at a location within the application site to be agreed by the local planning authority prior to commencement of the development.

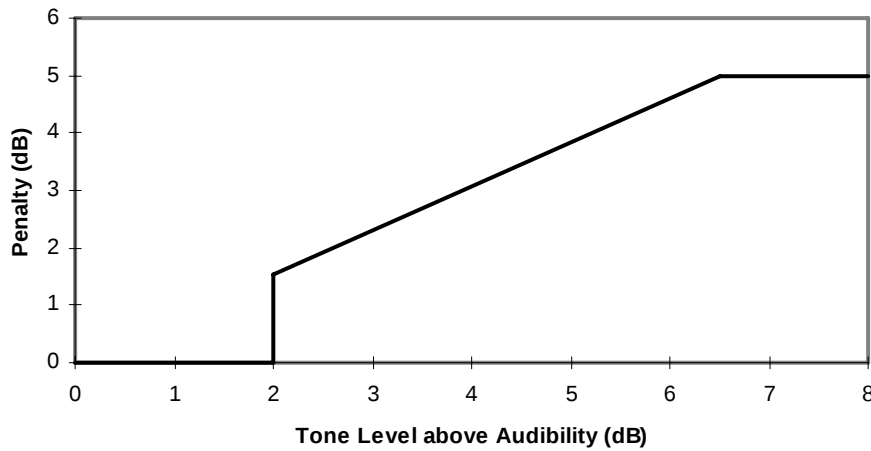
NOTE 2

- (a) The noise measurements should be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b). Such measurements should provide valid data points for the range of wind speeds, wind directions, times of day and power generation requested by the local planning authority. In specifying such conditions the local planning authority shall have regard to those conditions which were most likely to have prevailed during times when the complainant alleges there was disturbance due to noise. Upon its request, the wind farm operator shall provide all of the data collected to the local planning authority.
- (b) Valid data points are those that remain after all periods of rainfall have been excluded.
- (c) A least squares, "best fit" curve of a maximum 2nd order should be fitted to the data points and define the rating level at each integer speed.

NOTE 3

- (a) Where, in the opinion of the local planning authority, noise immissions at the location or locations where assessment measurements are being undertaken contain a tonal component, the following rating procedure should be used.
- (b) For each 10 minute interval for which $L_{A90,10min}$ data have been obtained as provided for in Note 1 a tonal assessment is performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be regularly spaced at 10 minute intervals provided that uninterrupted clean data are available. Where clean data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from standard procedure shall be reported.
- (c) For each of the 2 minute samples the margin above or below the audibility criterion of the tone level difference, ΔL_{tm} , should be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104-109 of ETSU-R-97.

- (d) The margin above audibility is plotted against wind speed for each of the 2 minute samples. For samples for which the tones were below the audibility criterion or no tone was identified, substitute a value of zero audibility.
- (e) A linear regression should then be performed to establish the margin above audibility at the assessed wind speed for each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic average shall be used.
- (f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below. The rating level at each wind speed is the arithmetic sum of the wind farm noise level, as determined from the best fit curve described in Note 2, and the penalty for tonal noise.



NOTE 4

If the rating level is above the limit set out in the noise conditions, measurements of the influence of background noise should be made to determine whether or not there is a breach of condition. This may be achieved by repeating the steps in Note 2, with the wind farm switched off, and determining the background noise at the assessed wind speed, L_3 . The wind farm noise at this speed, L_1 , is then calculated as follows where L_2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{\frac{L_2}{10}} - 10^{\frac{L_3}{10}} \right]$$

The rating level is re-calculated by adding the tonal penalty (if any) to the derived wind farm noise L_1 . If the rating level lies at or below the values set out in the noise conditions then no further action is necessary. If the rating level exceeds the values set out in the noise conditions then the development fails to comply.