

Appeal Decision

Inquiry held on 23 November 2010 Site visits made on 26 November, 15 and 16 December 2010

by S R G Baird BA(Hons) MRTPI

an Inspector appointed by the Secretary of State for Communities and Local Government

Decision date: 4 February 2011

Appeal Ref: APP/G0908/A/10/2131842 Land at Hill Farm, Tallentire, Cockermouth, Cumbria CA13 0PY

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for planning permission.
- The appeal is made by Renewable Energy Systems UK & Ireland Limited (RES) against Allerdale Borough Council.
- The application Ref 2/2008/0262 is dated 19 February 2008.
- The development proposed is the construction of 6 wind turbines with associated infrastructure designed to enable site access, wind monitoring and the generation of electricity for export to the local energy distribution network.

Decision

 The appeal is allowed and planning permission granted for the construction of 6 wind turbines with associated infrastructure designed to enable site access, wind monitoring and the generation of electricity for export to the local energy distribution network on land at Hill Farm, Tallentire, Cockermouth, Cumbria CA13 OPY in accordance with the terms of the application, Ref 2/2008/0262, dated 19 February 2008 subject to the conditions in the Schedule at Annex A.

Preliminary Matters

- 2. The local planning authority (lpa) resolved that the application would have been refused. The 4 putative reasons for refusal are listed in Annex B.
- 3. The Statement of Common Ground (SOCG) indicates that NATS En-Route Limited has, subject to the imposition of conditions, no objection to the proposal on air safety grounds. Accordingly, the lpa did not pursue the third putative reason for refusal. The SOCG also indicates that all of the lpa's substantial concerns regarding the impact of noise from the turbines have been addressed by the Updated Noise Assessment and lesser concerns would be met by the imposition of planning conditions. The lpa did not pursue the fourth putative reason for refusal.
- 4. Drawing No. 01077 D1001-10 Infrastructure Layout contains a minor boundary error and RES sought to replace this plan with Drawing No. 01077 D1001-11. The lpa had no objection and no party would be prejudiced by the substitution.
- 5. The lpa and the appellant confirmed that Drawing Nos. 01077 D2501-06 Site Boundary; D2108-01 Turbine Layout; D1001-11 Infrastructure Layout; D2306-05 Control Building & Substation Compound; D2307-04 Control

Building & Substation Elevations; D2301-06 Wind Turbine Elevations; D2308-03 Construction Compound Layout; D2314-02 Gas Pipeline Protection Slab: D2405-08 Proposed Route A595 to Site: D2406-05 Proposed Route C-G; 01077 D2402-06 Site Entrance; D2408-07 Site Entrance Reinstatement Plan and D2409-08 Road Crossing Design comprise the application.

- 6. At the Inquiry, I was asked to hear submissions on and consider as a main issue whether nuclear power could provide a more reliable, less intrusive and a more economic means of achieving targets for increasing the proportion of electricity generated from non-fossil sources. I ruled that such matters are a matter of Government policy and not a matter for me or this Inquiry to determine. However, I indicated that any submissions made in writing would be accepted before the close of the Inquiry.
- 7. I have had regard to the Environmental Statement (ES) and Supplementary Environmental Information (SEI) submitted under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. RES confirmed that where appropriate the SEI superseded the ES. The lpa confirmed that the ES and SEI met the statutory requirements of the 1999 Regulations.
- 8. This Inquiry was the first of 2 into local wind farm proposals. This Inquiry sat from 23 to 30 November 2010 and I made accompanied visits to the appeal site, several of the ES/SEI viewpoints and several properties in Tallentire, Gilcrux and Bothel on 26 November 2010. As agreed with the parties, I made unaccompanied visits to a number of viewpoints identified at the Inquiry and contained in the ES/SEI on 15 and 16 December 2010. These unaccompanied visits followed the closure of the second Inquiry, which sat from 7 to 14 December 2010, into a proposed wind farm at Warwick Hall Farm, Westnewton (APP/G0908/A/10/2132949). The parties to both Inquiries referred to a common set of Core Documents.

Main Issues

9. The effect of the development individually and cumulatively with other wind farms on the character and appearance of the area. The effect on the living conditions of local residents with particular reference to noise, shadow flicker/reflected light and visual impact.

Reasons

Planning Policy and Other Guidance

National Planning Policy & Guidance

- 10. National planning policy is set out in Planning Policy Statements (PPSs). Those most relevant are PPS1: Delivering Sustainable Development and PPS1 Supplement Planning and Climate Change; PPS7 Sustainable Development in Rural Areas; PPS9 Biodiversity and Geological Conservation and PPS22 Renewable Energy; Planning for Renewable Energy A Companion Guide to PPS22.
- 11. PPS22 indicates that renewable energy developments should be capable of being accommodated throughout England. Whilst wind turbines are likely to have the greatest visual and landscape affects, these may be temporary if planning conditions are imposed requiring decommissioning of turbines. The potential impact of renewable energy projects close to nationally designated

areas is a material consideration. However, buffer zones around designated areas should not be created nor should policies seek to prevent the development of renewable energy projects in these areas. ETSU-R-97 is to be used when assessing the impact of wind turbine noise on nearby residents. Thus, where environmental and social impacts have been minimised through location, design and scale, the wider environmental and economic benefits of a project whatever its scale are material considerations to be given significant weight. Proposals should not be rejected because their level of output is small.

- 12. PPS7 says that countryside policies should provide for the sensitive exploitation of renewable energy. National Parks (NP) and Areas of Outstanding Natural Beauty (AONB) have the highest status of protection in relation to landscape and scenic beauty. There is a duty on the decision maker to, amongst other things, consider whether development affecting a NP would conserve and enhance its natural beauty, wildlife and cultural heritage. PPS9 sets out the key principles relating to development and nature conservation. Planning decisions should aim to maintain, enhance, restore or add to biodiversity.
- 13. National energy policy recognises that the UK has some of the richest renewable resources in Europe, particularly wind resources, which if captured can make a significant contribution to our long-term energy goals on climate change and security of supply. In terms of the planning system, this factor is a material consideration that should be given significant weight when considering renewables proposals. The policies and priorities for action are re-iterated in the Climate Change Supplement to PPS1, which refers to the urgent need for action on climate change. Lpa's are encouraged to tackle the causes and impacts of climate change through policies to promote, rather than restrict, the development of renewable energy sources such as wind power.
- 14. The 2007 European Union Common Energy Policy includes a binding target of 20% of overall energy to be produced from renewables by 2020 and a 20 to 30% reduction in greenhouse gases. The Climate Change Act 2008 set a legally binding target to reduce greenhouse gas emissions by at least 80% by 2050 and reductions in CO₂ emissions of some 26% by 2020 against a 1990 base. In 2009, EU Directive 2009/28/EC set out a requirement of 20% of overall energy and 35% of electricity to be produced from renewables. This directive sets out the contribution from each member state with the UK set to produce 15% of all energy from renewable sources by 2020. The 2009 Renewable Energy Strategy (RES) highlights a need to radically increase our use of, amongst other things, renewable electricity and notes that the 15% binding target requires a 7-fold increase in the share of renewables in less than a decade.
- 15. Following consultation, the Government has produced a revised draft overarching National Policy Statement (NPS) on Energy (EN-1) and a draft NPS for Renewable Energy Infrastructure (EN-3). Although these revised NPS's are the subject of further consultation, the content of these documents and the Government's response to earlier consultation indicates the thrust of current government policy and a strong commitment to the development of renewable energy sources.
- 16. The NPSs reiterate the key role renewable electricity production has in meeting the 15% target by 2020. Of all the renewable energy sources, onshore wind is recognised as the most well established and most economically viable source of renewable electricity available for future large scale deployment in the UK. Draft guidance recognises that modern onshore wind turbines are large and

that there will be significant landscape and visual effects from their construction and operation for several kilometres around a site. Similarly, in terms of the effect on residents, the 2 main issues that determine acceptable separation distances are visual amenity and noise. The time-limited nature of wind farms will be an important consideration when assessing impacts such as landscape and visual effects and potential effects on the settings of historic assets. The NPS reiterates that ETSU-R-97 is to be used to assess whether wind turbine noise is within acceptable levels.

Development Plan

17. The development plan comprises the North West of England Plan – Regional Spatial Strategy to 2021 (RSS); saved policies in the Cumbria and Lake District Joint Structure Plan 2001-2016 (SP) and saved policies in the Allerdale Local Plan (LP).

Regional Spatial Strategy

- 18. The RSS seeks the active and efficient use of the region's natural and manmade resources recognising that spatial planning has a significant role in reducing carbon emissions and promoting the use of renewable energy. As an urgent regional priority, schemes should contribute to reductions in all sources of CO₂ emissions by increasing renewable energy capacity. Historic, built and natural assets should be protected and enhanced through understanding and respecting the character/distinctiveness of places and landscapes; maintaining and enhancing the tranquillity of open countryside/rural areas, and maintaining and enhancing the quantity/quality of biodiversity and habitats (Policies EM 1, 1(A) & 1(C)).
- 19. Policies EM 15 and EM 17 encourage lpas to produce strategies that seek to promote rather than restrict the use of renewable energy resources. The 2010 Cumbria target for the installed capacity of onshore wind clusters is 210MW rising to some 247MW in 2020. Noise, visual impact, the effect on nature conservation and biodiversity and local economic benefits are matters to be taken into account when assessing schemes but they should not be used to rule out or place constraints on the development of renewable energy technologies.

Structure Plan

20. Outside the LDNP and AONBs, renewable energy proposals will be favourably considered if there is no significant adverse effect on landscape character, built heritage, local amenity, the local economy, highways or telecommunications (Policy R44). When considering applications the, environmental, economic and energy benefits of renewable proposals are to be given significant weight. Development detrimental to nature conservation interests will not be permitted unless the harm caused to the value of the interest is outweighed by the need for the development (Policy E35). Policy E37 requires that development should be compatible with the distinctive landscape characteristics and features of Cumbria's landscape types and avoid visual intrusion.

Local Plan

21. Policy EN6 seeks to ensure that residents are protected from unacceptable levels of noise. Policy EN19 requires proposals to have regard to landscape conservation and enhancement. Policy EN20 indicates that where a proposal adjoins the Solway Coast AONB priority will be given to the protection of its

natural beauty over other planning considerations. Policy EN25 indicates that proposals for development in the open countryside will not be permitted unless there is a demonstrated overriding need. There are no policies relating to the development of renewable energy.

Other Guidance

22. The Ipa has adopted the Cumbria Wind Energy Supplementary Planning Document (SPD). The SPD contains a landscape capacity assessment for each of the Cumbrian landscape types. Although the boundaries of the landscape types are vague, the appeal proposal straddles 2 landscape types. The larger area is Type 5a Lowland Ridge and Valley which is assessed as have a moderate capacity for up to a small group exceptionally a large group. The second area is Type 12b Higher Limestone Rolling Fringe which is assessed as having a low/moderate capacity for up to a small group, exceptionally a large group in blander parts. A small group is defined as 3 to 5 turbines and a large group is defined as 6 to 9 turbines. The SPD only looks at landscape capacity and does not assess the implications of other constraints on turbine location nor does it relate capacity to regional or national targets. Whilst the SPD sets out guidance on a range of issues it makes it clear that it does not constitute policy.

Need/Benefits

- 23. Before dealing with the main issues identified it is important to deal with need and benefits as these is are important elements in the overall planning balance. PPS22 Key Principle 1(iv) indicates that the wider economic benefits of all proposals for renewable energy projects at whatever scale are material considerations that should be given significant weight in determining whether proposals should be granted planning permission. This is also reflected in national energy policy, RSS Policy EM 17 and Structure Plan Policy R44.
- 24. The installed capacity of the appeal scheme would be 12MW and the annual generation of electricity would be some 31,536MWh. Taking a reasonable estimation of CO_2 savings of 430gms per KWh, annual savings would be in the region of some 13,560 tonnes. Estimated annual savings of SO_2 and NO_x would be some 315 tonnes and 95 tonnes respectively. The potential economic benefit of the scheme would be greatest during the construction phase. RES estimates that there is the potential for some £1.5 million of civil engineering works that could be sourced from local suppliers. Other benefits relate to the rental income to landowners and the general contribution to increased employment in the wind energy support industries.
- 25. At this stage, it is appropriate to deal with the submissions made about the efficacy of wind turbines compared to other options being promoted to tackle climate change and CO₂ reduction, particularly nuclear energy production. Increasing the contribution from nuclear generation is only one part of the National Energy Strategy, the other 2 parts being renewables and fossil fuels with carbon capture; it is not promoted as an alternative. However, whether any of these 3 elements would be more efficient or effective in reducing greenhouse gases and achieving the binding targets set by statute and EU Directives is a matter of Government policy. Change to this policy is for Parliament to debate and cannot be the subject of separate investigations at Inquiries before individual Inspectors based upon whatever material happens to be presented at the time.

- 26. What is not in dispute between the parties is that RSS county and regional targets for 2010 have been missed by a substantial margin and slow progress is being made towards meeting the 2020 targets. Following challenges in the High Court against the Government's abolition of RSSs, the RSS, for the purposes of S38 (6) of the Act, continues to be part of the development plan. The Government has in the Localism Bill, which is now proceeding through parliament, signalled its intention to remove RSSs from the development plan framework and as such this intention attracts some weight.
- 27. Progress at national level is also slow. The RES estimates that to achieve the targets set for renewables energy, a total of some 14,000MW will be needed from onshore wind sources. The installed capacity for both on and offshore wind energy at October 2010 is estimated at some 5,000MW. Moreover, it is important to note that the RSS targets do not take account of the binding target to ensure that 15% of our energy comes from renewable sources. This means that existing RSS targets are well below that which national energy policy will require.
- 28. This scheme would make a small but valuable contribution towards regional and national targets for the production of energy from renewable sources thus contributing to meeting the objectives of the Climate Change Act, the RES and emerging National Energy Policy. Whilst the local economic benefits cannot be precisely quantified there would be some in terms of construction and maintenance contracts and agricultural diversification. Notwithstanding the Government's intentions regarding the RSS, achieving the binding national targets for the proportion of energy from renewable sources and the reductions sought in greenhouse gases can only be done through an accumulation of local projects of varying scale. Thus, based solely on national performance a very significant need for developments of this type exists. These are significant material considerations that weigh very heavily in the planning balance.

Issue 1 - Landscape Impact

- 29. The site lies within an undesignated landscape at the narrowest point between the Lake District National Park (LDNP) and the Solway Coast AONB. The nearest part of the AONB is some 4.5km to the north-west and the LDNP is some 2.5km to the south-east. In the northern part of the County to the east of the AONB is the Hadrian's Wall World Heritage Site (WHS). In terms of local designations, the site straddles the Type 5a Lowland Ridge and Valley and Type 12b Higher Limestone Rolling Fringe landscape character types.
- 30. The Type 5a landscape is described as a medium to large scale intensively managed and settled ridge and valley landform dominated by simple agricultural patterns with long views from the ridges. Type 12b is described as a transitional landscape of large scale rolling topography ridge and valleys to the true Higher Limestone character type. Here, given the scale the character maps are drawn at it is difficult to be precise where the boundary between the 2 landscape types fall. However, in the SPD the appropriate scale of development for both landscape types is assessed as "up to a small group exceptionally a large group" which in the case of Type 12b would be in the blander parts. I was left in no doubt that residents consider Tallentire Hill and its environs to be a special place. However, given that the area is identified as one of transition between the lowlands and the true Higher Limestone areas and having visited parts of the surrounding character areas, I formed the view

that the Type 12b area in the vicinity of the site forms one of those blander landscape areas.

- 31. The lpa accepts that the ZTVIs¹ produced for the ES and SEI are an accurate representation of where topography would allow views of some or all of the turbines. These indicate that although the turbines would be seen over a very wide area the bulk of views would be concentrated in the areas to the north, north-west, west, south west and south. However, the ZTVIs do not take account of the localised screening effects of buildings, topography and vegetation and as such the extent of views would be substantially less. During my accompanied and unaccompanied site visits, I took in most the viewpoints in the ES and those referred to at the Inquiry. Based on these extensive journeys, I came to the overwhelming impression that the most severe impacts would be felt close up to the site within 4 to 5km with the visual impact reducing with distance. However, the fact that the visual effects would be significant does not necessarily equate to unacceptable harm. Both PPS22 and draft national energy policy recognise that modern onshore wind turbines will be significant landscape and visual features and the effects from their construction and operation would be felt for several kilometres around a site.
- 32. The lpa acknowledged that the proposal would not have an overall adverse effect on the objectives of the AONB and LDNP designations. English Heritage has indicated that the proposal would not adversely affect the value of the WHS. I agree with those conclusions. The development would be seen in front of the High Fells of the LDNP (Viewpoints 13 Allonby, 19 Mawbray and 30 Swarthy Hill are typical) when viewed from the AONB and in reverse, albeit more limited views from the High Fells of the LDNP to the Solway Firth (Viewpoints 22 Skiddaw and 23 High Stile). In these views, the development would, to a limited extent, reduce the sense wildness and remoteness of the southern part of the AONB coast and the Higher Fells. However, whilst significant, the degree of the impact would not be so adverse as to justify refusing planning permission. I come to this conclusion based on the ability of the broad scale of the landscape/sky absorb these large features enabling it to remain the dominant visual characteristic, the degree of separation to the LDNP and the AONB and the spacing of the turbine. Whilst the movement of the turbines would be noticeable, the disconcerting effect of a large group of overlapping blade movements would largely be avoided.
- 33. Although the impact would be reduced by the generous separation between the turbines, given their height there is no question that they will have significant impact on the immediate area where any viewer will have the feeling of being within a wind farm. Given the nature of topography and the presence of localised screening, I consider this effect would have a greater impact on the area around Tallentire (Viewpoints 1 & 2) rather than Gilcrux. Views to the north-west, west and south-west to the Solway Firth from the top of Tallentire Hill (Viewpoint 1) would be significantly affected and in parts changed. The human eye does not take in a panoramic view rather it takes in a restricted cone of view and the viewer has to turn to appreciate the next field of view. Thus, in any one view towards the Solway Firth the impact of the turbines would change from being a significant part of the view to having no material impact. Thus, although the turbines would be prominent and some views would be changed, overall the landscape would continue to form the dominant characteristic acceptably absorbing the turbine structures. In terms of views to

¹ Zone of Theoretical Visual Influence

the High Fells and the LDNP, the presence of the turbines would have no material adverse effect.

- 34. Beyond this area I agree with the appellant that the general appreciation would be one of being close to a wind farm. Here, the impact of the turbines would be reduced by the presence of localised buildings or vegetation, the generous separation between turbines and the view of turbines against higher land. In these areas, whilst the impact on views might be significant they would not be so adverse as to justify refusal. Good examples of this are demonstrated by the visualisations from Viewpoints 4, 5, 6, 7 and 9.
- 35. Turning to cumulative impact, there is a strong feeling that Cumbria and particularly North-West Cumbria has accepted more than its "fair share" of wind farm developments. This is based on the view that the area round Workington is ringed by turbine developments (Oldside, Siddick, Voridian, Windscales, Windscales Moor, Lowca, Flimby) with a line of existing and proposed turbines running north-eastwards towards Carlisle (Broughton Lodge, Wharrels Hill, High Pow and Great Orton). It is suggested that Tallentire would fill the gap between Workington and Wharrels Hill and intensify the overall impact of wind energy development in this area resulting in journeys with unrelenting sequential views of turbines from Carlisle to Workington.
- 36. The location of wind energy developments within Cumbria is constrained by the presence of the LDNP and the AONB. Whilst PPS22 does not rule out such developments within National Parks or AONBs, I am not aware of any proposals that have come forward for commercial scale wind energy developments in the LDNP. Thus, the area of search is constrained. Moreover, the scale of development within Cumbria is a reflection of the wind resource and the capacity of the landscape to accommodate such developments.
- 37. Simply looking at a plan showing the location of existing and proposed windfarms suggests problems of concentration. However, the perceived impact of an over-concentration is not mirrored on the ground. I was fortunate that on all the days that I undertook my site visits that visibility was excellent. I viewed existing and proposed wind farms from the coast road from Workington to Grune Point, the roads from Silloth to Carlisle and the A595 from Carlisle to Workington. From many viewpoints, multiple wind farm developments are and would be visible to a varying degree. However, what was clear is, given that visual impact reduces with distance and the degree of separation between individual existing and proposed developments are such that the despite the intensification of the line between Workington and Carlisle, the landscape remains the dominant feature and still would be described as a landscape with wind farms rather than a wind farm landscape. Whilst in some journeys on the major roads through this part of Cumbria sequential views of wind energy developments are obtained, because of the separation between them and the localised screening effects of topography there is no sense of journeys and the landscape being unacceptably dominated by wind turbines.
- 38. In terms of the effect of the proposal on recreational routes, the visual effects would be the same; significant within the immediate vicinity, which includes part of the Allerdale Ramble and the bridleway over Tallentire Hill, with the degree of significance reducing the further one is away from the site. Again whilst the immediate effects are significant, they do not, on their own, justify the refusal of planning permission.

Issue 2 - Living Conditions

39. The Planning System: General Principles states that the planning system does not exist to protect the private interest of one person against the activities of another, although private interests may coincide with the public interest in some cases. Thus, the question that a decision maker has to answer is, would the proposal unacceptably affect amenities and the existing use of land and buildings which ought to be protected in the public interest. Key Principle 1(i) of PPS22 starts from the basis that renewable energy developments should be capable of being accommodated throughout England. However, where the noise from turbines, the impact of shadow flicker/reflected light and where through their size, number or position they become dominant and overbearing as to unacceptably reduce the living conditions that residents might reasonably expect to enjoy then these are amenities that should be protected in the public interest.

Visual Impact

- 40. Within 2.4km of the site there are 4 settlements, Tallentire, Gilcrux, Bridekirk and Bullgill. Moreover, it is clear from the ZTVI assessments that a substantial number of residential dwellings in the much wider area would have views of the wind turbines. It is agreed between the parties that within 800m of the site there are approximately 51 dwellings. During the Inquiry, I was able to visit several dwellings on the edge of Gilcrux and Tallentire where I was able to view the proposed turbines and assess their likely impact on external amenity areas and habitable rooms. Following the close of the second Inquiry, I spent some time revisiting these areas, although I did not enter any of the properties.
- 41. With a height of 100m to blade tip, this development would have a significant impact on the outlook of residential properties within a radius of some 2.4km from the site who would have uninterrupted views over the site. However from my visits to the area, I consider the greatest visual impacts would be felt within 1km of the turbines and in particular those properties on the south-eastern edge of Gilcrux (Churchfield House and the group of houses at The Forelands) and on the north-eastern edge of Tallentire (The Chestnuts, the group of dwellings next to The Chestnuts, Lilac Cottage, Seaview, Greenbank, 1-5 Solway View, Smithy Croft and 7 and 8 Fernleigh Close). These dwellings are representative of the type of views that would be obtained of the wind farm.
- 42. Whilst the change in view from most properties would be significant that assessment does not, on its own, amount to a level of harm that would justify the refusal of planning permission. Indeed in most views, the visual impact of the turbines would be reduced by, amongst other things, the oblique orientation of views, significant changes in topography, tree/hedgerow planting and in some cases outbuildings within the residential curtilage. I observed that the greatest impact would be felt by those dwellings on the north eastern edge of Tallentire particularly those dwellings ranged around The Chestnuts and Lilac Cottage and The Forelands at Gilcrux. However, given the degree of separation, at not less that 700m, the group of relatively widely spaced turbines would not appear dominant and overbearing and would not unacceptably affect the living conditions of residents at these dwellings. At greater distances, the visual impact of the turbines on dwellings would be reduced particularly when the mitigating effects of topography, other buildings and planting are taken into account

Noise

- 43. Paragraph 22 of PPS22 indicates that ETSU-R-97 should be used to assess and rate noise from wind energy developments. Notwithstanding ETSU-R-97 predates the development of larger turbines, the Government has reaffirmed that it is the standard to be applied in assessing the impact of wind farm development. ETSU-R-97 describes a framework for measuring wind farm noise and gives indicative levels calculated to offer a reasonable degree of protection for neighbours without placing an unreasonable restriction on wind farm development or adding unduly to the costs and administrative burdens on wind farm developers or lpas.
- 44. RES's noise assessment indicates that, whilst background noise levels would rise the proposed wind farm can be operated in accordance with the ETSU-R-97 guidance. The submissions made by Mr Williams, regarding the adverse effect of noise from the Wharrels Hill Wind Farm, reflects the concerns of residents of Tallentire and Gilcrux. However, noise does not appear to have been an issue raised at the Wharrels Hill Inquiry and although a noise condition was imposed, it does not reflect the type of planning conditions that are now normal for wind farm developments or the suite of conditions proposed in this case. These conditions are detailed and would provide a high degree of protection for residents.
- 45. Concern is also expressed about the potential adverse effects on health from living close to wind turbines as reflected by the submissions of Mr Williams and a paper produced by Dr A Harry. Amongst others, these concerns relate to sleep disturbance, irritability, headaches, nausea and heart related problems linked to Amplitude Modulation (AM), Low Frequency Noise and vibration.
- 46. In terms of vibration, a 1997 study undertaken by ETSU found that vibration levels 100m from the nearest turbine were a factor of 10 less than those recommended for human exposure. Moreover, a report produced by Keele University on the likely impact of ground-borne vibrations from turbines on the sensitive seismic array at Eskdalemuir concluded that the level of vibrations from wind turbines are so small that only the most sophisticated instrumentation can reveal their presence and they are almost impossible to detect. In 2006, a Hayes Mackenzie study for the DTI², which was peer reviewed, concluded that low frequency noise was not a significant factor in wind farm developments. The ETSU-R-97 limits do provide for some element of AM in turbine noise. In 2007, a Salford University study into AM identified only a very limited number of cases where AM was a factor in complaints regarding turbine developments. Based on these results, the Government's position is that there is no evidence of health effects arising from Low Frequency Noise and no compelling case to consider further work into AM.
- 47. The concerns raised by residents as reflected in the evidence of Mr Williams is genuine and I am very conscious of the accusation made that the approach adopted by the Government to the potential impact of wind turbines on residents parallels the approach adopted to the health effects of tobacco in the 1950's and 60's. However, there is no robust evidence before this Inquiry to suggest a departure from the approach adopted by the Government expressed in PPS22 and the Companion Guide.

² Department for Trade and Industry

48. Whilst noise levels in the area would rise they would be within the limits set by ETSU-R-97 and given the robust nature of the suite of noise conditions agreed with the lpa, I conclude that the noise from the turbines would not unacceptably affect the living conditions of residents in Tallentire and Gilcrux.

Shadow Flicker and Reflected Light

49. Although shadow flicker is a fairly rare occurrence, the evidence presented by Mr Williams, who lives just over 800m north of the Wharrels Hill Wind Farm, demonstrates the adverse impact it can have. Whilst there are some similarities in terms of orientation, separation and topography between the Wharrels Hill development and here, there is one key material difference. In the Wharrels Hill decision, issued in 2002³, there is no reference to shadow flicker as an issue and the permission does not contain a planning condition relating to shadow flicker. The incidence of shadow flicker can be calculated with reasonable certainty. Thus it is possible to programme the turbine controls to ensure that they can be taken out of operation at the appropriate time. In my experience, problems of reflected light can be acceptably mitigated by careful choice of blade colour and finish. Here, appropriate conditions have been suggested and on this basis, the living conditions of residents in Tallentire and Gilcrux could be acceptably protected.

Conclusions on Living Conditions

50. In light of the above, I conclude that the proposed development would not have an unacceptable impact on the living conditions of nearby residents and as such would not conflict with the objectives of Structure Plan Policy R44 and Local Plan Policy EN6.

Other Matters

Wildlife

- 51. The ES, SEI and the Habitat and Protected Species Update 2010 conclude that the development would not have an adverse impact on wildlife. I am particularly conscious that the Solway Firth is an important area for the overwintering of migratory species of national and international importance. However, there is no evidence to suggest that this development would have an unacceptable effect on bird life. Subject to the implementation of a habitat enhancement plan, The Royal Society for the Protection of Birds has no objection to the scheme.
- 52. Residents are particularly concerned about the impact of the proposal on bats roosting in Gilcrux and foraging in the vicinity of the proposed turbines. It is suggested that after foraging, the bats fly back in a straight line to the roost. This return route would intersect with the turbines resulting in harm or loss. In this case, all the expert evidence I have before me indicates that there are no significant concentrations of bats in the area of the turbines. Moreover, those bats that have been identified are largely common species and are listed by Natural England as being at low risk from wind energy developments. Most bat species in the UK prefer to fly close to habitat features for protection and are unlikely to come into contact with turbine blades during their normal movements as they do not migrate at high altitude and rarely fly at heights that intersect with the turbine blades. Natural England has not objected to the

³ APP/G0908/A/01/1075972

proposal. Accordingly, on this basis there is no reason to refuse permission because of an adverse impact on wildlife.

Tourism

53. Several residents, local business people and their MP, Mr Tony Cunningham, spoke eloquently and passionately about the value of tourism to the Cumbrian economy and the adverse impact of the existing and proposed wind farms on existing tourist destinations and the tourism potential of the area. Both RES and objectors drew attention to various tourism and business surveys. However, taken together, the results of these studies appear inconclusive and generally reflect the wide variety of opinions relating to wind turbines. These range from a highly positive view through to a highly negative view. However, what is striking is the very small number of people who said they would not return to an area because of wind farm developments. Moreover, other research indicates that in areas where turbines have been developed over a longer period tourist numbers continue to rise.

Property Values

54. Several residents and business owners attribute the failure to sell their properties to the proposal. It is not for the planning system to protect the private interests of one person against the activities of another. Therefore, it is not whether a development would cause financial loss to neighbouring owners, but whether it would have detrimental effects on the locality generally and on amenities that ought to be protected in the public interest. In this context, concerns relating to the impact on the value of an individuals property are a private matter and not one of public policy and as such it is not generally a material consideration. However, to date, there has been no objective evidence to suggest that property values drop simply because of the presence of wind turbines. Whilst the concerns are understandable, in this case, I am not in a position to decide whether there is a wider public interest that should be protected.

Public Safety

55. It was suggested that that Turbines 1 and 4 would be too close to the road linking Bridekirk to Gilcrux. This is a narrow road and it appears its use is generally limited to agricultural traffic and local residents. Although close to the road, the blades would not oversail it. Moreover, turbines of the scale proposed are not an unusual feature in the landscape and they are slow to start up. As such road users would not be surprised by their presence or activity. Whilst it is not unknown for a turbine to collapse or shed a blade or piece of a blade this event is very rare and there are no recorded examples of any injuries. In this context and given the relatively low level of usage of the road, the risk to passers-by would be very small.

Geology and Drainage

56. My attention was drawn to the presence of a series of springs in and around Gilcrux which up until the early 1950s were still used to draw drinking water. The springs are fed by a variety of geological faults in the wider area including the appeal site. Previous experience indicates that pollution of the springs is almost impossible to find because of the myriad of faults and the inability to track underground watercourses. Particular concern was raised about the

- potential for pollution incidents adversely affecting the commercial fishing ponds on the edge of Gilcrux.
- 57. It is clear from the submissions that the Environment Agency (EA) is aware of the springs, the geology of the area and the potential difficulties in tracing polluters. Notwithstanding theses matters the EA has not objected to the proposal. Moreover, it the responsibility of the developer to ensure that the construction and operation of the development does not interfere with watercourses and landowners' legal rights to receive water of undiminished quality. Whilst I do not seek to underplay the concerns of residents, I consider that any harm could be acceptably mitigated by the use of planning conditions. The suggested conditions include the preparation of a comprehensive Construction Method Statement. This would include the submission of details for approval relating to pollution control covering watercourses and ground water, subsoil, the storage of fuel and the disposal of sewage.

Heritage Assets

58. This concern relates to the impact on St Mary's Church of Gilcrux; a Grade 2 Listed Building. It is suggested that the turbines, the nearest being some 800m, would dominate the church adversely affecting its character and setting. The church is raised above the adjoining road and the front door faces towards the appeal site (Viewpoint 3). Views from the church yard would largely be screened, even in winter, by tree planting and the topography of the intervening ground. It appeared to me that only one of the turbines would be visible from most viewpoints at the front of the church. However, given the degree of separation it would not dominate the setting of the church or affect its significance as a Listed Building and Heritage Asset.

Localism

59. Reference was made to the Government's intended reforms in the Localism Bill to enable planning decisions to be made at the local level and that significant weight should be given to local views. How the localism agenda, particularly in relation to renewable energy schemes that also have a national and international dimension, is intended to operate is unclear and is a matter for Parliament to debate and determine in the coming months. However, in coming to my conclusions on the various issues that have been raised, I have taken full account of all the representations that have been made in person and in writing, which I have balanced against the provisions of the development plan and national planning polices on the environment, climate change and renewable energy.

European Convention on Human Rights

60. There are direct and oblique representations suggesting that to allow this appeal would violate residents' Human Rights. Article 1 relates to the peaceful enjoyment of property, Article 2 relates to the right to life and Article 8 relates to the right to respect for private and family life. It is accepted that the development would have a significant local impact in terms of the effect on the landscape, that there would be some visual impact and there would be an increase in background noise levels. However, these rights have to be balanced against the right and freedoms of others and the national interest in terms of providing for renewable energy. Accordingly, I consider that with the imposition of the suggested conditions, the effect on residents and the landscape would not be unacceptable or disproportionate.

Overall Conclusions and Planning Balance.

- 61. Whilst the outlook for residents in the area would change, the degree of separation and the layout of the site are such that the proposed turbines would not appear unacceptably dominant or overbearing. In terms of noise, the development would comply with the guidance set in ETSU-R-97 and compliance with its requirements could be effectively monitored and controlled by planning conditions. Similarly, concerns relating to shadow flicker and glinting could be acceptably mitigated by appropriate planning conditions. Accordingly I conclude that the proposal would not have an unacceptable impact on neighbours' living conditions and would not conflict with the objectives of Structure Plan Policy R44 and Local Plan Policy EN6.
- 62. Whilst there would be some limited harm to views out from the AONB and LDNP, the development would not prejudice the overall objectives of either area. I consider the submissions relating to an adverse impact on tourism to be unproven and as such attach limited weight to them. Within the vicinity of the proposed development there would be adverse landscape impacts, the severity and significance of which would decrease over distance. Similar adverse impacts would be felt on public rights of way in the vicinity of the appeal site. Again the degree of severity and significance would decrease over distance. In terms of the scale of the proposed development, it would conflict with the SPD guidance that the capacity of the area is limited to a small group of turbines i.e. up to 5. Thus, the proposal would result in harm to the character and appearance of the area in the immediate locality and conflict with the objectives of RSS Policies EM1, 1(A) and 1(C), Structure Plan Policy E37 and Local Plan Policies EN19 and 20. However, that harm and policy conflict is clearly outweighed by and the clear pressing national and regional need for developments of this type to contribute to national targets for the production of energy from renewable sources and the benefits of the proposal. Moreover, my conclusion that the appeal site lies within the blander part of landscape Type 12b and the pressing need for such schemes provides the exceptional circumstances necessary to justify a larger group of turbines in this area. Accordingly the proposal would not conflict with the overall thrust of national policy on energy and the guidance in PPS22, Local Plan Policy EN25, Structure Plan Policies R44 and E35 and RSS Policies EM 15 and EM 17.
- 63. I have had regard to all other matters raised, including the reference to a 2006 decision, which dismissed an appeal for 2 temporary anemometer masts at this site⁴. In that case, whilst the Inspector found harm to the character and appearance of the area it appears to me his main concern was a lack of justification in the erection of the masts for 36 months. Thus, whilst I also have found that the proposed 6 wind turbines would result in some harm to the landscape of the immediate area, that harm is clearly outweighed by the benefits/need for the proposal.

Conditions

64. RES submitted a list of suggested planning conditions that had been discussed and agreed with the lpa. The conditions and their wording, including the revision of conditions relating to the Construction Method Statement (5), the Construction Traffic Management Plan (6), the alleviation of electro-magnetic interference (14) and the addition of a condition regarding the submission of details of finishing materials for the substation building (11) were agreed

⁴ APP/G0908/A/06/2021214

- during discussion and are included with, where necessary, minor amendments made in the interests of precision and enforceability.
- 65. Conditions are necessary to allow sufficient lead-in time for implementation and to provide for decommissioning and restoration of the site at the end of the 25 year lifespan (1, 2, 3 & 4). Conditions relating to a detailed Construction Traffic Management Plan (6), a Construction Method Statement (5), hours of operation (8) are necessary to minimise the impact of the development during the construction period. Additional conditions are necessary to minimise landscape and visual impact (9, 10 & 11); to minimise the ecological impact and to safeguard wildlife (12), hydrology (5 & 7), archaeology (13), aircraft safety (16 & 17), highway safety (6) and the living conditions of residents (8, 14, 15, 18, 19, 20, 21, 22, 23 & 24). To accord with national guidance on flexibility for planning permissions a condition is attached requiring the development to be carried out in accordance with the approved plans (25). The reason for this condition is that otherwise than as set out in this decision and conditions, it is necessary that the development shall be carried out in accordance with the approved plans, for the avoidance of doubt and in the interests of proper planning.

George Baird

Inspector

ANNEX A

SCHEDULE OF CONDITIONS

- 1. The development hereby permitted shall be commenced within 5 years of the date of this permission.
- 2. The planning permission is for a period not exceeding 25 years from the date that the development is first connected to electricity grid. The dates of (a) first connection to the grid and (b) of the full operation of all the turbines shall be notified in writing to the local planning authority within 28 days of each of these 2 events occurring.
- 3. If any wind turbine hereby permitted fails to produce electricity for supply to the electricity grid for a continuous period of 12 months the wind turbine and its associated ancillary equipment shall be removed from the site and to a depth of at least 1m below ground and the land shall be reinstated within a period of 6 months from the end of that 12 month period in accordance with a scheme submitted to and approved in writing by the local planning authority prior to the commencement of development. The scheme shall include details of the management and timing of the works and a Traffic Management Plan and shall be implemented as approved. The developer shall provide operational data for individual turbines to the local planning authority on reasonable request.
- 4. At the end of the 25 year period, the turbines shall be decommissioned and all related above ground structures shall be removed from the site. Twelve months before the decommissioning of the turbines, a scheme for the restoration of the site shall be submitted to the local planning authority for approval in writing. The scheme shall make provision for the removal of the wind turbines and their associated ancillary equipment to a depth of at least 1m below ground. The scheme shall include details of the management and timing of the works and a Traffic Management Plan. All decommissioning and restoration works shall be carried out in accordance with the approved scheme.
- 5. Development shall not be begun until a Construction Method Statement including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling has been submitted to and approved by the local planning authority and shall include measures to secure:
 - formation of the construction compound and access tracks and any areas of hardstanding;
 - dust management;
 - cleaning of site entrances and the adjacent public highway;
 - pollution control relating to water courses and ground water, subsoil, bunding of fuel storage areas and sewage;
 - temporary site illumination;
 - disposal of surplus materials;
 - the construction of the crane pads;
 - the carrying out of foundation works;
 - method of working cable trenches;

- the erection of the meteorological mast;
- the sheeting of all HGVs taking spoil to/from the site to prevent spillage or deposit of any materials on the highway;
- soil storage and handling;
- post-construction restoration/reinstatement of the working areas.

The Construction Method Statement shall be carried out as approved.

- 6. Development shall not be begun until a Construction Traffic Management Plan (CTMP) has been submitted to and approved in writing by the local planning authority. The CTMP shall include details of:
 - the construction of the site access and the creation, positioning and maintenance of associated visibility splays;
 - access gates will be hung to open away from the public highway no less than 10m from the carriageway edge and shall incorporate appropriate visibility displays;
 - proposed accommodation works and where necessary a programme for their subsequent removal and the reinstatement of street furniture and verges, where required, along the route;
 - the pre-construction road condition established by a detailed survey for accommodation works within the highways boundary conducted with a Highway Authority representative;
 - details of road improvement, construction specification, strengthening, maintenance and repair commitments if necessary as a consequence of the development;
 - details of proposed crossings of the highway verge;
 - retained areas for vehicle parking, manoeuvring, loading and unloading for their specific purpose during the development;
 - the surfacing of the access roads from the public highway into the site shall extend for a minimum of 25m;
 - construction vehicle routing;
 - the dimensions of turbines and associated components;
 - the management of junctions to and crossings of the public highway and other public rights of way/footway;
 - the scheduling and timing of movements, details of escorts for abnormal loads, temporary warning signs and banksman/escort details.

Development shall be carried out in accordance with the approved CTMP.

- 7. The wind turbines and anemometry mast and their associated infrastructure shall be situated within 30m of the positions shown in Figure 4.2 of the Supplementary Environmental Information Volume 3. Any turbine movements between 31-50m will be subject to the written approval of the local planning authority. No turbine, anemometry mast or associated infrastructure will be micro-sited in any environmentally sensitive area and turbines will not be micro-sited closer than the current closest stand off distance from residential properties, as defined in Figure 3.2 of the Environmental Statement in Volume 3.
- 8. The hours of operation of the construction phase of the development and any traffic movements to or from the site associated with the construction of the development hereby permitted shall be limited to 0700 hours to 1900

hours Monday to Friday, and 0700 hours to 1300 hours on Saturday and no work shall take place on Sundays or Bank Holidays. Outwith these hours, development at the site shall not be audible from the boundary of any noise-sensitive property and be limited to turbine erection, commissioning, maintenance, emergency works (provided that the developer retrospectively notifies the local planning authority of the emergency works within 24 hours), dust suppression and the testing of plant and equipment.

- 9. All cabling on the site between the wind turbines and the site sub-station shall be installed underground.
- 10. Prior to commencement of development, details of the wind turbine external finish and colour shall be submitted to and approved in writing by the local planning authority. Only wind turbines with the approved finish and colour shall be installed upon the development site.
- 11. Construction of the substation building shall not commence until details of the external appearance, dimensions, layout and materials of that building and any associated compound or parking area, and details of surface and foul water drainage from the substation building and any associated compound or parking area have been submitted to and approved in writing by the local planning authority. The development shall be constructed in accordance with the approved details.
- 12. No development shall commence until detailed schemes of ecological mitigation and enhancement measures including a timetable for breeding bird and bat surveys for 3 years post construction as outlined in the Environmental Statement, Table 6.5 is submitted to and approved in writing by the local planning authority. Development shall be carried out in accordance with the approved schemes.
- 13. No development shall take place until a written scheme of archaeological investigation has been submitted by the applicant and approved in writing by the local planning authority. The scheme shall include timetabled provision for a nominated archaeologist to be given access to undertake a watching brief during the excavation of access tracks, hedgerow openings, turbine foundations and other operational areas of the development site during the construction phase. The scheme shall include provision for remains to be recorded, removed or left in situ and shall be implemented as approved.
- 14. No development shall begin until a baseline domestic television and radio reception study in the area has been undertaken by a qualified television and domestic radio engineer and submitted to the local planning authority. A mitigation scheme setting out the details of works necessary to mitigate any adverse effects to domestic television and radio signals in the area caused by the development shall also be submitted to and approved in writing by the local planning authority before development begins. The mitigation scheme shall include provision for investigating and dealing with any claim by any person for domestic loss or interference at their household within 24 months of the final commissioning of the wind farm, and any mitigation works must be carried out in accordance with the approved mitigation scheme.

- 15. Prior to the commissioning of the development hereby approved, a scheme to alleviate the incidence of shadow flicker at any affected property shall be submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved scheme.
- 16. No turbine shall be erected until a Primary Radar Mitigation Scheme (PRMS) which sets out the measures to be taken to mitigate at all times the impact of the development on the Lowther Hill primary radar and air traffic management operations of NATS (En Route) plc or such other organisation licensed from time to time under sections 5 and 6 of the Transport Act 2000 to provide air traffic services to the relevant managed area (within the meaning of Section 40 of that Act). The PRMS shall reflect the requirements of the submitted Statement of Common Understanding dated 29 September 2010 which sets out the high level requirements of the Primary Radar Mitigation Scheme and the principles which will govern the development and agreement of such a scheme.
- 17. No turbine shall be erected until the approved Primary Radar Mitigation Scheme has been fully implemented and the development shall thereafter be operated fully in accordance with the approved Primary Radar Mitigation Scheme.
- 18. The level of noise immissions at dwellings which lawfully exist or have planning permission for construction at the date of this permission, from the combined effects of the wind turbines (including the application of any penalties in accordance with the attached Guidance Notes) when calculated in accordance with the attached Guidance Notes, shall not exceed the values set out in the attached Table 1 or Table 2 (as appropriate). The coordinate locations to be used in determining the location of each of the dwellings listed in Tables 1 and 2 shall be those listed in Table 3.

Table 1: The L_{A90,10min} dB Wind Farm Noise Level Between 23:00 and 07:00 hours

Bronorty	Standardised Wind Speed at 10 m Height, ms ⁻¹											
Property	1	2	3	4	5	6	7	8	9	10	11	12
High Flatt Farm	40.	40.	40.	40.	40.	40.	40.	42.	46.	48.	48.	48.
	0	0	0	0	0	0	5	6	1	2	7	7
Grange Grassings	40.	40.	40.	40.	40.	40.	40.	42.	46.	48.	48.	48.
	0	0	0	0	0	0	5	6	1	2	7	7
North Lodge	40.	40.	40.	40.	40.	40.	40.	41.	44.	48.	51.	51.
	0	0	0	0	0	0	0	0	4	7	5	8
Tallentire Hill Farm	45.	45.	45.	45.	45.	45.	45.	46.	50.	54.	56.	57.
	0	0	0	0	0	0	0	5	5	1	6	1
All other properties	40.	40.	40.	40.	40.	40.	40.	40.	42.	45.	47.	49.
	0	0	0	0	0	0	0	0	2	0	6	8

Table 2: L_{A90,10min} dB Wind Farm Noise Level at all other times

Droporty	Standardised Wind Speed at 10 m Height, ms ⁻¹											
Property	1	2	3	4	5	6	7	8	9	10	11	12
High Flatt Farm	37.	37.	37.	37.	37.	38.	41.	44.	46.	47.	47.	47.
	5	5	5	5	5	6	1	1	5	8	8	8
Grange Grassings	37.	37.	37.	37.	37.	38.	41.	44.	46.	47.	47.	47.
	5	5	5	5	5	6	1	1	5	8	8	8
North Lodge	37.	37.	37.	37.	38.	39.	41.	44.	46.	49.	51.	51.
	5	5	5	5	2	6	6	0	7	4	1	4
Tallentire Hill Farm	45.	45.	45.	45.	45.	45.	46.	48.	50.	53.	55.	56.
	0	0	0	0	0	0	0	0	7	4	7	2
All other properties	37.	37.	37.	37.	37.	37.	37.	39.	42.	45.	47.	49.
	5	5	5	5	5	5	5	2	2	0	6	8

Table 3: Coordinate locations of the properties listed in Tables 1 & 2

Property	Easting	Northing
High Flatt Farm	312514	537847
Grange Grassings	313130	536942
North Lodge	310955	535657
Tallentire Hill Farm	312184	536340

Note to Table 3: The geographical co-ordinates references are provided for the purpose of identifying the general location of dwellings to which a given set of noise limits applies

- 19. Where any or all of the installed turbines require to be operationally managed in order to meet the daytime noise limits at any given wind speed or wind direction, these same noise constrained modes shall be retained for the operation of the turbines under these same wind speed and wind direction conditions at all times unless otherwise required for reasons of maintenance, safety or grid requirements.
- 20. Within 14 days from the receipt of a written request from the local planning authority and following a complaint to the local planning authority from the occupant of a dwelling which lawfully exists or has planning permission at the date of this consent, the wind farm operator shall, at the wind farm operator's expense, employ an independent 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 attached Guidance Notes.
- 21. The wind farm operator shall provide to the local planning authority the independent consultant's assessment and conclusions regarding the said noise complaint, including all calculations, audio recordings and the raw data upon which those assessments and conclusions are based. Such information

shall be provided within 2 months of the date of the written request of the local planning authority, as per Condition 20, unless otherwise extended in writing by the local planning authority.

- 22. Wind speed, wind direction and power generation data shall be continuously logged and provided to the local planning authority at its request and in accordance with the attached Guidance Notes within 28 days of such request. Such data shall be retained for a period of not less than 12 months.
- 23. In the event that the results of the above measurements indicate that the specified noise limits have been exceeded at any dwelling then, within 21 days of notification in writing of this by the local planning authority, the operator shall submit in writing to the local planning authority:
 - a scheme of noise control measures to achieve compliance with noise levels in condition 18 above;
 - a timetable for implementation of the noise control measures;
 - a programme of monitoring to demonstrate the efficiency of the noise control measures.

The noise control measures will be implemented and the monitoring undertaken in accordance with the scheme and timetable agreed in writing by the local planning authority.

- 24. No development shall commence until there has been submitted to the Local Planning Authority details of a nominated representative for the development to act as a point of contact for local residents (in connection with conditions 18 to 23) together with the arrangements for notifying and approving any subsequent change in the nominated representative. The nominated representative shall have responsibility for liaison with the local planning authority in connection with any noise complaints made during the construction, operation and decommissioning of the wind farm.
- 25. The development hereby permitted shall be carried out in accordance with Drawing Nos. 01077 D2501-06 Site Boundary; 01077 D2108-01 Turbine Layout; 01077 D1001-11 Infrastructure Layout; 01077 D2306-05 Control Building & Substation Compound; 01077 D2307-04 Control Building & Substation Elevations; 01077 D2301-06 Wind Turbine Elevations; 01077 D2308-03 Construction Compound Layout; 01077 D2314-02 Gas Pipeline Protection Slab: 01077 D2405-08 Proposed Route A595 to Site: 01077 D2406-05 Proposed Route C-G; 01077 D2402-06 Site Entrance; 01077 D2408-07 Site Entrance Reinstatement Plan; 01077 D2409-08 Road Crossing Design.

SCHEDULE OF NOISE GUIDANCE NOTES

These notes form part of conditions 18 to 23 above. They further explain these conditions and specify the methods to be deployed in the assessment of complaints about noise immissions from the wind farm. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farm" (1997) published by the Energy Technology Support unit (ETSU) for the Department of Trade and Industry (DTI).

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 EN 60651/BS EN 60804 Type 1, or EN 61672 Class 1 quality (or the replacement thereof) set to measure using a fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This shall be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the replacement thereof). These measurements shall be made in such a way that the requirements of Note 3 shall also be satisfied.
- b) The microphone should be mounted at 1.2-1.5m above ground level, fitted with a two layer windshield (or suitable alternative approved in writing from the Local Planning Authority), and placed outside the complainant's dwelling. Measurements should be made in "free-field" conditions. To achieve this, the microphone should be placed at least 3.5m away from the building facade or any reflecting surface except the ground at a location that shall be agreed with the Local Planning Authority.
- c) The L_{A90,10min} measurements shall be synchronised with measurements of the 10-minute arithmetic mean average wind speed and with operational data, including power generation information for each wind turbine, from the turbine control systems of the wind farm.
- d) The wind farm operator shall continuously log arithmetic mean wind speed and arithmetic mean wind direction data in 10 minute periods from the hub height anemometer located on the site meteorological mast unless otherwise agreed with the Local Planning Authority, to enable compliance with the conditions to be evaluated. The mean wind speed data shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10m height wind speed data which is correlated with the noise measurements of Note 2(a) in the manner described in Note 2(c).

Note 2

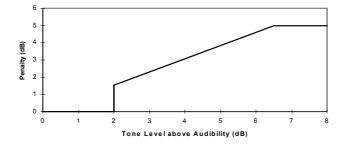
- (a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b). Such measurements shall provide valid data points for the range of wind speeds, wind directions, times of day and power generation requested by the Local Planning Authority. In specifying such conditions the local planning authority shall have regard to those conditions which were most likely to have prevailed during times when the complainant alleges there was disturbance due to noise. At its request the wind farm operator shall provide within 28 days of the completion of the measurements all of the data collected under condition 20 to the local planning authority.
- (b) Valid data points are those that remain after all periods during rainfall have been excluded. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10minute period concurrent with the measurement periods set out in Note 1(c) and is situated in the vicinity of the sound level meter.

(c) A least squares, "best fit" curve of a maximum 2^{nd} order polynomial or otherwise as may be agreed with the local planning authority shall be fitted between the standardised mean wind speed (as defined in Note 1 paragraph (d)) plotted against the measured $L_{A90,10min}$ noise levels. The noise level at each integer speed shall be derived from this best-fit curve.

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 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. 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, as described in Section 2.1 on pages 104-109 of ETSU-R-97, 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} (Delta L_{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 for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be substituted.
- d) A linear regression shall 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 shall be derived from the margin above audibility of the tone according to the figure below.



Note 4

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 with any derived penalties resulting from the application of Notes 3.

If the wind farm noise level (including the application of any penalties derived in accordance with these Guidance Notes) is above the limit set out

in the 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 1 & 2 with the wind farm switched off in order to determine the background noise, L_3 , at the assessed wind speed. The wind farm noise at this wind speed, L_1 , is then calculated as follows, where L_2 is the measured wind farm noise level at the assessed wind speed with turbines running but without the addition of any penalty:

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

The level is re-calculated by adding the penalties (if any) to the wind farm noise.

ANNEX B

PUTATIVE REASONS FOR REFUSAL

- 1. The local planning authority considers the proposed development, both individually and cumulatively, has a harmful effect on the landscape of the area to the detriment of the visual amenity of the area, contrary to Policies R44 and E37 of the adopted Cumbria and Lake District Joint Structure Plan (Saved) and Policies EN19 and EN25 of the Allerdale Local Plan Adopted 1999 (Saved).
- 2. In the absence of evidence to provide the contrary, the local planning authority cannot be satisfied that the proposal, both individually and cumulatively with other wind farms, would not have a harmful impact on the visual amenity of the locality, with particular adverse significant and detrimental visual effect on the residential occupiers in the settlements of Tallentire and Gilcrux, contrary to Policy R44 of the Cumbria and Lake District Joint Structure Plan 2001-2016 (Saved).
- 3. In the absence of evidence to provide the contrary, the local planning authority considers that insufficient evidence has been submitted to demonstrate that the proposed development safeguards and secures radar coverage for the radar station at Lowther Hill to the detriment of air safety.
- 4. The local planning authority considers that insufficient evidence has been submitted to demonstrate that any noise disturbance from the proposed turbines would not adversely affect the residential amenity of properties in the locality contrary to Policies EN5 and EN6 of the Allerdale Local Plan Adopted 1999 (Saved).

ANNEX C

APPEARANCES

FOR THE APPELLANT

Mr P Robinson of Burges Salmon instructed by Daniel Leahy of Renewable Energy Systems Limited.

He called:

Mr. C Goodrum BSc (Hons); DipLA; CMLI. Partner LDA Design.

Mr D I Stewart MA (Cantab); DipTP; MRTPI. David Stewart Associates.

FOR THE COUNCIL

Mr B Smith LLP, LARTPI instructed by S Owen, Legal Department, Allerdale Borough Council.

He called:

Mr P Macrae MA (Hons), CMLI. Senior Landscape Planner, Land Use Consultants.

Mr B Taylor Dip TP, MRTPI. Director, Taylor & Hardy Limited.

FOR BROADVIEW ENERGY DEVELOPMENTS LIMITED

Ms M Smith of Cobbetts LLP.

FOR TALLENTIRE AREA ACTION GROUP

Mr C Baker

Mr I McCambridge

INTERESTED PERSONS

Dr. M J Hall (Friends of Eden, Lakeland and Lunesdale Scenery)

Mr R Seavers

Mr D Smartgill

Mrs P Poulton

Mr E Martin

Mr R Coy

Mr D M Brierley
Mr S Dunbill
Mr R Stenson
Mr G Pyke
Mr D Dunlop
Mr S Kellett
Mr R Williams
Mrs J Hill
Mr D Coupe
Mrs C Brentnall
Mr A Dwyer
Mr Palmer
Mr T Cunningham MP.

DOCUMENTS SUBMITTED AT THE INQUIRY

Doc 1 Doc 2	Copy of Letter dated 22 September 2010 Cumbria County Council. Copy of email from English Nature dated 13 September 2010.
Doc 3	Figure 14 Lake District National Park LDF Core Strategy Preferred Options May 2008.
Doc 4	Wind Turbines, Noise and Health February 2007, Dr A Harry.
Doc 5	RES Proposed Wind Turbine – Size Comparison.
Doc 6	Landscape photograph from location of Turbine 1.
Doc 7	Extract from the evidence of Mrs Dodswell to the Grise Inquiry.
Doc 8	Letter dated 25 November 2010 from Mr J Furness.
Doc 9	Submissions by Mr T Cunningham MP.
Doc 10	Agreed dwelling numbers within 774m.
Doc 11	Written submissions of Mr J E Tudor.
Doc 12	Presentation with DVD by Mr R Williams.
Doc 13	Series of landscape photographs submitted by Mr Dwyer.
Doc 14	Written submissions by Mrs E Bowness.
Doc 15	List of Suggested Conditions.

APPLICATION PLANS

Plan A	01077 D2501-06	Site Boundary
Plan B	01077 D2108-01	Turbine Layout
Plan C	01077 D1001-11	Infrastructure Layout
Plan D	01077 D2306-05	Control Building & Substation Compound
Plan E	01077 D2307-04	Control Building & Substation Elevations
Plan F	01077 D2301-06	Wind Turbine Elevations
Plan G	01077 D2308-03	Construction Compound Layout
Plan H	01077 D2314-02	Gas Pipeline Protection Slab
Plan I	01077 D2405-08	Proposed Route A595 to Site
Plan J	01077 D2406-05	Proposed Route C-G
Plan K	01077 D2402-06	Site Entrance
Plan L	01077 D2408-07	Site Entrance Reinstatement Plan
Plan M	01077 D2409-08	Road Crossing Design

CORE DOCUMENTS

COIN	E BOCOMENTO
CD1 CD2	Tallentire Planning Application dated February 2008 Tallentire Environmental Statement dated February 2008: Volume 1: Non-Technical Summary Volume 2: Written Statement Volume 3: Figures
CD3	5
CD4	Tallentire Design and Access Statement February 2008
CD5	Tallentire Supplementary Environmental Information February 2010 Volume 1: Non-Technical Summary Volume 2: Written Statement Volume 3: Figures
CD6	5
CD7	Tallentire Planning Appeal form dated June 2010
CD8	Tallentire Grounds of Appeal dated June 2010
CD9	Westnewton Planning Application and supporting documents

CD10 Westnewton Environmental Statement

- CD11 Westnewton Officer Report to Committee
- CD12 Lindsay Cowle, Conservation Consultant: "Westnewton Conservation Area, Allerdale Planning Application for proposed wind turbines at Warwick Hall Farm", May 2010
- CD13 Westnewton Supplementary Environmental Information Nov 2009

Environmental Impact Assessment

EIA1 DCLG "Environmental Impact Assessment: A guide to good practice and procedures – a consultation paper" (2006)

Local and Regional Policy Documents

- LRD1 Allerdale Local Plan, adopted 1999 (saved)
- LRD2 Cumbria and Lake District Joint Structure Plan 2001-2016 (saved)
- LRD3 Cumbria Climate Change Strategy, 2008-2012
- LRD4 Cumbria Wind Energy Supplementary Planning Document Cumbria County Council July 2007

National Guidance and Legislation

- NG1 The Energy Challenge: Energy Review Report 2006
- NG2 UK Energy White Paper, May 2007
- NG3 PPS1: Delivering Sustainable Development, 2005
- NG4 PPS1 Supplement: Planning and Climate Change 2007
- NG5 Renewable Energy Strategy 2009
- NG6 PPS7: Sustainable Development in Rural Areas, 2004
- NG7 PPS22: Renewable Energy, 2004
- NG8 PPS 22: A Companion Guide 2004
- NG9 PPG24: Planning and Noise
- NG10 PPS9: Biodiversity and Geological Conservation, 2005
- NG11 PPS5: Planning for the Historic Environment
- NG12 Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999
- NG13 OXERA Environmental & ARUP, "Report to the DTI and the DTLR Regional Renewable Energy Assessments", February 2002
- NG14 The Coalition: Our programme for government, 2010
- NG15 UK Renewable Energy Action Plan 2009
- NG16 Statement to the House of commons by The Secretary of State for Energy and Climate Change (Chris Huhne) 18th October 2010
- NG17 The Government Response to the Consultation on the Draft National Policy Statements for Energy Infrastructure, October 2010

Appeal Decisions

- A1 Shooter's Bottom APP/Q3305/A/05/1181087
- A2 Den Brook APP/Q1153/A/06/2017162 (both decisions)
- A3 Middlemoor ELEC/2005/2004 GDBC/001/602456
- A4 Wadlow Farm APP/W0530/A/07/2059471
- A5 Carsington Pastures (high court decision) [2009] EWHC 1729 Admin
- A6 Hempnall APP/L2630/A/08/2084443
- A7 Nutsgrove / Wryde Croft APP/J0540/A/08/2083801 & 2090541
- A8 Roos APP/E2001/A/09/2113076

- A9 Kiln Pit Hill APP/R2928/A/08/2075105
- A10 Bradwell APP/X1545/A/06/2023805 (both decisions)
- A11 Sixpenny Wood APP/E2001/A/09/2101851
- A12 Yelvertoft APP/Y2810/A/10/2120332
- A13 Wharrels Hill APP/G0908/A/01/1075972
- A14 High Pow APP/G0908/A/05/1172183
- A15 Voridian APP/G0908/A/04/1142301
- A16 Hellrigg APP/G0908/A/08/2073524
- A17 Flimby APP/G0908/A/09/2118993/NWF
- A18 Hilltop APP/G0908/A/99/1030901
- A19 North Dover APP/X2220/A/08/2071880
- A20 Earls Hall APP/P1560/A/08/2088548/NWF
- A21 Brightenber APP/C2708/A/09/2107843
- A22 Old Hutton/Armistead APP/M0933/A/08/2090274
- A23 Palmers Hollow/Bottesford APP/Y2430/A/09/2108595
- A24 The Grange APP/A2525/A/10/2125075
- A25 Withernwick APP/E2001/A/05/2088796
- A26 Hockley Farm, Bradwell APP/X1545/A/06/2023805/NWF
- A27 Sober Hill APP/E2001/A/09/2101421
- A28 Poplar Lane APP/L3245/A/08/2088742
- A29 Fullabrook GDBC/003/0024C
- A30 Stroupster wind Farm PPA-270-2015
- A31 Ellands Farm, Hemington APP/G2815/A/06/2019989
- A32 Drigg T/APP/Z0923/A/97/280457/P4
- A33 Moorsyde APP/P2935/A/08/2079520
- A34 Berrier Hill APP/H0928/A/09/2093290
- A35 Gorsedd Bran APP/R6830/A/08/2074921
- A36 Hoff APP/H0928/A/07/2053230
- A37 Sillfield APP/M0933/A/09/2099304
- A38 Grise APP/H0928/A/09/2093576
- A39 Newlands Farm, Cumwhinton APP/E0915/A/09/2101659
- A40 Carland Cross APP/D0840/A/09/2103026
- A41 Low Spinney Farm APP/F2415/A/09/2109745
- A42 Carsington (APP/P1045/A/07/2054080)
- A43 Not used (repeated elsewhere)
- A44 Swinford (APP/F2415/A/09/2096369)
- A45 Coronation Power Crook Hill (APP/P4225/A/08/2065277)
- A46 French Farm (APP/J0540/A/09/2116682)
- A47 Crimp (APP/CO820/A/07/2047583)
- A48 Pauls Moor (APP/X1118/A/08/2083682)
- A49 Caton Moor (APP/A2335/A/04/1145502)
- A50 Knabs Ridge (APP/E2/34/A/04/1161332)
- A51 Not used (repeat of A21)
- A52 Beech Tree, Goveton (APP/K1128/A/08/2072150)
- A53 Benington (APP/J1915/A/09/2104406)
- A54 Guestwick (APP/K2610/A/05/1180685)
- A55 Yelland (APP/Q1153/A/05/1187563)
- A56 Penpell Farm (APP/Q0830/A/05/1189328)
- A57 Princes Soft Drinks, Bradford Decision APP/W4705/A/09/211465
- A58 Rossie Wind Farm, Auchtermuchty P/PPA/250/675
- A59 Shipdham APP/F2605/A/08/2089810
- A60 Flixborough Grange APP/Y2003/A/09/2105130
- A61 Steadings Decision Letter and Inspectors Report

- A62 Thackson's Well Newark APP/E2530/A/08/2073384
- A63 Matlock Moor APP/R1038/A/09/2107667
- A64 Mynydd James APP/X6910/A/09/2107007
- A65 Willow Bank Farm APP/C3105/A/09/2116152

Climate Change Documents

- CCD1 European Commission, Directive on the Promotion of Electricity from Renewable Energy Sources in the Internal Electricity Market (2001/77/EC)
- CCD2 Defra, Climate Change, The UK Programme 2006
- CCD3 The IPCC Fourth Assessment Report Climate Change 2007: Synthesis Report published on 17 November 2007
- CCD4 Directive 2009/28/EC of the European Parliament and Council of 23 April 2009 on the Promotion of the Use of Energy from Renewable Sources
- CCD5 Stern Review: Economic Impacts of Climate Change 2006 (executive summary only)
- CCD6 Making space for renewable energy, Natural England, Nov 2009
- CCD7 Natural England"s Sustainable Energy Policy (June 2008)
- CCD8 Natural England"s Wind Energy Policy (March 2009)
- CCD9 Natural England (2010) Making space for renewable energy: assessing onshore wind energy development.
- CCD10Not used (repeated elsewhere)
- CCD11DECC: The UK Low Carbon Transition Plan, (LCTP) White Paper in (July 2009).
- CCD12Repeat of CCD4
- CCD13Natural England: Climate Change Policy (2008)
- CCD14DECC: Draft Overarching National Policy Statement for Energy (EN-1) 2009 & 2010 versions
- CCD15DECC: Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) 2009 & 2010 version
- CCD16DECC: Annual Energy Statement (July 2010)
- CCD17Department for Communities and Local Government letter to Chief Planning Officers 6 July 2010, Revocation of Regional Strategies and Guidance Note to Inspectors on the Revocation of Regional Strategies
- CCD18The North West of England Plan, Regional Spatial Strategy to 2021', Government Office for the North West (September, 2008) (Extracts)
- CCD19Rising to the Challenge, A Climate Change Action Plan for England's Northwest 2007-09, Northwest Climate Change Partnership
- CCD20The North West Sustainable Energy Strategy, North West Regional Assembly (2005)
- CCD21Energy in England's Northwest Achieving Sustainable Growth Northwest Regional Development Agency, (July, 2003)
- CCD22The Energy and Greenhouse Gas Emissions Study, NWDA (2007) (Extracts)
- CCD23North West Development Agency (NWDA), "Northwest Renewable and Low Carbon Energy Capacity and Deployment" (2010)
- CCD24HM Government: "2050 Pathways Analysis" (July 2010)
- CCD25Rising to the Challenge: A Climate Change Action Plan for 2010- 2012
- CCD26Consultation on a Planning Policy Statement: "Planning for a Low Carbon Future in a Changing Climate" June 2010.

Landscape and Visual Documents

- LVD1 Countryside Agency and SNH, "Landscape Character Assessment Guidance for England and Scotland", prepared by Swanwick C and LUC, revised 2002
- LVD2 Landscape Institute and IEMA, "Guidelines for Landscape and Visual Impacts Assessment" (revised 2002)
- LVD3 Landscape Character Assessment Series: Topic Paper 6 Techniques and Criteria for Judging Capacity and Sensitivity" (Countryside Agency and Scottish Natural Heritage) (2004)
- LVD4Countryside Agency and Scottish Natural Heritage, Landscape Character Assessment Series: Topic Paper 9 Climate change and natural forces the consequences for landscape character" (2003)
- LVD5Horner & Maclennan and Envision, "Visual Analysis of Windfarms: Good Practice Guidance" (2006)
- LVD6"Countryside Character Initiative, Volume 2: The North West", Countryside Agency 1999
- LVD7 SNH, "Cumulative Effect of Windfarms", Version 2, Williams, K, 2005
- LVD8 Planning Cumbria Technical Paper 5 Landscape Character, Cumbria County Council
- LVD9 Covering the Solway Coast AONB The Solway Coast Landscape, 1995 (Countryside Commission)
- LVD10Coates Associates (2008) Tallentire Hill Wind Farm Landscape and Visual Effects: Environmental Statement Review. Allerdale Borough Council.
- LVD11Cumbria County Council (2010) Cumbria Landscape Character Guidance and Toolkit. Consultation Draft.
- LVD12Defra (2010) English National Parks and the Broads UK Government Vision and Circular 2010.
- LVD13English National Park Authorities Association (2010) Consultation on the English National Parks and the Broads Draft Circular revised version combining Circular 12/96 and Circular 125/77. Vision for National Parks: Government priorities. A response by the English National Park Authorities Association, February 2010.
- LVD14Land Use Consultants (2010) Solway Coast AONB Landscape and Seascape Assessment. Consultation Draft. Solway Coast AONB Partnership.
- LVD15Natural England (2008) Protected Landscapes. Guidance Note 19.
- LVD16Natural England (2010) England's statutory landscape designations: a practical guide to your duty of regard.
- LVD17Scottish Executive (2002) Planning Advice Note 45: Renewable Energy Technologies.
- LVD18Solway Coast AONB Management Plan 2010-2015
- LVD19SNH "Siting and Designing Wind farms in the Landscape", version 1
 December 2009
- LVD20Tallentire Wind Farm Review of Landscape and Visual Issues, LUC, August 2010
- LVD21Scottish Natural Heritage "Guidelines on the Environmental Impacts of Windfarms and Small Scale Hydro Electric Schemes" (2001)
- LVD22Landscape Research Group, University of Newcastle, "Landscape Appraisal for Onshore Wind Development, Final Report" (July 2003)
- LVD23Visual Assessment of Wind Farms: Best Practice (produced by Scottish Natural Heritage by the University of Newcastle) 2002
- LVD24Not used (repeat of LVD5)

- LVD25"Landscape Architecture and the Challenge of Climate Change", Landscape Institute (October 2008)
- LVD26Natural England "All Landscapes Matter", Draft Policy Statement for Consultation (2008)
- LVD27Landscape Institute, "Use of Photography and Photomontage in Landscape and Visual Assessment" Landscape Institute Advice Note 01/09
- LVD28Cumbria Landscape Classification, Cumbria County Council (1995) (Extracts)
- LVD29Lake District National Park: Landscape Character Assessment prepared by Chris Blandford Associates (September 2008)
- LVD30Coates Associates Westnewton Wind Farm LVIA Review February 2009
- LVD31Coates Associates (May 2009) Westnewton Wind Farm LVIA Review (including Broadview Response (April 2009)
- LVD32Lake District National Park Management Plan, 2004 (Chapter 2)
- LVD33Repeat of LVD29

Noise

- N1 Prediction and Assessment of Wind Turbine Noise WTN Agreement in IOA Bulletin
- N2 ETSU-R-97: The assessment and Rating of Noise from Wind Turbines (September 1996)
- N3 Department of Business, Enterprise and Regulatory Reform: "Research into aerodynamic modulation of wind turbine noise", report by the University of Salford (July 2007)
- N4 New Report Eases Concerns Over Wind Turbine Noise. Department for Business, Enterprise and Regulatory Reform (BERR), (1st August 2007)
- N5 Government Statement regarding the Findings of the Salford University Report into Aerodynamic Modulation of Wind Turbine Noise Ref: URN 07/1276 (July 2007)
- N6 Guidelines for Community Noise, Ed Berglund, Lindall & Schwela, World Health Organisation, Geneva (1999) (extracts)
- N7 The Measurement of Low Frequency Noise at Three UK Wind Farms URN No: 06/1412
- N8 "Night Noise Guidelines for Europe", World Health Organisation (2009)
- N9 ETSU-R-97 Noise Assessment, prepared by TNEI Services Limited (October 2010)

Cultural Heritage

- CH1 Planning (Listed Buildings & Conservation Areas) Act 1990
- CH2 English Heritage, "Climate Change and the Historic Environment" (2008)
- CH3 English Heritage, "Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment" (2008)
- CH4 English Heritage, "Wind Energy and the Historic Environment" (2005)
- CH5 English Heritage, "Understanding Place Historic Area Assessments: Principles and Practice" (2010)
- CH6 R (on the application of Boggis) and Another v Natural England [2009] EWCA Civ 1061; [2009] WLR (D) 304
- CH7 R. v. Canterbury City Council, ex D. Halford [I992] J.P.L. 851; CO/2794/1991
- CH8 R. (on the application of Miller) v North Yorkshire CC (Queen's Bench Division, Administrative Court, August 24 2009) [2009] EWHC 2172 (Admin); CO/1272/2009

- CH9 South Lakeland DC v Secretary of State for the Environment [1991] 2 P.L.R. 97 South Lakeland District Council v Secretary of State for the Environment and Carlisle Diocesan Parsonages Board [1992] 2 A.C. 141 [1992] 2 WLR 204; [1992] 1 P.L.R. 143, HL
- CH10 R (on the application of Enertrag (UK) Limited) v Secretary of State for Communities and Local Government & Others (Queen's Bench Division, Administrative Court, March 9 2009) [2009] EWHC 679 (Admin) CO/1160/2008
- CH11 English Heritage "Guidance on Conservation Area Appraisals" (2005)
- CH12 English Heritage "The Setting of Historic Assets" (Consultation Draft) (2010).
- CH13 English Heritage "PPS5: Planning for the Historic Environment: Historic Environment Planning Practice Guide" (2010)
- CH14 Welfare H. 2008 The setting of historic assets. Conservation Bulletin 59 (Autumn 2008 "The Old and The New" 16 18), English Heritage
- CH15 Cowle L, 2008 (published 2009) "Westnewton Draft Conservation Area Appraisal", produced for Allerdale Borough Council (not yet adopted)
- CH16 Cumbria County Council 2009 "A Guide to the Cumbria Historic Landscape Characterisation Database" Version 1, July 2009.