

**Northumberland (Green Rigg / Ray / Steadings) wind farms
Public Inquiry**

Campaign for Responsible Energy Development In Tynedale

Closing Submission (Summary)

10th November 2008

Introduction

1. CREDIT had hoped to hear evidence at this Inquiry that addressed the concerns raised by local people and which were presented in our proof of evidence but sadly that has not been the case. Having heard the evidence presented by the developers, we are now even more alarmed and we would even go so far as to say our opposition to the proposals has hardened considerably. Questions relating to the effects on Landscape, Visual amenity, Noise, Cultural Heritage, Aviation, Ecology, Water Courses, Borrow pits, Traffic, Site Access, Grid Connection have not, in our opinion been satisfactorily answered. We simply cannot see how this Inquiry can reach any other conclusion but to recommend refusal of all three of these proposals.
2. Our closing submission is written on the basis that we need not repeat the evidence we have given in our main proof. In our view, none of it has been successfully rebutted nor called into question as a result of cross-examination. However, we noted during the cross-examination of Mr Bill Short that the promoters all indicated that simply because they do not challenge evidence does not mean that they agree with it. That being the case, CREDIT expects that the same principle will apply in the opposite direction – simply because we have not challenged certain sections of evidence or cross examined the developers on specific topics does not mean that we agree with or accept the propositions they are putting forward.
3. In accordance with the Inspectors guidance this submission is set out to address the Secretary of State’s Statement of Matters with our arguments set out under the headings: Energy and Planning Policy; Alternative Sites; Landscape and Visual Impact; Noise; Aviation; The Historic Environment & Cultural Heritage; “Other Matters” – Tourism & Economic Impacts, Ecology & Hydrology, Construction.
4. CREDIT’s detailed evidence is contained in its main proof, supplementary proof, miscellaneous submissions, evidence in chief and cross-examination of the applicants’ witnesses. This document is a summary of our closing submission. It attempts to summarise complex arguments clearly and concisely. It is essential that the reader is aware of the arguments set out in our detailed closing submission in order to fully understand and give due consideration to this summary.

Energy and Planning Policy

National Policy

5. The Government's renewable energy strategy is governed by two key policy frameworks; national energy policy and national planning policy. Combating climate change, CO2 reduction and security of energy supply are key objectives of energy policy and Government policy promotes the requirement for a diverse supply of renewable energy sources if the UK is to meet these objectives. Equally, national planning policy seeks to protect the environment (be it rural or urban) in the interest of the public good.
6. However, Government policy does not give carte blanche to developers to build wind farms anywhere, anyhow. The Statement of Need contained in the 2007 Energy White Paper, does not, as the developers would have us believe, negate the need for a balanced approach or the need to satisfy planning requirements.
7. PPS 22 requires a balance to be struck between the benefits of renewable energy generation and the harm which it may cause. It therefore requires the minimisation of the environmental, economic and social impacts through the optimum location and design of wind farm schemes. CREDIT concludes that the developers have not met that requirement in bringing forward multiple proposals in the same small area and have not properly addressed the adverse environmental, economic and social impacts of their schemes adequately, either on an individual or cumulative basis. Nor have they complied with the need to address aviation concerns before bringing forward their proposals as planning applications. The proposals before this Inquiry do not comply with the principles set out in PPS 22 and its Companion Guide.
8. The Inquiry has been given no accurate assessment of CO2 savings which further serves to make it difficult to properly weigh the balance between harm and benefit. Intermittency and spinning reserve are not factored in to financial or CO2 costs. It is clear that so far, wind energy schemes have failed to live up to the claims made for them by their promoters and the preferred way of addressing the consistent underperformance, at least among the developers, appears to be to suggest building even more of them!
9. There has been no adequate assessment of the hardware and route of grid connection and their impact on the landscape. Therefore the requirements of planning policy (PPS 22) are again not met. Moreover, it has been demonstrated during the course of the Inquiry that in any event, the local grid cannot accommodate the total amount of renewable generation promised by these schemes without significant upgrading work which, as yet, is neither specified nor planned. Given that a renewable energy scheme is useless without a grid connection (and vice versa) it would seem obtuse to grant planning consent.

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Regional Policy

10. The North East Regional Spatial Strategy (RSS) sets out the region's policy on Renewable Energy. The final version of the RSS is now signed off by the Secretary of State. RSS Policy 39 specifies the region's contribution to national renewable energy targets giving a figure of 454 MW of renewable generation for the North East region *as a whole* with Northumberland's contribution amounting to 212 MW by 2010. It is worth noting that this figure refers to **all** forms of renewable energy generation, not merely onshore wind. In fact onshore wind energy was only anticipated to contribute 60% of 2010 target for renewable electricity generation and 76% of the 2020 target. It was never envisaged that wind energy alone should constitute 100% of the required target. (CD108 NERRES TNEI Final Report July 2003 Page 4 Section 2 Summary)
11. RSS Policy 41 is clear that the area of Knowesgate is designated a Medium Wind Resource Area (MWRA) and provides a broad definition of "medium" as being 20 -25 turbines. The "20 – 25 turbines" definition has been included since the first draft and has remained unchallenged into the final adopted version.
12. CREDIT acknowledge that PPS 22 says that arbitrary limits on the number of turbines should not be included in the RSS, but it is CREDIT's argument that the 20-25 definition is **not** an arbitrary limit; it is a **range** based on the independent studies commissioned by the North East Assembly and Government Office for the North East which underpinned the production of the renewable energy policies of the RSS and the establishment of the Medium Wind Resource Areas. If it was regarded as an arbitrary limit it would have been removed from the RSS before its final sign off by the Secretary of State.
13. It is CREDIT's case that the RSS is clear that cramming 55 turbines and three wind farms into a single Medium Wind Resource Area at Knowesgate is not what was intended by the RSS and is therefore not supported by the Secretary of State. It is equally clear that to approve these schemes would result in a situation where the harm they do considerably outweighs the overstated benefits which are claimed for them.
14. Moreover, during the course of this Inquiry things have rapidly moved on in terms of progress towards renewable energy targets. A number of other renewable energy schemes have been consented which bring the Region (and the county of Northumberland) within a whisker of the 2010 target and which have already surpassed the 2020 target. Numerous other wind energy schemes (including several others in the vicinity of the three currently under consideration in the Knowesgate area) are in pipeline. There is therefore no need for the Secretary of State to accept the sub standard proposals before this Inquiry in order to meet regional/sub regional targets.
15. Underpinning the renewable energy requirements of the RSS are a number of significant documents which seek to provide further clarity/ information on the mechanisms for striking the optimum balance between the generation of wind energy and the protection of highly valued local landscapes. These include the

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NE Regional Renewable Energy Strategy, the Newcastle University Landscape Sensitivity Study and The Ove Arup Knowesgate and Harwood Forest Landscape Capacity Study.

16. The ARUP capacity report sets out an optimum scenario (Scenario D) in which a total of 100 MW of wind energy generation could be achieved from the Knowesgate and Harwood Medium Wind Resource Areas whilst still striking a reasonable balance between energy generation and protection of the landscape. There have been suggestions by some that the figure of 100 MW is not a “positive” response to RSS targets. However, it is clear that a preferred scenario which envisages producing almost half of the Northumberland 212 MW target from just two of the six medium wind resource areas can hardly be regarded as a neutral or negative response. It is also important to note that the “Medium Wind Resource Areas” are only part of the equation; the RSS also envisages onshore wind energy contributions from small wind farms in urban areas and on the urban rural fringe. Indeed CREDIT believes that production of 100 MW in these two areas would be a highly significant contribution and much more than envisaged by those who drew up the RSS.
17. In terms of turbine height, the RSS medium scale typology equates to turbines up to 110m. Clearly the Steading’s and the Ray turbines far exceed this height.

Alternative Sites

18. The current spate of applications in the Knowesgate area appears to be the unintended consequence of the application of national policy directives at the local level. The gold rush mentality has resulted in speculative applications being submitted for sites which are clearly unsuitable – particularly for those developers who came late to the party. Too little information has been provided on which to base a proper assessment and in any event, the lack of consultation with local residents *before* any sites are decided upon is not conducive to the consideration of possible alternatives. Clearly PPS 22 carries an implicit instruction that developers should explore alternative sites in pursuit of maximising renewable energy production whilst minimising social, economic and environmental harm. The Steadings developers and those who are following them clearly opted to look no further than the Knowesgate MWRA and what was left by the other two developers at this Inquiry.

Landscape and Visual Impact

19. CREDIT’s landscape evidence is set out in section 3 of our main proof. There is nothing we have seen or heard that would suggest that that evidence has been proved wrong or was in some way lacking or wide of the mark.
20. CREDIT argues that the visual effects of these wind farms individually would be severe at many local viewpoints, from important historical sites and for many local dwellings. Each development on its own, due to its size and scale, would overwhelm the landscape in which it sits. This is a landscape with few man-made structures of any scale and a landscape where the history of the

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land and its use is there at the surface and not buried under centuries of change. Views into and out of these sites would be fundamentally and detrimentally altered. Cumulatively these developments would serve to turn the area into a wind farm landscape with the turbines becoming the dominant and defining feature of it.

21. The impact of these wind farm proposals on landscape character have not been properly assessed against the provisions of the 2003 Newcastle University Landscape Sensitivity Appraisal for Onshore Wind or the subsequent OVE ARUP Landscape Capacity Study for Knowesgate and Harwood. They therefore fail to work with the grain of the local landscape. For example, contrary to guidance in both the University Study and ARUP, turbines would be sited very close to local crags (a notable recurring characteristic of this landscape) which would diminish their appearance and value as landscape features. These crags are the “Wannies” which give their name to the river Wansbeck, to the Wanney District and the Northumbrian expression “the Wilds o’Wanney”.
22. The photomontages which the developers have provided do not, in our opinion, show the true extent of the impacts. Many of the photomontages tend to diminish the scale of the proposed turbines in important local views. It could clearly be seen when viewing the Kirkheaton turbines during the site visits and comparing them with the visualisation represented in the photomontages, that the human eye sees them as much larger. It follows therefore that the proposed turbines would also appear much larger in real life than the visualisations suggest. It also goes without saying that visualisations cannot reproduce the movement of blades which in reality would draw attention to wind turbines. Looking at the photomontages, and bearing their limitations in mind, we can plainly see that the proposed wind farms would individually and cumulatively overwhelm this landscape.
23. Additionally, access tracks, borrow pits and ancillary developments would serve to add to the visual impact but this aspect has not been factored in to the landscape and visual assessment. Nor are there any definitive proposals for the connection to the National Grid which assess the potential Landscape and Visual impacts and again fail to meet PPS 22 and RSS Policy 40 (item h)
24. The turbines, individually and cumulatively, would be visible over a huge area, including from viewpoints in the Northumberland National Park and Hadrian’s Wall WHS. This area is widely used for recreational purposes because of its unspoiled, open and tranquil beauty. The impacts on important skylines have not been adequately addressed and the proposals are very likely to lead to the domination of a skyline which is presently largely free of man made elements.
25. The Inquiry has heard evidence relating to potential mitigations to reduce the visibility of wind turbines. Essentially this amounted to the capacity of forestry plantations to screen the developments. This is an area renowned for its long views. Tree cover is minimal especially around the Green Rigg and Steadings sites. Where tree cover occurs it is more often than not a conifer plantation or commercial forestry. None of the promoters have been able to

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give any guarantees regarding the life expectancy of such features. It is therefore CREDIT's argument that forestry cannot be regarded as mitigation for the visual effects of wind turbines.

26. The developers suggest that their individual Environmental Impact Assessments are the only advice the Inspector needs to determine the effects of each scheme on the landscape. It is CREDIT's case that in Landscape and Visual terms, the EIAs and the evidence of the promoters witnesses at this Inquiry have varied widely in approach, methodology and results. They are, in many cases, contradictory and there has been substantial disagreement between witnesses themselves as to the extent and level of impact on landscape and visual amenity. It was made clear by some witnesses that three wind farms would exceed the carrying capacity of the landscape and even two would have a significant adverse impact on important views and residential amenity. CREDIT therefore believes that the landscape and visual information contained in each EIA has to be treated with caution. We still, for example, await a list of the Steadings photomontages and views that we should use following their change of Landscape "experts". This was promised to the Inspector and CREDIT on the site visits.
27. It has further been suggested by Wind Prospect that the proposed ARUP "lozenges" could be relocated from Harwood to the Knowesgate area. We would remind the Inquiry that Knowesgate and Harwood are **two separate** Medium Wind Resource Areas in the RSS. It is not in the gift of anyone at this Inquiry to move the potential capacity identified in the Harwood area into the Knowesgate area and now that the final version of the RSS is published this issue is simply not up for debate. Moreover during the site visits (at Winters Gibbet) AMEC's representative made it absolutely plain that AMEC are still actively progressing the Harwood development. There is therefore no ARUP "lozenge" going spare!
28. There is however one issue which appears to be endorsed by various witnesses on both the promoters and the objectors side of the argument; that being the fact that the landscape does not have an infinite capacity to absorb wind farms. The Inquiry has also heard from the promoters that cumulatively all three wind farms would have a severe impact on Hadrians Wall WHS and Northumberland National Park.
29. No weight can be attached to evidence from the developers that the "clustering" of wind farms in this area would be acceptable in order to leave other areas free of wind turbines. The RSS aims to achieve a balance between meeting renewable energy targets and protection of landscape, heritage and residential amenity and lends no weight to this argument.
30. According to the DEFRA EDRP statement "*the region enjoys the largest area of uninterrupted space and tranquillity in England*". It is well documented that these are the major environmental assets which the County possesses. Once despoiled, they cannot be reversed for a very long period of time if at all. CREDIT believes that such assets must be given considerable weight in considering the impact of these developments.

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31. It terms of views from residential properties, a considerable number of local dwellings will be badly affected by these proposals. This was not disputed by the various landscape witnesses, although in line with comments above it is clear that there is a lack of consistency among them as to how the impacts and significance of residential visual amenity have been assessed. Individual schemes will bring some turbines within less than 1 km of residential properties. The cumulative scenario would lead to some properties being virtually surrounded by turbines and having views of them from almost every window. For most residents, there will be either a sense of enclosure or oppressiveness and, for an unfortunate number, both. Additionally residents will experience these intrusive effects on a daily basis as they go about their usual business. We have also heard it stated that aviation safety would require the turbines to be lit meaning that even in the dark residents would be unable to ignore their presence. CREDIT does not believe that such effects have been properly assessed by the promoters and, in line with the provisions of PPS 22, believes that the impact on local residents must be given significant weight in order to protect their residential amenity and well being.
32. The issue of grid connection for these schemes has already been raised in relation to policy and planning issues. The Inquiry has heard concerns expressed by more than one witness regarding the potential use of metal pylons (lattice towers) if more than one wind farm were to be consented. It is CREDIT's argument that approval of more than one scheme effectively dictates the use of lattice towers which most witnesses have agreed would be inappropriate in this particular landscape. CREDIT therefore concludes that it is not possible to give such an endorsement when there has been no detailed assessment of the landscape in terms of the impact of grid connection.
33. CREDIT also contends that any visual assessment of the impact of grid connection infrastructure on the landscape cannot be undertaken as a separate exercise from the visual assessment of the turbines themselves. It cannot and must not be allowed to happen that the presence of the turbines becomes the given baseline to which the additional impact of grid connection infrastructure is then added. The **total** impact of these two inter-related elements must be considered in one single exercise before any consent can be forthcoming.
34. Evidence has been submitted to the Inquiry which demonstrates that there are several more wind energy schemes in the pipeline for the Knowesgate MWRA. At the time of writing this closing submission it is understood that the NPower Kirkharle application is imminent. In addition we know that there are other schemes on the drawing board at Tone Hall, Thockrington and at Kirkheaton. It is CREDIT's view that in his deliberations, the Inspector must reach a conclusion (based on the spatial planning framework for the region) regarding the capacity of this area to accommodate wind energy developments. Unless and until there is a categorical statement about cumulative impact and landscape capacity then local residents would continue to be blighted by successive speculative applications without any end in sight.

Noise

35. Each of the proposals has revealed significant shortcomings in noise monitoring procedures, in compliance with ETSU-R-97 and, at many locations; the predicted noise levels are inaccurate. The design and location of each development should be the key to ensuring that noise would not be an issue for local residents. Instead, the Inquiry is being asked to accept the highest ETSU-R-97 noise criterion in a vain attempt to make badly located turbines acceptable in noise terms. The promoters are also proposing that noise planning conditions are based upon their flawed noise assessments. Wind farm proposals cannot be allowed to go ahead based on those assessments and residential amenity cannot be put at risk by reliance on potentially flawed planning conditions.
36. It is clear from the evidence presented and cross-examinations by CREDIT and Mr Short that noise assessment work is proven to be flawed in all three cases. The noise cases presented by the developers are at best marginal and at worst misleading. It is clear that in many locations the lowest ETSU noise criterion would be exceeded and in some locations like Great Bavington and Summit Cottage even the highest ETSU-R-97 noise criterion of 40dB or background + 5dB would be exceeded.
37. The cumulative noise assessments carried out by AMEC and Steadings are contradictory and avoid assessing many key receptors where we already know that the highest ETSU-R-97 criterion would be exceeded by **individual** schemes alone.
38. Construction and traffic noise impact, especially in relation to aggregate extraction at borrow pits is not properly dealt with by the developers. The evidence provided is weak and in some cases demonstrably misleading. It remains CREDIT's case that borrow pits must be assessed under the recommendations contained in the Minerals Policy Statement documents and if allowed must use the planning conditions set out for the minimisation of noise impact.
39. The Steadings Noise witness, under cross-examination by CREDIT acknowledged that they had not followed the ETSU-R-97 guidance in relation to background noise measuring at Bavington Farm. Being fully conversant with the situation on the ground, CREDIT contends that there was nothing to stop them following the guidance in terms of the distance between the monitoring microphone and building facades. ETSU-R-97 is absolutely clear on the matter *“In order to ensure that measurements of wind turbine noise are not influenced by reflections off buildings the microphone should be positioned at least 10 metres away from the facade. It may be appropriate to undertake background noise measurements closer than this if sheltered locations close to the property are most often used for rest and relaxation. Background noise measurements should not be taken closer than 3.5m from the façade. In circumstances where these conditions cannot be fulfilled an alternative location should be identified.....”* Clearly Steadings did not comply because the noise monitoring was carried out at only 1.5m from the façade of the building. Steadings EIA evidence also shows that there were

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similar issues at other monitoring locations. In response to a direct question from the Inspector as to what the implications would be in relation to planning conditions if the predictions were wrong, he agreed that it may change the background noise level and it may therefore exceed noise conditions based on predicted levels.

40. To compound the problem, Steadings placed their anemometer mast on top of the crag next to the Bavington trig point at 247m asl. Wind speed measured at this mast was correlated with background noise data taken at Bavington Farm and other monitoring locations on substantially lower ground. It is CREDIT's argument that the differences in ground level between the wind farm site, the position of the anemometer mast and the noise monitoring location bring into serious doubt the correlation between wind speed and background noise measurements. ETSU-R-97 is clear that mast height and the ability to correlate wind speed with background noise measurement at the wind farm location are important.
41. In respect of AMEC's noise evidence, it is clear that various problems were brought out by CREDIT's cross-examination and a very serious flaw in the assessment of wind shear was highlighted by Mr Short's cross-examination. When challenged on this, the witness indicated that both the LPA and his client would need to satisfy themselves about how much weight to give his assessment. The Inspector himself questioned AMEC's noise witness on this point and determined that there is further work to be done to clarify whether noise criteria could be met. It is therefore CREDIT's argument that the Inspector can give little weight to the AMEC noise work in determining either the acceptability of the location of the wind farm or using the background noise measurements in a noise condition.
42. Wind Prospect's own evidence shows that the background noise monitoring carried out at Fowlawhill Top was undertaken 2m from the garden wall – again in contravention of ETSU-R-97 guidance. Additionally background noise measuring was corrupted by tree felling that was going on within 250m of the same location at the time of the measuring. It is therefore CREDIT's assertion that the background noise measurements cannot be used to assess the suitability of the site or be used as the basis for a noise condition.
43. It is CREDIT's case that background noise measurement results are like no other evidence given at this Inquiry. These results are likely to become an integral part of any noise condition imposed on a consented wind farm, yet the work is given no independent verification and is supplied with no warranty by the developers of the wind farm. If background noise work is later found to be flawed following the building of the wind farm, then the responsibility lies with the Environmental Health Officer or the Inspector who imposed the condition.
44. This is exactly the situation which has arisen for the Davis family at Deeping St Nicholas. The Inquiry heard evidence from the Davis's regarding their experiences of the Deeping St Nicholas wind farm where two years after the noise forced them from their home, they are still struggling to find a remedy in

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law or anywhere else. This situation has arisen as a direct result of basing planning conditions on inadequate background noise monitoring as highlighted in the Hayes McKenzie compliance report. The noise condition supposedly designed to protect them has proved useless in assisting them to obtain redress. It is CREDIT's argument that planning conditions in respect of noise cannot be relied upon to protect residents from the effects of turbine noise especially where they are based upon inadequate noise assessment work..

45. The Steadings and AMEC noise witnesses claim their noise predictions are conservative but CREDIT do not accept that to be the case. CREDIT argues that Steadings predicted turbine noise levels are not conservative in the least and when placed against background noise measurements that we have shown to be flawed, could only just meet the highest ETSU criterion. If background noise measurements were carried out in accordance with ETSU-R-97 recommendations and in representative locations, it is our argument that predicted noise levels, which are also underestimated because of such things as wind shear, would exceed the highest ETSU-R-97 criterion. Neither do we see hard evidence from Steadings to justify the use of the highest noise criterion. We put it to the Inspector that the Steadings noise case is so flawed and so marginal that he cannot reasonably conclude that it gives sufficient protection to those who would live next to their wind farm.
46. If we apply what we know about noise levels increasing near to the facades of buildings it becomes clear that where residents use patios and seating areas close to the shelter of a wall or the façade of their house then noise levels are very likely to increase and potentially exceed the highest levels allowed under ETSU-R-97.
47. CREDIT submits to the Inquiry that the solution would be to find a better location for the wind farm rather than try to shoehorn one into an inappropriate site by making some of its neighbours suffer the highest levels of turbine noise. However, should the Inspector be minded to approve these schemes, then in line with the ETSU guidance, careful consideration must be given to the low background noise levels which exist locally and set noise conditions no higher than an absolute 35dB.
48. Nor is CREDIT convinced by the argument that noise criterion could be based upon the number of dwellings in the neighbourhood of a wind farm or the effects that noise controls would have on Kwh generated. Whilst these ideas are floated in ETSU-R-97 they are not described in detail and no formula is provided to be applied in terms of numbers of dwellings/people and the relative weight or balance to be attached. Neither have any of the developers have actually attempted to carry out any sort of assessment based upon them.
49. Regarding "*The effect of noise limits on the number of KWh's generated*", CREDIT asserts that contrary to Steadings evidence, it would be inappropriate for the Inspector to consider the **installed** capacity of the wind farm in any such calculation since the KWh generated will be influenced by the load factor i.e. a maximum of 30% of the installed capacity.

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50. CREDIT concludes that there is no evidence provided and therefore no basis on which the Inspector or the Local Authority could seek to impose noise conditions with noise levels above the ETSU –R-97 minimum of 35dB. Indeed, given the low background noise levels in the area we believe it would be unreasonable to impose anything higher. For example, Steadings evidence shows that during amenity hours turbines would consistently produce noise levels more than 5dB above background and at night as much as 16dB above background at Great Bavington. Other properties such as Northside would be equally badly impacted. It is our argument that this is borne out by ETSU-R-97 which states “.....*a property which experienced background noise levels below 30dB (A) for a substantial proportion of the time in which the turbines would be operating could expect to receive tighter noise limits than a property at which the background noise levels soon increased above 35dB(A)*”.
51. CREDIT also understands from cross examination of AMEC and Steadings noise witnesses that the effects of wind shear has not been properly taken into account in assessing wind turbine noise levels. The case was comprehensively argued by Mr Short and agreed by the noise witnesses in cross-examination. From this CREDIT concludes that residents will be subjected to higher noise levels across a greater range of wind speeds and for longer durations than that predicted in the developer’s evidence.
52. In cross-examination the Steadings witness suggested mitigation of any noise exceedance through the use of dynamic control of the turbines to ensure that operational noise does not exceed the requirements of ETSU-R-97. This directly contradicts his written evidence which states that “*The proposed wind turbines for installation, the Nordex N90..... at wind speeds of 5 -6 m/s.....the control of the rotor rpm does not normally occur and thereby the reduction of the operational noise will remain unchanged*”.
53. The Inquiry has heard that Great Bavington and Northside would endure the greatest level of noise exceedance. In cross-examination by CREDIT, the Steadings witness accepted that if a wind farm could be operated without the need to employ dynamic controls in order to avoid excessive noise then that would be a better proposition. In other words a better sited wind farm, one further away or downwind of centres of population, would be better for power generation, CO2 savings and residential amenity. CREDIT concludes that this is why the PPS22 Companion Guide tells us that good design is about allowing sufficient distance between turbines and existing noise sensitive development. That is precisely the point that CREDIT makes; if the Steadings wind farm were not as close to residential properties in Great Bavington, and if it were located downwind of the village and the prevailing wind direction, then Steadings would not have to rely on recommending the higher ETSU limit to try and make their proposal acceptable in noise terms.
54. CREDIT further believes that Steadings noise levels at St Aidan’s Church cannot be considered acceptable for such an important listed building and cultural heritage asset; for such an important visitor attraction; for a place

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known for its peace and tranquillity and for a church that is still a meeting place for worship and the important events in the lives of people of this community. This is, in CREDIT's opinion, a further example of the Steadings developers failing to follow the advice of PPS22 to minimise the adverse impact of the Steadings scheme.

Cumulative Noise Assessments

55. CREDIT argues that because there are problems identified with the noise assessments of each of the developers and their cumulative assessments, the Inspector has no basis on which to decide if one, two or three of these proposals can be recommended. CREDIT has been able to identify many faults and discrepancies in the cumulative assessment provided by the developers. The Inquiry has heard evidence from two expert witnesses looking at the same monitoring locations, looking at the same three wind farms and allegedly using the same methods yet coming up with **very different** results. They clearly disagree about predicted noise levels from their turbines, how to calculate the noise from a turbine and the suitability of "proxy" background measurements at some locations.
56. The Steadings witness's cumulative assessment argues that only noise receptors **between** the three wind farms require analysis. CREDIT argues that it is wholly unacceptable to limit the cumulative impact assessment in this manner. It is particularly important where an individual wind farm has a significant impact on a particular noise receptor. For example, the Steadings proposal brings Great Bavington right up to the 40dB or background + 5dB noise criterion limit. But having omitted Great Bavington from this latest cumulative assessment, the Inquiry is not reminded of the Steadings SEI evidence which tells us that cumulatively with the Ray proposal the 40dB noise criterion would be exceeded at Great Bavington @ a wind speed of 7ms. It is CREDIT's argument that Great Bavington, along with several other receptors, should be cumulatively assessed by the noise witnesses in their joint work along with clarity over turbine modes, the addition or not of 2dB for "inaccuracy of the measurement", the correct number of Ray turbines. They must consider cumulative assessment for important locations such as Northside, Great Bavington, Ladywell, St Aidan's Church at Thockrington, Fourlawshill Top and Great Wanney Crag, all of which have the potential for significant noise impact.
57. When asked by the Inspector if his cumulative analysis had been considered by the Local Authority, Steading's witness advised the Inquiry that he had provided an analysis but not across the full range of wind speeds, only what he considered to be the most critical ones. In cross-examination CREDIT pointed out that in his evidence the witness only uses Steadings noisiest wind speed but not the noisiest at Green Rigg and Ray sites. The witness conceded that this would make a difference to noise levels.
58. CREDIT concludes that cross-examination and evidence shows that the Inspector has not been given the full picture of the cumulative noise impact of the wind farms at this Inquiry. The cumulative evidence does not stand up to

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close scrutiny. Steadings alone would exceed the highest ETSU-R-97 noise criterion at certain properties. Cumulatively with one or more of the other wind farms the impact would be significantly greater. Neither do we believe that Tynedale Environmental Health Officers have been given sufficient information on which to assess the impact on residents and safeguard their health and amenity. It would be interesting to know the basis on which the EHO's produced their draft noise conditions.

59. CREDIT argues that if more than one scheme goes ahead any noise conditions applied to individual schemes would be unenforceable because of cumulative effects. If more than one scheme goes ahead the Inspector must ensure that there are noise conditions in place which will ensure that in the case of a complaint the Local Authority has the power to shut down one wind farm in order to investigate another, noise levels are set to take account of multiple noise sources, procedures are put in place to deal with disputes between operators.

Borrow Pit and Construction Noise

60. Construction noise is a key consideration highlighted in RSS Policy 40 (item a). CREDIT evidence outlines our case for the use of Minerals Policy Statements 1 & 2 to regulate the location and operation of the Borrow Pits proposed by Steadings and AMEC, should these applications be consented. It is CREDIT's conclusion that the Steadings borrow-pit and construction proposals would be unacceptable for several reasons, noise being one of them. The MPS is clear that the provisions are appropriate to borrow-pits. MPS requires certain levels of assessment and consultation which have not been carried out by the developer. It is clear from Steadings' evidence that the MPS noise levels could not be met.
61. Having heard our cross-examination of the Steadings witness, the AMEC witness appeared unsure as to whether or not he agreed with his own evidence on the matter of the Minerals Policy Statement, borrow pits and construction noise! Nevertheless when asked by the Inspector, the AMEC witness agreed that there was the possibility of construction traffic and borrow-pit noise exceeding thresholds at places like Summit Cottage where access roads and borrow-pits would be close by.
62. CREDIT concludes that in assessing the impact of borrow pits and construction on the Ray site, AMEC have not fully taken account of the policies in Minerals Policy Statements 1 and 2 and their annexes although Annex 2 is mentioned in their evidence. Steadings have ignored MPS altogether and expressed a preference for using out of date and out of print guidance. Nor have either of these developers properly taken on board the guidance given by the WHO about avoiding annoyance for local people. We noted the Steadings witness suggesting a method of staying below 55dB LAeq16 hour recommended maximum by conveniently calculating the 16 hour average over an 8 hour working day! And clearly neither witness had taken account of the potential cumulative effects of the different source noises during construction. All borrow-pit proposals need to be rejected on the basis that they cannot comply with MPS 2 Annex 2 noise conditions. MPS

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recommends noise planning conditions for the protection of neighbours yet we have seen no evidence of them in the draft planning conditions so far submitted.

Aviation

63. PPS 22 clearly places the onus on the developers to satisfy aviation concerns **before** submitting a wind farm application. There can be no doubt that it is intended that developers and aviation authorities should work in collaboration before bringing forward any planning applications to avoid the situation we have encountered at this Inquiry. The recommendation of this Inquiry and the decision of the Secretary of State must reflect the difficulties caused by the developers at this Inquiry in lodging full scale planning applications in the face of significant objections from aviation authorities. Developers who deliberately choose not to follow PPS22 requirements should not be rewarded by gaining consent for their schemes. We note that a reminder of the provisions of PPS 22 has been added to the final version of the North East RSS.
64. We also note that Government Office for the North East have indicated that the CYRRUS study, which sets out aviation constraints in the region, is now considered to be well out of date and in need of revision . It is clear that little weight can be attached to those areas identified in the CYRRUS report as being of lesser operational concern to Newcastle Airport.
65. We have looked for solutions that would assure local people that wind farms and aviation can co-exist in safety in what is a constricted piece of airspace which accommodates complex multiple aviation activities within it. We have not had that assurance.
66. Nor has there been any attempt to assess the impact of possible degradation of residential amenity arising from additional disturbance caused by changes to aviation activity (eg aircraft being vectored and/or re-routed, military activity being funnelled into ever more constricted airspace or extended outside of normal hours). CREDIT believes this is a major oversight by the promoters and one which, had the provisions of PPS 22 been properly observed, should have been dealt with before planning applications were lodged.
67. Significantly there is no agreement among three developers about the scale and nature of the impacts, let alone the potential mitigations for them. Whilst it is undeniable that some mistakes were made by the MOD in the early stages of assessing these proposals, it does not alter the fact that there are still many important issues which remain unresolved and should have been resolved with **all** aviation authorities before planning applications were made.
68. CREDIT makes three observations here; 1) none of the promoters carry any responsibility for the safe conduct of air traffic in the vicinity of their proposed wind farms; 2) the suggestion that the risk to military and civilian aircraft and the people who live underneath this busy airspace is small and therefore tolerable is clearly not acceptable to the aviation authorities or local residents and 3) the incontrovertible evidence of numerous near misses between civilian

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and military air traffic submitted to the Inquiry show that nothing can be left to chance.

69. The promoters of these schemes have indicated that there is no evidence of wind farms causing aviation accidents. However, that disregards one fundamental fact; there is nowhere else in the UK where wind turbines are proposed in a location which is in close proximity to a military EWTR, which is close to a military danger area, which is beneath a major NATS airway and which borders on the control zone of an International Airport. The combination of all of these factors makes the constricted piece of airspace, within which these turbines are proposed, unique in the UK. There are no direct comparisons to be made. The inter-relationship between the various aviation operations is critical to the safety of aviation activities in the area. CREDIT believes that to erect wind turbines in this unique area would simply add to the already difficult and complex task of maintaining air safety. CREDIT concludes that it is completely unacceptable to suggest that any increase in risk, no matter how small, should be borne by the aviation authorities, aircrew, air passengers and local people.
70. If turbines are allowed to be built it is highly unlikely that a requirement to remove them would be attached should it be discovered that the impact on the radar was too detrimental. This would leave the aviation authorities in the position of being forced to review their safety case which could ultimately lead to a curtailment of operations and significant changes to practices and procedures. Ultimately this might well be detrimental to national security as well as contrary to national policy which supports an increase in both air traffic and the capacity of regional airport hubs as key drivers in the growth of the national economy.
71. None of the developers have provided any assessment of the potential for changes to aviation operations and procedures leading to increases in aircraft fuel burn and the attendant increase in CO2 emissions. These clearly need to be factored in to the Secretary of State's consideration of benefits v. harm.
72. It is CREDIT's assertion that the Secretary of State could only make the decision on each and all of these applications in consultation with the aviation authorities MOD, NATS and NIAL who carry the responsibility for air safety and their commercial and operational efficiencies. The wind farm promoters have had the opportunity to provide assessments of how air safety, commercial and operational considerations may be mitigated, as well as the effects on local economic, environmental and social considerations. Clearly they have chosen to confine their evidence to refuting and rebutting the evidence of those who do carry the responsibility for safety and the other considerations listed. CREDIT concludes that the only option left to the Secretary of State is to recommend refusal of these applications.
73. From the evidence that we have heard it seems that mitigation for aviation and radar effects is not even on a timetable that would allow the SoS to consider a Grampian style Condition which would meet Circular 11/95 requirements of a reasonable prospect for success within a relatively short time frame.

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74. CREDIT does not believe it is reasonable to apply a condition that requires a timetable for a radar mitigation solution which is then followed by a protracted period for approval of a grid connection route and possibly a further timeframe for actual grid connection. CREDIT concludes that all of those elements together could very easily take 10 years or more to complete. This would be an unreasonable decision leading to a sustained period of planning blight across the Knowesgate area. Imposition of a Grampian-style condition might also serve to prevent consent for other more appropriately designed renewable energy schemes.
75. CREDIT also believes that to apply a suspensive condition to mitigate the impacts of turbines on the operations of Newcastle Airport, NATS and the MOD would, in effect, remove the right of local people to raise concerns about potential impacts on their residential amenity because any subsequent safety case process only requires negotiation and agreement between the CAA and the ATS provider without any necessity for public participation which the Government promotes as an essential element of the decision making process.
76. It is CREDIT's view that the aviation decision arising from this Public Inquiry will set a precedent which will determine whether agencies like the MOD, NATS and airport operators across the country are destined to continue to have to commit substantial time and resources to appearing at such Inquiries and Appeals simply because developers have chosen to disregard the provisions of PPS 22.

The Historic Environment and Cultural Heritage

77. It is CREDIT's view that the siting of these wind farms in this area would devalue local Cultural Heritage assets in an unacceptable way. We have heard nothing that changes our objections to these three proposals in terms of their impact on Hadrians Wall World Heritage Site, Great Wanney Crag, St Aidan's Church at Thockrington, Great Bavington Conservation Area, St Oswalds Way, Rievers Cycle Route, the Jacobite historical sites on Green Rigg and several listed buildings. Obviously different proposals would individually and cumulatively have different effects on different heritage assets. It is CREDIT's assertion that the guidance provided by English Heritage should be the overarching and guiding principles by which these wind farm schemes are assessed.
78. St Aidan's Church at Thockrington, would be dwarfed by the Steadings turbines and would be subject to noise levels which would detract from the current sense of peace and tranquillity which most visitors, members of the congregation and local people value highly. The setting of the Church is an essential element in its significant historic and cultural value. Clearly turbines in such close proximity and intruding on important views of the Church would significantly devalue both the Church and its setting. The Church would no longer be the prominent feature in the landscape because the height and movement of the turbines would overwhelm and dominate it. It is CREDIT's

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view that the effects on this important listed building have been significantly underplayed by the Steadings promoter.

79. Ladywell is a Grade II listed building approximately a kilometre to the east of the Steadings wind farm. From its west facing windows it would have views of the vast majority of Steadings turbines, anemometer masy and borrow pit. It is CREDIT's argument that the effects on this important listed building have also been significantly underplayed by the Steadings promoters giving misleading evidence regarding its west facing windows, its setting and its listing .
80. It is also CREDIT's case that Great Bavington Conservation area and its setting would be significantly harmed by the position of Steadings turbines behind the Whin Sill ridge when viewed from the eastern approaches to the village. The "Special Interest" definition of the conservation area would clearly be compromised by these wind turbines which would create a new setting and backdrop to the village. If the wind farm were to be built, the village would be sited in the lee of a wind farm rather than in the lee of the Whin Sill Ridge with its distinctive notched skyline. Approaching the village from the north or on St Oswald's Way one would have to pass through parts of the wind farm site and underneath individual turbines to get to it. Its setting would become industrial rather than pastoral.
81. The Steadings borrow pit with its noise and industrial upheaval in close proximity of the Great Bavington (at less than 700m) would also be detrimental in to the setting of the Conservation Area. It would also impinge on walker's enjoyment of St Oswald's Way which passes within 200m of the borrow pit site .
82. In respect of Great Wanney Crag, it is CREDIT's argument that even with the removal of the AMEC "Wanney Four" the setting of Hill Fort would be still be compromised by the proximity of both Ray and Green Rigg turbines. Wind Prospect should now recognise what AMEC have already recognised, that the hill fort on Great Wanney Crag is a significant heritage asset which is important nationally and locally. With its current layout the Green Rigg scheme is unacceptable because of the visual and potential noise impact its turbines would have on the Crag and its visitors.
83. The Derwentwater Stone is also of relevance to local history and culture but the developers of Green Rigg have consistently underplayed its significance. CREDIT concurs with the evidence of the Northumbrian Jacobite Society presented in their letter to the Inquiry.
84. Nor do CREDIT believe that the true impacts on Hadrian's Wall World Heritage Site have been comprehensively assessed by the applicants – particularly at locations such as Milecastle 30 where, if one or more schemes go ahead, a significant proportion of the skyline would be filled by wind turbines. One only has to make a comparison with the real life scale of the three Kirkheaton turbines in that view to appreciate that the impact of what is being proposed will be significantly more harmful.

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85. The current lack of any detailed assessments regarding grid connection routes and infrastructure makes it impossible to properly assess the true extent of the impact it may have on cultural heritage assets in the area. For example the Green Rigg developers indicate that within the corridor of the Hadrians Wall World Heritage Site that cables would be undergrounded. However overhead cables would still be required for other parts of the proposed grid connection route but no archaeological survey has yet been carried out alongside the A68 Roman Road “Dere Street” route.

“Other Matters” - Tourism and Economic Impacts

86. Tourism is fundamental to the Northumberland economy and there is a recognised need for the region as a whole to catch up with other parts of the country in terms of capitalising on its natural, historic and cultural assets. Therefore the protection of landscape and heritage assets is of prime importance.
87. Whilst developers are keen to quote the example of Scottish surveys which purport to show that 66% of visitors would not be put off by the presence of wind farms, the real issue of whether the Northumberland could afford to take the risk of losing the 33% of tourists who apparently would be deterred by their presence. This is particularly pertinent given the low base from which Northumberland starts. Local B&B operators for example have carried out their own surveys and their customers have made it plain that significant numbers will not return.
88. Tranquillity is a key aspect of the tourism “offer” and it would be fundamentally compromised by the introduction of these massive turbines with their unwelcome noise and constant movement.
89. The impression for road users on some of the key tourist routes, specifically stretches of the A68, A696, B6342 would be that they are travelling through a wind farm landscape.
90. It is CREDIT’s case that wind farms in this area would despoil the very things that make it attractive to tourists and visitors; its open, unspoiled pastoral landscapes and the tranquillity they offer.

“Other Matters” - Ecology and Hydrology

91. These developments, individually and cumulatively, would in CREDIT’s opinion, result in significant adverse impacts on several Ecological and Hydrological features in the local landscape during construction and in some cases, during operation. The developer’s ecological assessments have not been comprehensive and in some cases impacts are greatly understated or, even worse, fail to fully understand the situation on the ground.

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92. The pollution of water courses and the impact on private water supplies has not been sufficiently assessed. Nor have the effects on blanket bog which is an accepted CO2 sink and often acts as the holder and the filter for water supplies. Clean water is a basic human right which these developments cannot be allowed to threaten. It is CREDIT's argument that all three proposals have the potential to disrupt or otherwise pollute private water supplies to homes and farms in and around the area. It is CREDIT's argument that MAXIMUM protection is required if any of these wind farms are approved. It should be a condition of any approval that if water supplies are disrupted or polluted then they would be restored by the developer at their cost and at the convenience of the householder.

“Other Matters” - Construction

93. It is CREDIT's case that none of the developers have adequately considered the impact that construction phase traffic either individually or cumulatively would have on the area. For example both Steadings and AMEC use traffic survey figures from the A696 which is wholly inappropriate to consider the implications on local roads such as the B6342. Using these survey figures does not comply with the spirit or intent of the Institute of Environmental Management and Assessment's guidelines quoted by the developer.
94. Additionally access to the Steadings site is off a blind bend on the B6342 and via a single track unclassified road (U5013). This is wholly inappropriate in terms of visibility from the B6342 to the site access track and in terms of its capacity. It is a single track road with no possibility of passing places on that stretch. This is the only usable access local people, visitors and farmers have to their homes, farms and the main road network. It is unreasonable to ask local people to compete with wind farm traffic and heavy plant for the duration of the construction period to gain access to their homes or the main road. The scale of the disruption and inconvenience this would cause has not been addressed by the Steadings developer. Traffic Management Plans cannot change the underlying unsuitability of the junction off the main road, the visibility issues or the inability to pass on the single track road. The current use of these roads and junction only functions in a relatively safe manner because the current volume of traffic using it is small.
95. CREDIT has significant concerns regarding the spur of access track which re-joins the U5013 on the top of the fell north of Great Bavington. It has been confirmed during the course of the Inquiry that this spur serves no purpose to the wind farm. It should therefore be deleted from the Steadings scheme since its existence would only serve to encourage traffic to come off the site access track and on to the U5013 road and, in the case of farm vehicles, potentially straight on to the Bavington Crags SSSI thus increasing the potential for debris and pollution to be transferred to the SSSI.
96. RSS Policy 40 emphasises the need to consider noise, air quality, emissions and water pollution in the construction phase of a development. Policy 37 also outlines the need to consider air quality when considering new developments and their location. CREDIT argues that borrow pits should be brought under

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the procedures outlined in Minerals Policy Statement 1 & 2 and Annexes 1 “Dust” and Annex 2 “Noise”. MPS1 makes a clear statement that these policies are intended for borrow pits. Together these policy documents set out the depth and breadth of Environmental Impact Assessment expected by the government in connection with minerals extraction in order to protect the environment and neighbours.

97. CREDIT sets out its case for the use of Minerals Policy Statement 1 & 2 in CREDIT 0/23 and requests that the Inspector takes that case into account in deciding on the **suitability of the location** and, if approved, operation of the Steadings borrow pit. It is CREDIT’s argument that the assessment work to determine the location and suitability of the borrow pit proposal is wholly inadequate when compared with the requirements of MPS 1 & 2. CREDIT also believes that AMEC’s proposal, although it preceded the publication of MPS1, should also be revisited in light of these updated policy requirements.
98. If more than one scheme were consented then a planning condition would be needed to require an agreement between the developers for a sequential approach to construction. This would cover such activities as taking stone from local quarries, delivery of materials and components, import of concrete and the general use of local roads. This is required in order to protect local residents from excessive noise, dust and road traffic.

“Other Matters” – Public Perception Surveys

99. The issue of public perception surveys in respect of wind farm developments is a contentious one. During the course of this Inquiry both developers and objectors have referred to various surveys which demonstrate that there are very polarised views. In an attempt to inject some balance to the debate CREDIT has provided evidence of several independent assessments of the Public Perception surveys cited by the wind farm industry. CREDIT ask that the Secretary of State considers the evidence submitted by CREDIT in its Supplementary Proof of Evidence CREDIT/11/1 and miscellaneous submission CREDIT/0/37 very carefully before reaching any conclusions on the weight to be given to public perception survey evidence before this Inquiry. CREDIT believes that more weight should be attached to genuine local perception surveys such as that carried out by Kirkwhelpington Parish Council and presented to the Inquiry in the evidence of Mr Short.
100. Whilst we accept that opposition to a proposal is not, in itself, a reason for refusing permission, it must also follow that support for a proposal is not a reason for granting consent.