Hearing Statement of Beverley Walker

for the Applicant

Design Issues

Public Inquiry into the proposed Dorenell Wind Farm

Section 36 of the Electricity Act 1989

The Town & Country Planning (Appeals) (Scotland) Regulations 2008

27 August 2010

Contents

1. INTRODUCTION

1.1. Qualifications and Experience

1. My name is Beverley Ann Walker. I am an environmental consultant and I am currently employed as a Director at WSP Environment and Energy. I have a Bachelor of Science (1st Class Hons) in Botany from the University of Western Australia and I have over 26 years experience in the environmental sector, specialising in Environmental Impact Assessment (EIA). I am a member of UKELA, and I am currently completing an LLM in Environmental Law at DeMontfort University in Leicester, focussing on EU, Scottish and English law in the topics of Water, Nature Conservation and Development Control. I am a nominated member of the Scottish Renewables Forum (SRF) Planning and Consenting Working Group.

2. I arrived in the UK in 2001 and have been actively involved in the Renewables and Energy sector for the past 8 years, having contributed to the EIA of over 25 onshore wind farm projects, predominantly in Scotland but also in Northern Ireland, Wales, England and the Republic of Ireland.

3. I set out further details of my experience in Appendix 1 to this Hearing Statement.

4. Mr Esbjorn Wilmar will be present at the Hearing and will, if requested, speak to those parts of this Statement as it relates to the selection of the Dorenell site to develop as a commercial wind farm.

5. Mr Wilmar is the Managing Director of Infinergy Ltd, which is the parent company of Dorenell Ltd, and has held this position since 2006. He is also one of the Directors of Dorenell Ltd. As Managing Director of Infinergy, he is currently responsible for a portfolio of around 30 projects in the UK, of which 11 are in Scotland. Mr Wilmar was involved in the early stages of the project and is qualified to discuss the site selection decisions and the overall business development strategy of the company insofar as it relates to design.

1.2. Involvement in this project and my role in Design

6. Royal Haskoning was commissioned by Infinergy Ltd for the Applicant in 2006 to provide project management and coordination of the EIA and Application for Consent under s36 of the Electricity Act 1989. As a Technical Director with Royal Haskoning (until July 2010), I was closely involved in the Dorenell wind farm project from June 2006 after the site selection and at the beginning of the EIA process, as the Project Director and principal co-ordinator of the Dorenell Environmental Statement (ES), and all post submission responses on behalf of the Applicant. I provided specific technical input to various chapters of the Environmental Statement for the Dorenell Wind Farm (ES)[1], particularly Chapter 6: *Assessment of Alternatives*, which functions as a 'design statement' for the application and which is the key document relevant to this witness Statement.

7. I provided input into the design of the Dorenell Wind Farm insofar as advising on 'non – landscape and visual' factors, which were addressed by a qualified landscape architect.

8. Documents to be included in the Core Document List and the Applicant's List of Documents for the Inquiry are cited in this statement and listed in Appendix 3.

2. LOCATION AND SITE SELECTION

9. The Applicant is a wholly owned subsidiary of Infinergy Ltd which is part of Koop Duurzame Energie (KDE) of Koop Group, an international company involved in major construction, engineering and contracting projects. The company entered into a joint venture with Savills and sought to invest in renewable energy in the UK in general and Scotland in particular. At this time (circa 2003), the political climate in Scotland, along with the announcement of aspirational renewable targets[2] created an encouraging and positive climate for investment in renewable energy in Scotland.

10. As discussed in Chapter 6 of the ES, Infinergy Ltd originally investigated over 200 potential wind farm sites in the UK, most of them in Scotland. Due to the investment required, Infinergy places significant weight on the feasibility process to determine if a potential site is indeed a viability site for a wind farm. The following range of criteria is taken into account to determine the feasibility of a site (see also Chapter 6, paragraphs 6.8-6.10):

    - Local and national designations
    - Local and national policies
    - Ecology and Ornithology constraints
    - Historic settings and archaeology constraints
    - Wind speed
    - Grid connection
    - Aviation radar and low flying zones
    - Access to site (transport of turbines)
    - Geotechnical constrains (peat, slopes, watercourses, etc)
    - Distance to dwellings (especially with respect to noise and shadow flicker)
    - Nearby wind farms (cumulative impacts)
    - Communications (mobile telephone links, etc)
    - Site capacity (how many turbines possible)
    - Economic viability

11. In the feasibility process Infinergy distinguishes between three different constraints. Firstly, there are constraints that are insurmountable and therefore will act as a 'showstopper' to a potential project. Examples of this could be that it is not possible to get the turbines on site (access problems), that the site is situated in a low flying zone or that the site is within the National Park boundaries. Secondly, there are constraints that Infinergy believes can be overcome by means of a good design, technical solutions or mitigation measures. Thirdly, there are constraints that Infinergy believe are effectively not constraints for that particular site. However, even in the most favourable and unconstrained locations possible, without good wind speed or a willing landowner to make his land available for a wind farm, a project will never materialize.

12. It is of interest to note that, using these criteria, only 27 of the original 200 sites were considered by Infinergy to be suitable prospects for further investigation. As of the current date, a further 21 sites have become 'insurmountable' because of land availability issues. The point of this particular statement is that good wind farm sites are very difficult to find.

13. The Dorenell site is not located near residential properties, it is a very large tract of land, it has good site access, and good grid connection options. Importantly, it has some of the highest and most consistent wind speeds recorded by Infinergy, making this site an outstanding and relatively rare opportunity for development of a large wind farm. These high and consistent wind speeds will result in a very high output from the wind turbines, producing top-tier levels of renewable energy per installed MW.

14. Table 6.1 of the ES details the site specific evaluation for Dorenell.

15. Infinergy took early advice in relation to site selection, which suggested that with regard to landscape and visual issues, the site sits in a large-scale and simple landform which provides a degree of enclosure. There would be limited effects on any settlements or other residential receptors. There is limited visibility from some walking routes and roads; and cumulative impacts and those on designated areas of national importance could be acceptable given the effects of distance and the small field of view occupied. In this regard, the orientation of the site axis along the ridgeline relative to the location of the national designated areas to the south, is a distinct advantage.

16. Based on the consultation draft of the (then) emerging SPP6[3], Infinergy considered that potential impacts on the local AGLV designation would be outweighed by the considerable energy generation and other benefits offered by the scheme.

17. Evidence on these aspects of the development plan and the planning policy context will be provided by Mr David Bell (Policy) and Mr James Welch (Landscape and Visual) on behalf of the Applicant, in the Inquiry sessions.

3. DESIGN: TECHNICAL CONSTRAINTS AND MITIGATING POTENTIAL ENVIRONMENTAL IMPACTS

3.1. Introduction

18. This section discusses the early stages of the design process for the site, which involved identifying and managing all of the technical and environmental constraints, excluding landscape and visual issues. The outcome of this process was made available for the early input and participation in the design process by the public (community and tourists visiting the area), and provided a robust framework to support the next stages of the landscape and visual design iterations.

19. The objective of presenting this information in a hearing statement is to illustrate how the design of onshore wind farms such as Dorenell is becoming increasingly complex. Each wind farm is different, and the approach taken for each project is highly variable and dependent upon a range of site specific factors, including the size of the site, the wind speed and target capacity, as well as the type and location of sensitive receptors.

20. Good design of a wind farm does not occur by consideration of visual elements alone, nor is it produced in the office of a landscape architect, or by a developer concerned only with removing or relocating one or two turbines in order to mitigate the visual impact at certain viewpoints. Put another way, an assessment of landscape and visual impact significance does not in itself provide a benchmark of good or bad design. There are examples of consented wind farms where an overemphasis on landscape and/or visual considerations has not produced the best environmental outcome, and indeed has directly or indirectly resulted in environmental harm. Good wind farm design is the result of the work of a broad range of professional specialists who seek to achieve both the best fit in the landscape, as well as the most sensitive footprint possible. Of course, and this is often forgotten by objectors (but recognised in the consents given for some contentious wind farm projects), good design should also optimise wind capture[4].

21. The Dorenell site contains a wide range of environmental factors, visual impact issues and engineering constraints which needed to be considered and balanced during the overall design of the site, both for the turbine layout, as well as the track layout and design. By taking on board all environmental considerations, and applying professional judgement from a wide range of specialists on best practice and beyond, the applicant believes that the Dorenell Wind Farm represents the best possible design of a wind farm in this location.

3.2. Approach to the Design

22. The design process for this wind farm did not commence until substantial amounts of baseline information had been collected in order to identify the environmental, technical and engineering features of the site. This process commenced in 2004 with bird survey and ecological survey work, and continued with aviation and radar assessments, geotechnical and other environmental surveys and investigations. This information was collated and overlayed using GIS mapping tools as part of a preliminary constraints mapping exercise.

23. In recognising the complexity of issues to be considered during the early design phase, the principles outlined in PAN 68: *Design Statements*[5] were adapted for the project, particularly in developing ‘design objectives’. These design objectives provided a useful reference point over the long design period, and helped to support decision making where there were conflicting design choices.

24. A review of influencing factors was undertaken to help the development of the design objectives. These influencing factors included the site specific factors identified in paragraph17 above, but also the recent outcomes of public inquiries, local issues and any current focus of attention with regard to wind farm projects. For the Dorenell project, the main factors which influenced the design objectives included:

a) the acknowledgement that any wind farm in the local area, no matter what its scale, may be perceived as having a significant impact on the landscape. Particular attention should be paid to tourism interests and the proximity of the Cairngorms National Park;

b) the large size of the site, in association with a high wind speed. These factors would allow the removal of turbines if necessary and the development of large set-back and buffer or 'no-go' zones within the site, which would support 'avoidance' as the most preferable means of mitigation[6] in this circumstance.

c) the location of the River Spey Special Areas of Conservation (SAC) to the immediate west and the Blackwater to the immediate east of the site boundary. Both of these rivers are high quality salmonid fisheries, managed by active and well informed Boards, and therefore there was the need to ensure that the risk of sedimentation and pollution to both the River Fiddich and to the Blackwater was minimised and preferably avoided. Atlantic Salmon are a qualifying species for the SAC;

d) the higher sensitivity of the River Fiddich and need for higher protection in consideration of its status as a part of the River Spey SAC, and hence additional assessment as required under the Habitats Regulations[7].

e) recent examples of poor design from other wind farms, which led directly or indirectly to environmental harm:

   i) Paul's Hill Wind Farm – During consultation, SEPA provided us with information which indicated that a track, which was relocated principally to minimise visual impacts, had resulted in not only additional costs for the developer, but, importantly, significant environmental damage. This included poor surface water management and an unexpected additional visual impact; and

   ii) Braes of Doune Wind Farm. The environmental damage caused by poor track and drainage design and peat storage management was highly publicised at the time and was considered likely to be a key consideration when examining the acceptability of the Dorenell project.

f) the requirement for licensing under the Controlled Activities (Scotland) Regulations 2005 requires an applicant to demonstrate minimisation of the number of water crossings and, possibly, the need to provide evidence that the alternatives chosen represent 'best environmental option not at disproportionate cost';

g) Infinergy's desire to be recognised for best practice. Infinergy intends to invest in Scotland in the long term and to develop a number of sites. This has been demonstrated by opening an office in Inverness. Infinergy consider their reputation to be a very important factor for the future.

25. Following from the review of influencing factors, a series of design objectives and criteria were developed (see Chapter 6 of the ES paragraphs 6.41-6.42). It is notable that the 'Absolute Constraints' design objectives were set very high, in that large 'no-go' zones (buffer and set-back distances from sensitive areas) were allocated. These large buffer zones enabled the majority of potential impacts to be avoided. The sizes of these buffer zones were developed by the relevant professional consultants engaged for the project (refer to Hearing Statement for Ornithology for the development of breeding bird and wader buffer zones), and are either best practice or higher. For example, more recent guidance (e.g. SEPA[8]) suggests set-back distances from disturbance to water courses could be as low as 10m.

26. An important design objective is to ensure that in areas where any of the constraints conflict and absolute constraints cannot be fully met, an assessment of alternatives would be conducted and the reasons for selecting an option would be provided within the ES. This is in keeping with Part II of Schedule 4 to the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000[9].

3.3. Setting Turbine Constraint Areas

Technical Constraints

27. In order to commence the turbine layout design process, a maximum turbine overlay of the site was developed, which involved aligning turbines at the optimal separation distance from each other in the direction of the prevailing wind (see Figure 6.2 and Figure 6.10 – 101 turbines – in Chapter 6 of the ES). This approach is consistent with the desirability of maximising the generation capacity of the site.

28. The maximum number of turbines identified was **101 turbines.**

29. The turbine manufacturer specifications require that turbines are not to be built on slopes greater than 15%. Following a slope analysis, 13 turbines were removed for technical reasons, leaving **88 turbines** (see Figure 6.3 and Figure 6.10 - 88 turbines of the ES).

Environmental Constraints

30. Following the development of the design objectives, the constraints mapping was updated to incorporate all agreed buffer and set back zones (see Figures 6-4 though to 6.9). This included geotechnical risks and peat depth mapping.

31. This constraints map was overlain onto the altered turbine arrangement (Figure 6.10 - 88 turbines of the ES), and any turbines located within these zones were removed or relocated in accordance with the particular constraint (see Table 6.5 in Chapter 6 of the ES).

32. A further 17 turbines were removed at this stage, leaving **71 turbines** (see Figure 6.10 – 71 turbines of the ES)

33. The map of absolute and provisional constraints and the 71 turbine layout was then handed over to the landscape architect to provide a framework for the next stage of the design process (i.e. the landscape and visual design) (see below).

Consultation

34. At this stage in the design process, the project was subject to the first of two public exhibitions for the project (late October/early November 2007). The desire to allow the public to participate in early decision making regarding the design of the turbine layout was recognised as being in keeping with the spirit of the Public Participation Directive[10] and SPP6. Whilst it was not a formal requirement at the time, Infinergy sought to adopt best practice by meeting the spirit of the emerging planning regime for Scotland[11] in relation to community consultation and with due regard for PAN81: *Community Engagement*[12].

35. A full description of the consultation process undertaken by Infinergy is presented in Chapter 5 of the ES.

36. The exhibitions highlighted the design process to date, and showed the turbine design at this stage, prior to having undergone any detailed landscape and visual modifications. The public were also able to 'experience' a 3D demonstration of the visual effects of the 71 turbine layout from any vantage point. The public were invited to make comments on a pro-forma questionnaire at the exhibitions, or to contact Infinergy directly, either the project manager or via the website www.dorenellwindfarm.co.uk.

37. At around the same time, a specific tourism and visitor survey was undertaken to identify key visitor locations, sensitivities and opinions in relation to the Dorenell wind farm (see Chapter 21: *Tourism and Recreation* of the ES).

38. All comments and concerns from public and community consultation were collated (see Chapter 5 of the ES for a summary of concerns) and passed on to the landscape designer for the next stage.

Landscape and Visual Issues

39. The ES identifies how the landscape and visual design of the Dorenell Wind Farm evolved to respond to concerns raised during the consultation process and the Tourism and Recreation visitor surveys (see Chapter 5 of the ES (from paragraphs 5.36 to paragraphs 5.39; and Table 21.4 *Modifications to Turbine Layout and Residual visibility from key attractions* of the ES).

40. A description of the landscape and visual effects of this design process will be given by Mr James Welch in the Inquiry Session on Landscape and Visual Issues, and will not be addressed here.

41. It is important to note that this stage was a highly iterative exercise which involved ongoing review of the ecological, geotechnical and hydrological constraints and issues, as turbines were relocated for the purpose of minimising the landscape and visual impact. This process included at least three all-day optimisation workshops, attended by relevant specialists and resulted in some encroachment into the original constraint areas developed by the first stage of the design process.

42. The final design solution is presented in Figure 6.19 of the ES, while Figure 6.22 and Chapter 6 (paragraphs 6.79 – 6.82) of the ES illustrates and describes how and why the final layout has intruded into the original constraint areas.

3.4. Design of Access Tracks

43. As discussed in Chapter 6 of the ES (paragraphs 6.59 – 6.74) the layout of the internal access tracks also went through an iterative design process, which was informed by the design objectives established above. However, in this case, a design hierarchy was established, whereby 'buildability', minimisation of peat slide risk and hydrological management were given a higher priority than landscape and visual factors: i.e. the protection of the SAC and the Blackwater from sediment transport was given the highest design priority.

44. To support decision making, a number of alternative options were developed. As can be seen in Figure 6.14 of the ES, the majority of the internal access track design (in black) meets the design objectives for all factors. However, some areas of conflict occurred, generally on slopes where landscape impacts would be more highly prominent, or where the track design would increase the risk of sediments being transported into the minor burns on the site.

45. Early consultation with SNH and SEPA acted to inform these authorities of the proposed design hierarchy as a methodology for addressing these options, and the ES provides detailed drawings of the locations and the final design solution where an assessment of alternatives was required (Figures 6.15 - 6.19 of the ES). This is in keeping with Part II of Schedule 4 to the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000.

3.5. The influence of the SAC in the design of the Dorenell Wind Farm

46. As stated in paragraph 24 d) of this witness statement, the close proximity of the River Spey (SAC) and the need to consider the requirements of the Habitats Regulations, was an influencing factor in the design of the wind farm layout.

47. The Habitats Regulations require that there should be no deterioration in the habitats of the qualifying species, with particular regard to a) the distribution and extent of habitats supporting the species and b) the structure, function and supporting processes of habitats[13].

48. Furthermore, the Habitats Regulations require that there be consideration of all aspects of 'alternative solutions' which might better protect the integrity of the site. These alternative solutions could involve 'alternative locations (routes in case of linear developments), different scales or designs of development…'[14]

49. The importance of ensuring that the wind farm design pays specific attention to preventing deterioration in the water quality of the River Fiddich, is explicit. The weight of this European requirement fundamentally dictated the design approach to this wind farm.

50. This was apparent from the outset of the project, when determining the most environmentally sensitive access route into the site. By undertaking a detailed environmental options' appraisal to ensure that the best 'alternative solution' was found, the originally preferred site entrance option adjacent to the River Fiddich was rejected in favour of the current site entrance (see Chapter 6, paragraphs 6.25 – 6.38 and Table 6.3). This demonstrates that environmental considerations, additional to landscape and visual concerns, were by necessity, embedded at all stages of design decision making, particularly if there was potential for impacts on the SAC.

51. The importance of managing peat slide risk and sediment runoff into the River Spey Special Area of Conservation (SAC) as a priority issue, and justification for the Applicant's own design hierarchy, is illustrated by the structure and content of the SNH consultation response (October 2008)[15], and the consequent focus by the Applicant in addressing this response, mainly on drainage and sediment management issues[16]. This included further development of the proposed drainage design management plan (ODMP), presented as Annex 1B of Infinergy's response[16].

52. Sediment management for the protection of fisheries was also considered to be of the highest priority by the Spey District Salmon Fisheries Board and The Deveron District Salmon Fisheries Board, and was addressed within a legal Agreement[17] to produce an outline Fisheries Management Plan (FMP)[18] jointly with the Applicant.

4. CONCLUSIONS

53. Having reviewed and carefully considered all of the information provided in the ES and subsequent studies, I am satisfied that these provide a complete and accurate record of the preliminary design process undertaken at the Dorenell Wind Farm. The approach taken is consistent with the SPP (2010) and the design principles as adapted from PAN 68. By ensuring that environmental considerations as well as landscape and visual concerns were embedded within the design process, where there was a potential impact on River Spey SAC, and with an appraisal to determine the best 'alternative solution', is an approach consistent with the Habitat Regulations. The provision of alternatives studies complies with Part II of Schedule 4 to the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000.

54. As discussed above, the approach to early involvement of the public to support decision making in the design process was consistent with the then emerging Planning etc Scotland Act 2006.

55. I make no apology for repeating here the conclusions we stated in our comprehensive response to SNH of April 2009, namely:

> *' The Scottish Government has an ambitious target to meet 50% of Scottish demand for electricity from renewable sources by 2020 and an interim target of 31% by 2011.*
>
> *The development of a 177 MW wind farm at Dorenell would significantly contribute to reaching Scotland's energy targets both in terms of increasing the proportion of power generated from renewable energy sources, and in the reduction of greenhouse gas emissions. The removal of turbines to produce a smaller wind farm at Dorenell is not warranted on the grounds raised by SNH and would simply mean the requirement for another wind farm in another location. Infinergy restate, that this wind farm design, in this location, represents the best environmental and landscape option, while still making a significant contribution to meeting Scotland's renewable energy targets'.*

56. Further, I would commend to the reporter and parties to this inquiry, what was said to SNH in the seven preceding paragraphs, which are reproduced for convenience in Appendix 2 of this Hearing Statement.

57. The removal of the statutory consultee's objection as a result of this focus and clarification is, I would suggest, significant not only for the design issues, but for the determination of the application.

APPENDIX 1: QUALIFICATIONS AND EXPERIENCE: WITNESS FOR THE APPLICANT ON DESIGN

Ms Beverley Walker

The Witness has been involved in the Dorenell project since June 2006 as the Project Director and principal co-ordinator of the Dorenell Environmental Statement (ES) and post submission responses on behalf of Infinergy. She provided specific technical input to various chapters of the Environmental Statement for the Dorenell Wind Farm (ES) [19], particularly Chapter 6: *Assessment of Alternatives*, which functions as a 'design statement' for the application and which is the key document relevant to this Statement

The Witness has a BSc (1st Class Hons) Botany, University of Western Australia) and has over 26 years experience in the environmental sector, specialising in Environmental Impact Assessment (EIA).

In Western Australia, the Witness was an Associate Director of a prominent environmental consultancy (Bowman Bishaw Gorham – now RPS) which she left to spend five years in the Western Australian Government Department of Environmental Protection, Evaluation Division as a Manager of the Land Use Development Branch. In this role she was responsible for a team of 10 staff which undertook the evaluation of over 300 EIA and strategic advisory assessments under the WA Environmental Protection Act 1986. Core business included environmental impact assessment of proposals ranging over land, water resources and the marine and coastal environments. Other relevant experience includes:

- member of two Ministerial Select Committees
- Independent assessor for the Australian Heritage Commission (appointed by the Minister for Planning)
- input into statutory Environmental Protection Policies and involvement in the broader implications of Commonwealth Policies and National and International agreements and strategies, particularly ecologically sustainable development, biodiversity, greenhouse and state of the environment reporting as they apply to EIA, and their integration into planning and development strategies;
- provided critical review on behalf of the Environmental Protection Authority (EPA) to Water and Rivers Commission Policy (Standing Committee on Agriculture and Resource Management – joint committee of the Agriculture and Resource Council of Australia and New Zealand – ARMCANZ, and the Australian and New Zealand Environment and Conservation Council – ANZECC).
- development of streamlined EIA screening and scoping guidelines for local authorities;
- conducted masterclasses on EIA for engineers.

In the UK, The witness has been actively involved in the Renewable and Energy sector for the past 8 years, specialising in the s36, s37 consenting process. She has been involved in the EIA of over 25 onshore wind farm projects, predominantly in Scotland but also in Northern Ireland, Wales, England and the Republic of Ireland. She has undertaken technical review of EIAs for the first Scottish tidal scheme, several micro-hydro schemes, and has provided advice on planning consent for both onshore grid and offshore inter-grid connections. More recently she was Framework/Technical Director for a range of Offshore Wind Farms including five sites for Scottish Territorial Waters (STW) (of which four were successful) and six Round 3 zone sites (of which two were awarded as first preference and two awarded as second preference).

The witness is a nominated member of the Scottish Renewables Forum (SRF) Planning and Consenting Working Group, provided advice to support the Onshore Wind EIA Best Practice Seminar in April 2010, and more recently regarding consultation feedback on the Site Location and Design Guidance for Onshore Wind Farms published by SNH.

The witness is a member of UKELA and is currently undertaking an LLM Masters in Environmental Law focusing on EU Legislation and integration into UK Law, and has a particular focus on the implications of the Public Participation Directive to EIA practice. Her dissertation topic, due to be completed by January 2011, is based on an assessment of whether the IPC is meeting objectives with regard to consenting of offshore wind farms.

APPENDIX 2: SUMMARY OF DESIGN CLARIFICATIONS PROVIDED TO SNH

Extract from Summary (p vi)

In making an assessment of the site and developing layout design objectives, Infinergy has recognised the potential and often conflicting requirements of ecological, ornithological, geotechnical, hydrological and landscape interests. Accordingly, Infinergy made the decision, early on, to prioritise the protection of the ornithological interests and the River Spey SAC in terms of turbine layout. The landscape design was therefore constrained by the requirement to achieve these objectives. This decision was discussed with SNH and SEPA at the earliest possible time in the project development, and is reflected in SNH's current response., which acknowledges this priority, does not raise an objection, but suggests that the improvements to the landscape and visual elements could be made if there was slight modification to the layout by either relocating or removing turbines, particularly those where it has identified potential issues with peat slide risk. SNH then follow with a number of recommendations for removal of turbines which are visible from two main viewpoints.

In response to issues regarding scale and visibility, Infinergy consider that almost any wind farm being developed in the area would be visible from Ben Rinnes and from the Cairngorms National Park, primarily due to the high altitude of the viewpoints and the fact that their visibility extends over a significant portion of the landscape. As areas prominently visited for tourism and recreation purposes, the public perception of wind farms and their likely effect on visitation and socio economic factors is discussed in other chapters, however the overriding conclusion is that the presence of a wind farm will not significantly affect visitation rates. In addition, it is clear that current LVIA methodology and SNH assume that the presence of a wind farm in the landscape is a negative or adverse impact, however this is not necessarily borne out by public views. Any significance attributed to landscape impact is therefore clearly one of perception, and Infinergy believe that in time, and with increasing evidence of climate change, increasing fuel prices and increasing pressure for nuclear development, these projects will be perceived as positive icons in the landscape.

With regard to the relocation and /or removal of turbines, Infinergy make the following comments

The optimization and final design of the turbine layout involved 15 (formal) iterations, which took over 8 months, in order to develop an integrated and cohesive design, from a total of 22 viewpoints. All turbines have been located with key response to both physical and ecological constraints, and with the best sensitivity to integration with landscape and visual considerations. **Infinergy believe that relocation of turbines is not an option without compromising other design objectives**.

In addition, there is no justification for removal of turbines on the basis of peat slide risk or slope instability as suggested. Therefore any removal of turbines would be purely from a visual impact reason.

Further investigation has indicated that SNH's suggestions for turbine removal from different viewpoints, in fact refer to different turbines. This demonstrates the integrated nature of the design and the complexity of the landscape. It is important to realize that removal of any turbines to address impacts from one viewpoint, will significant compromise the views and design from several other viewpoints.

Two of the sensitive viewpoints suggested are along roads where views would be changeable and temporary. With respect to the Ben Rinnes viewpoint, that the current assessed impacts are of moderate adverse impact to this landscape. However, removal of three turbines, as suggested by SNH, will make no significant difference to this impact.

Infinergy are therefore of the view, that this layout, as presented, represents the best possible design in this landscape. 30 turbines or 90MW were removed because of hard constraints, with a further 12 turbines 36MW removed because of landscape and visual impacts. The current design is a holistic response to the environment, and any further turbine removal is considered to be unwarranted, without significant consequences to the cohesiveness of the entire design and the financial viability of the project.

It should also be recognized, that for every turbine lost for minor improvement to visibility from one key viewpoint, represents loss of community benefit income of £6000 per year, namely a total of £120,000 over the 20 year life of the wind farm.

APPENDIX 3: LIST OF DOCUMENTS FOR THE HEARING SESSION ON DESIGN

[1] Dorenell Environmental Statement (ES) Volume 2: Written Statement

[2] Scotland's Renewable Energy Potential – Beyond 2010 : Consultation Paper August 2002

[3] Scottish Planning Policy (SPPG) 6 Renewable Energy (2007)

[4] Scottish Planning Policy (SPP) (2010)

[5] Planning Advisory Note (PAN) 68: Design Statement (2003)

[6] Mitchell's (1997) Mitigation Hierarchy. Extract from: Mitchell, J. 1997. 'Mitigation in Environmental Assessment – Furthering Best Practice IN*: Environmental Assessment* 5 (4), 28-9

[7] The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (the Habitats Regulations)

[8] SEPA (June 2009) Regulatory Method (WAT-RM-02) Regulation of Engineering Activities

[9] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

[10] Directive 2003/35/EC providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC (The Public Participation Directive)

[11] Planning etc (Scotland) Act 2006

[12] PAN 81: Community Consultation

[13] SNH Guidance for Competent Authorities when dealing with proposals affecting SAC freshwater sites January 2006

[14] Managing Natura 2000 Sites: The Provisions Of Article 6 Of The 'Habitats' Directive 92/43/Cee. European Commission 2000.

[15] SNH full and formal response to the Dorenell Wind Farm (18 June 2009 Ref: CNS/REN/WF/Dorenell)

[16] Infinergy's response to SNH (April 2009) including Annex 1B: *Outline Development Management Plan (ODMP)*

[17] Agreement between Dorenell Ltd and Spey District Salmon Fisheries Board and The Deveron District Salmon Fisheries Board and The Deveron, Bogie and Isla Rivers Charitable Fisheries Trust and Spey Foundation in relation to the protection and enhancement of the principal river catchments near to the proposed Dorenell Wind Farm

[18] Dorenell Wind Farm Outline Fisheries Management Plan (oFMP). A document prepared by the Spey Research Trust, the Deveron, Bogie and Isla Fisheries Charitable Trust and Royal Haskoning (on behalf of Infinergy Ltd)