West Wight Project

Alternatives Technical Appendix

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1. Introduction

1.1 The strategic selection of the site for the proposed West Wight Project and the subsequent micro-level decisions affecting the number of turbines proposed and their subsequent positioning, height and orientation, have followed an extensive consideration of alternative sites and options. This technical appendix outlines the methodology, constraints and selection criteria that were used to identify the application site and subsequently the configuration of the wind farm as proposed in the planning application.

2. Identifying areas of search

Methodology

2.1 The consideration of potential sites for the West Wight Project commenced in August 1999 when Aerolaminates Limited commissioned Terence O'Rourke to undertake a strategic appraisal of land on the Isle of Wight in order to identify suitable areas in which to develop a wind farm. Aerolaminates Limited (subsequently acquired by NEG Micon in 2000 and part of Vestas since 2004) is a world leader in the design, development and production of wind turbines, and having relocated their production and research facility from Southampton to the St Cross Business Park at Newport, they were looking to develop a wind farm that could:

- act as a research and development facility at which their wind turbine blades could be tested and refined
- generate renewable energy with electricity fed into the local grid
- act as a tourist / educational facility with interactive information systems and viewing facilities promoting the use of renewable energy sources.

2.2 The strategic appraisal initially sought to identify a series of areas of search for the wind farm, starting with the consideration of the potential of the Island as a whole and progressively moving towards the identification of preferred sites after a consideration of a wide range of environmental, planning and technical criteria. A four-stage methodology was adopted.

2.3 Stage one of this methodology comprised a desktop study, which sought to identify the scope of potential issues that might influence the selection of sites for the wind farm. This stage saw the compilation of baseline planning, environmental and technical information using Ordnance Survey data and constraints maps held by the Isle of Wight Council, communications and media companies, and the Civil Aviation Authority.

2.4 During stage two, a negative filter was applied to the baseline data to highlight broad areas that were considered to be incompatible with the development of a wind farm. The imposition of the filter identified the location of absolute constraints where the development of a wind farm could not be accommodated, as well as the location of

possible constraints where a wind farm might be capable of being accommodated under certain conditions relating to the size, design, orientation and/or provision of mitigating measures.

2.5 The following negative filters were used in the site selection process:

- all land within **urban areas** was considered to represent an absolute constraint due to the unavailability of suitably large sites, the proximity of such sites to built development, the likely adverse impacts on residential amenity and the high land values that such land usually commands
- **sites of international nature conservation interest** (such as special protection areas and Ramsar sites) were considered to represent absolute constraints to the development of a wind farm
- **sites of national and local nature conservation importance** (such as sites of special scientific interest and sites of importance for nature conservation) were considered to represent possible constraints to the development of turbines, as their impact could depend upon the specific reasons for the site's designation
- sites located within **Areas of Outstanding Natural Beauty** were considered to represent a possible constraint to development, as paragraph 28 of PPG22: *Renewable Energy* (1993)[1] simply requires particular care to be taken in assessing renewable energy proposals in such areas
- sites located within areas of **Heritage Coast** were considered to represent an absolute constraint to wind farm developments because their development for a wind farm would be likely to contravene the objectives behind their designation, as set out in paragraph 1.17 of PPG20: *Coastal Planning* (1992)
- sites identified for **mineral extraction** were considered to represent only a possible constraint to the development of a wind farm because the structures could potentially be constructed and decommissioned without the mineral resource being sterilised
- **conservation areas** and **historic parks and gardens** were considered to represent absolute constraints to the development of a wind farm because it was considered extremely unlikely that wind turbines would protect or enhance either the setting or character of such areas
- **picnic sites, national trails and viewpoints** were regarded as possible constraints, as the impact of turbines on each would be a matter for site-by-site consideration
- **television, radio, radar and aerodrome related constraints** were regarded as possible constraints rather than absolute constraints, because technical solutions were available to resolve specific problems
- **sites of archaeological importance** were considered to represent possible constraints to development, depending on the nature and extent of the archaeology underlying particular sites

[1] PPG22: Renewable Energy (1993) set out national planning policy guidance on the development of renewable energy resources until it was superseded by the publication of PPS22: Renewable Energy in August 2004. At the time of the strategic appraisal, the guidance in PPG22 was applicable

- **Regionally Important Geological Sites** were regarded as absolute constraints due to the limited number of them on the Island
- all **land owned by the National Trust** was considered to represent an absolute constraint to development, as since legislation in 1907, the Trust has been able to hold land 'inalienably', meaning that it cannot be transferred to another body
- all **land owned by the Forestry Commission** was considered to represent an absolute constraint to development, as the development of wind turbines would not allow the promotion of forestry and develop afforestation, which are the primary objectives
- **agricultural land quality** was considered to represent a possible constraint to development, as the extent of impacts would depend on the specific quality of land at a particular site. In addition, in the long term, the decommissioning of turbines would enable land to be returned to agriculture.

2.6 Table 2.1 summarises the strength of the negative filters used in the site selection process.

Filter	**Nature of constraint**
Urban areas	Absolute
International sites of nature conservation interest	Absolute
National and local sites of nature conservation interest	Possible
Areas of Outstanding Natural Beauty	Possible
Heritage Coast	Absolute
Mineral extraction sites	Possible
Conservation areas	Absolute
Historic parks and gardens	Absolute
Picnic sites, national trails and viewpoints	Possible
Television, radio, radar and aerodrome constraints	Possible
Archaeology	Possible
Regionally Important Geological Sites	Absolute
National Trust Land	Absolute
Forestry Commission land	Absolute
Agricultural land quality	Possible
Table 2.1: The strength of the negative filters used in the site selection process	

2.7 Whilst the negative filter sought to exclude certain land areas from consideration, stage three of the methodology saw the application of a series of positive filters which would ensure that the chosen site could accommodate a successful and viable wind farm. The following positive filters were therefore inputted into the site selection process as well:

- in order for a wind farm to be viable, it was required that the **wind speed** on site would need to have an average of more than 6.5 metres per second. A study of the renewable energy potential of the Isle of Wight had been undertaken by the

Energy Technology Support Unit in 1994[2], and the theoretical wind speed data within this document was used to determine suitable sites.

- in order for wind turbines to be physically erected, maintained and decommissioned, it was considered necessary for the site to have **good access to the Island's road network**
- in order for the turbines to generate electricity, it was considered necessary for the site to have **good access to the Island's electricity grid network**
- in line with national planning policy guidance, it was considered preferable to use **previously developed (brownfield) land** ahead of greenfield land.

2.8 The final stage in the identification of areas of search comprised an analysis of the information gleaned from the application of the positive and negative filters set out above.

2.9 Figures 2.1 to 2.9 in Appendix 1 of this report identify the land on the Isle of Wight that was the subject of the individual negative constraints outlined above, whilst figure 2.10 provides a composite constraints map on the assumption that all negative filters represented absolute constraints. Figures 2.11 to 2.13 in Appendix 1 identify the land on the Isle of Wight that was the subject of the positive characteristics required by the wind farm.

2.10 When the negative and positive filters were compared against each other, six broad areas emerged where a predicted high wind resource corresponded with land that was free from important planning and environmental designations. These potential areas of search are shown on figure 2.14 and comprised:

1. **Land north east of Niton and west of Whitwell**, which comprised a narrow strip of land between two parts of the AONB. Unconstrained by any of the criteria considered, according to figure 2.11 it possessed predicted average wind speeds of between 7 and 8.5 metres per second.

2. **Land west of Wroxall**, which comprised a relatively small area of undesignated land surrounded on three sides by AONB and on the fourth side by the village of Wroxall. The average wind speed in this area was predicted to be greater than 6.5 metres per second and there was adequate road access.

3. **Land south of Freshwater and east of Totland** comprised a relatively limited area of land, but was largely devoid of environmental designations and was predicted to have a high average wind speed of between 7 and 8 metres per second.

4. **Land north of Freshwater** was located between the edge of the development envelope and the Fort Victoria Country Park. This land was relatively open, it was not constrained by environmental designations and was predicted to have an average wind speed of between 6.5 and 7 metres per second.

[2] *An Assessment of Renewable Energy in the Southern Region* (ETSU for Southern Electric and the DTI, 1994)

5. **Land north east of Afton and north of the B3399 Newport Road** was predicted to have an average wind speed of between 6.5 and 8 metres per second. It was located close to the A3055 offering good potential for the delivery of wind turbine components, and was also free from environmental designations and distant from main settlements.

6. **Land south west of Bembridge** was located between sites of special scientific interest and the AONB. However, although it contained a strip of undesignated land with predicted average wind speeds in excess of 6.5 metres per second, much of it comprised land at Bembridge Airport.

3. Detailed investigations within the areas of search

The first site-sieve

3.1 The six potential areas of search identified during the desktop study were subjected to preliminary field investigations in April 2000 to determine whether there was correlation between their suitability in planning and environmental terms, and their technical feasibility. Each of the sites was visited by NEG Micon and further assessed against the following technical criteria:

- the extent to which land within the area of search was in single or multiple ownership, as this was a key factor in assembling sufficient land on which to develop a viable wind farm
- in the absence of on-site data, the extent to which there were visible indications of an adequate wind resource within the area of search to make a wind farm viable
- the capacity of the area of search in terms of the number of turbines that could physically be accommodated
- the extent to which the strategic and local road network from the Island's ports to the area of search could physically accommodate heavy goods vehicles (HGVs) capable of carrying large and heavy turbine components such as tower components, nacelles and blades up to 41 metres long. Such analysis involved a consideration of the ability of HGVs to negotiate road bends and corners bordered by hedgerows and stone walls, and the extent to which physical improvements to the highway network might be required to accommodate such vehicles
- the proximity of the area of search and ease of potential connection to the local electricity grid, preferably at 33kV
- the topography and 'ruggedness' of the area of search and surroundings, to check for the existence of localised 'obstructions' to the flow of wind across the area of search, and
- the existing land uses within the area of search and the extent to which wind turbines could co-exist with these uses.

3.2 The results of this technical exercise are summarised below.

Area of Search 1 - Land north-east of Niton and west of Whitwell

3.3 The on-site investigations revealed that this area of search was very small and located in a small valley surrounded by AONB and close to residential properties. Whilst vehicular access to the area of search was potentially suitable, the site was only located close to 11kV power lines. However, owing to its small size and its proximity to residential dwellings, the area of search was considered to be inappropriate for a wind farm.

Area of Search 2 - Land west of Wroxall

3.4 The site visit indicated that the area of search was very small (approximately 500m by 300m) and located on a slope, which would make vehicular access to the site and construction of turbines very difficult. Although not located within the AONB, the closest power lines were only of low voltage. There was also limited evidence on site of a sufficient wind resource to make a wind farm viable in this location.

Area of Search 3 - Land south of Freshwater and east of Totland

3.5 Following the site visit, this area of search was immediately discounted from further consideration due to its very small size and its close proximity to residential development.

Area of Search 4 - Land north of Freshwater

3.6 The site visit revealed that this area of search had the potential to accommodate two wind turbines orientated in a north to north-west to south to south-east formation, straddling the vale. Although located close to a low voltage power line, the area of search was bordered by woodland to the east and sea cliffs to the west and south-west, both of which would affect the flow of wind across the site, thereby affecting the operation of any wind farm. It was also felt that any turbines in this location would be highly visible from the Needles, one of the Isle of Wight's principal tourist attractions.

Area of Search 5 - Land north-east of Afton

3.7 The site visit confirmed that this area of search was located in one of the most sparsely settled areas on the Island, that it possessed suitable access roads and the availability of low voltage power lines nearby and 33 kV power lines within two kilometres. However, it was considered that the number of turbines that the area of search could accommodate would be restricted by the proximity of nearby residences and by its proximity to the ridge of Compton Down, both of which would adversely affect the available wind resource.

Land south-west of Bembridge

3.8 The site visit confirmed that this area of search was highly constrained by the presence of Bembridge Airport, the proximity of residential development and the low altitude of the site in terms of available wind speeds.

Conclusions as a result of the first sieve

3.9 As a result of the first sieve of potential areas, although it was felt that the majority of the areas of search were suitable for a wind farm in planning and environmental terms, they were generally constrained, often severely, in technical and operational feasibility terms. Of the six areas of search, only the land to the north east of Afton (area of search number five) offered any realistic potential to accommodate a wind farm, although the proximity of Compton Down and the associated turbulence and visibility issues still represented important potential localised constraints here.

4. Refining the site-selection process

4.1 In view of the disappointing results from the site visits, coupled with further on-site observations made by NEG Micon during these visits, the decision was taken to undertake a re-assessment of potential areas of search with a refined set of positive and negative filters. These refinements are highlighted below.

4.2 The wind speed data used in the initial desktop study came from a 1994 ETSU report on the potential for renewable energy sources to be developed on the Isle of Wight. However, there were a number of weaknesses in this report, namely that:

- the report made use of a historic UK average wind speed database which recorded wind speeds at just 25 metres above ground level, rather than at the heights reached by modern wind turbines
- the model used to compile wind speeds did not take account of detailed topography on the Island, and therefore in generating data assumed that each square kilometre of land possessed a uniform topography.

4.3 Whilst the six areas of search identified in the desktop study were considered to possess technical deficiencies, it was also apparent that the available wind resource in some areas of the Island was greater and more widespread than predicted in the ETSU report. Further site visits led to the identification of new areas of search that were considered to have significant potential to accommodate a wind farm on wind speeds alone, and so consequently, the positive wind speed criterion previously used was relaxed.

4.4 Secondly, as the original six areas of search had been derived from the assumption that all of the negative constraints were absolute, the desktop study was revisited so as not to exclude land identified as a possible constraint. As can be seen from the absolute constraints composite map in figure 2.15, this decision led to the reconsideration of a significant amount of land that had previously been discounted, the majority of which comprised land in the Area of Outstanding Natural Beauty.

4.5 Thirdly, NEG Micon finalised a feasibility study of the minimum number of turbines that they would need on a particular site in order to ensure that it would be economically viable. On the assumption that the wind farm would accommodate NM2000 turbines, with a hub height of 60-80 metres and blade length of approximately 40 metres, they calculated that they would require a minimum of five turbines to ensure a commercially viable scheme. Based on this requirement, each of the areas of search was re-assessed to determine whether the minimum number of turbines could be accommodated.

The results of the second site-sieve

4.6 The reconsideration of the initial six areas of search confirmed that none would be able to accommodate the required number of NM2000 turbines to make the project viable. However, solely on the basis of wind speeds experienced in the field whilst visiting these areas of search, NEG Micon identified the following five additional search areas:

7. **West - central Isle of Wight,** which comprised an area of land to the west of Newport and south of Shalfleet. This area was located close to area of search number 5 at Afton and shared many of its desirable characteristics including sparse settlement, good road access, open countryside, good grid connection potential and a general lack of nature conservation designations. It was considered that the site could contain up to six NM2000 turbines.

8. **Bleak Down near Godshill**, which was located in another of the Island's relatively sparsely populated areas. The site possessed good road access, evidence of a suitable wind resource (stunted trees with a lean to the north-east) and potential for grid connection. Although located within the AONB, the site was considered large enough to accommodate a maximum of six NM2000 wind turbines.

9. **Land north of the Military Road at Brook**, which had significant potential in technical terms as it was very open to the south and south-west and occupied a good coastal site. However, the site was located wholly within the AONB and Heritage Coast area and was not sufficiently large to accommodate five turbines due to the proximity of scattered dwellings.

10. **Bowcombe Down / Rowridge west of Newport**, which was located on the northern side of the ridge that runs east to west across the Island. Comprising an area 2-3 km wide with few obstructions on the north face, it was shielded from the southern side of the Island where the majority of tourist features were located, and had a 33 kV power line within 1.5 km of the site. However, the site lay within the AONB.

11. **Brighstone Forest** was identified as an area of search on the basis of an extant (but unimplemented) planning consent for three 30m wind turbines (blades 15m) with output capacity of 300kW. The turbines were initially approved by the Isle of Wight Council in January 1995 and the permission was subsequently renewed in 2001. However, the site was discounted from further consideration due to its

distance from the grid, its poor access and an inadequate wind resource caused by the disturbance effect on wind patterns due to the forest. The site area could also only support three NM2000 turbines.

4.7 The location of these five additional search areas is shown in figure 2.16. Of these, the land north of Military Road at Brook and the land at Brighstone Forest were not of of sufficient size to accommodate a viable scheme. Only areas of search numbers seven, eight and ten were therefore subjected to further detailed investigation. Each of these areas of search was duly assessed against the negative and positive filters and the technical requirements outlined above, and on the basis of whether the area of search fully, partially or did not meet the criteria in line with the following guidance:

- the area of search was considered to meet the **site size** criterion if it was of sufficient size to accommodate a minimum of five NM2000 wind turbines
- the area of search was considered to meet the **suitable wind resource** criterion if, in the view of NEG Micon there was a sufficient unobstructed wind resource on site to enable a wind farm to be viable. This criterion was considered to be partially met if the surrounding topographical and physical factors were likely to impede or restrict the available wind resource
- the **National Trust / Forestry Commission** criterion was considered to be fully met if none of the land within the area of search was owned by these organisations
- the criterion for **nature conservation sites** was considered to be met fully if the site did not include any international, national or local sites of nature conservation interest. A site was considered to partially meet this criterion if there was a local or national nature conservation site (primarily SSSI or SINC) within the overall area, but where the layout of the turbines could avoid any direct interference with it
- the **AONB / Heritage Coast** criteria were considered to be fully met if the areas of search lay outside of these designations
- in respect of the criterion regarding **distance from an urban settlement**, areas of search were considered to fully meet this criterion if they were totally separated from hamlets, villages and towns by a distance of 500 metres, or flexibility in turbine layout design would avoid turbines falling within this distance
- the Island Archaeologist advised the assessment team that the impacts of a potential wind farm on **archaeology** were best assessed once a specific site had been chosen. Therefore, in the absence of any detailed archaeological information about any of the areas of search, all sites were treated equally and assumed to be devoid of archaeology, thereby satisfying the archaeological criterion
- areas of search were considered to meet criteria for **national trails, picnic sites and viewpoints** if they were not likely to be visible from such features or likely to physically affect them. Areas of search were considered to partially meet the criterion if they could be seen from one or more of the features but were unlikely to materially affect them

- areas of search were considered to meet the criteria relating to **conservation areas** or **historic parks and gardens** if they were not likely to be visible from such features or likely to physically affect them. Areas of search were considered to partially meet the criteria if they would be likely to be seen from one or more of the features but were unlikely to physically affect them. Areas of search were considered not to meet the criteria if they would materially affect such sites
- the criterion for **electricity grid connection** was considered to be fully met if there were suitable 33 kV lines in the vicinity of the area of search, and only partially met if there were suitable 11 kV lines in the vicinity
- the **good access** criterion was assessed on the basis that each area of search had adequate access from public roads to accommodate a heavy goods vehicle (HGV). Areas of search were considered to meet the criterion if they could definitely be accessed by an HGV, but only partially met if significant highway or access improvements would be required
- the **potential visual effect** criterion was considered to be satisfied if the area of search was such that the proximity of any visual threshold was thought likely to substantially limit the extent of the Zone of Visual Influence (ZVI). Areas of search were considered to partially meet the criteria if the presence of such thresholds would limit the extent of the ZVI, whereas the criterion was not considered to be satisfied if the visual thresholds would have little or no controlling effect on the extent of the ZVI
- the **landscape character** criterion was considered to be satisfied if the area of search was of a uniform and simple open character and had been subject to substantial landscape change. Areas of search were considered to partially meet the criterion if they were of a uniform character and generally open, whereas areas of search were considered not to meet the criteria if they occupied an area containing different landscape character areas, or contained landscape of a particularly detailed and intimate character particularly sensitive to change.

4.8 The results of the detailed assessment of the three remaining areas of search are displayed in figure 2.17 in the form of a summary matrix.

4.9 Although each of the three areas of search was considered to be technically suitable for the location of the required number and size of turbines, the west to central Isle of Wight area performed best in the assessment, fully meeting all but two of the identified criteria. In addition, it was the only area of search that was not located in the AONB, which made it preferable in terms of planning policies alone. On this basis, NEG Micon therefore concentrated efforts to identify a suitable site for a wind farm within the west to central Isle of Wight area of search.

5. The involvement of Your Energy Ltd

5.1 Having established that the west to central Isle of Wight area of search represented the preferred location for a wind farm in terms of its planning, environmental and technical characteristics, NEG Micon began to look at wind turbine configurations on

land within the area of search. Informal approaches were made to landowners in the area to enquire about the availability of their land to accommodate a wind farm. NEG Micon subsequently signed a development option with a landowner to promote a site south of Wellow, which now comprises the planning application site.

5.2 In order to secure accurate data about wind speeds on site, Aerolaminates Limited (on the instructions of NEG Micon) submitted a planning application for the temporary erection of a 40 metre high wind anemometer on land off Broad Lane at Shalcombe, in November 2000. Planning permission for the mast was granted for a twelve month period in January 2001. However, due to delays in procuring, erecting and commissioning the anemometer and subsequent data collection problems during the summer of 2001, a full year's wind data was not collected. Consequently, a further twelve month planning permission was sought in December 2001 and this planning permission was granted on 16th July 2002. These permissions enable wind speed and directional data to be collected on site for the periods January 2001 to July 2001 and January 2002 to September 2002. The anemometer has since been taken down.

5.3 Analysis of the data obtained from the anemometer confirmed that the wind resource on site exceeded 6.5 metres per second at a height of 40 metres, and that such a wind speed would make the development of wind turbines commercially viable at this location. Armed with this information, NEG Micon began to assess and refine options for the configuration of the wind farm.

5.4 In December 2003, NEG Micon merged with Vestas, the leading Danish wind turbine manufacturer, who subsequently confirmed its intention to assist the Isle of Wight Council meet its target of generating 10% of the Island's electricity from renewable resources by 2010, by pursuing NEG Micon's plans for the wind farm. After inviting interest from wind farm developers, Vestas duly appointed Your Energy as the development partner on the project, and in March 2004, an Environmental Impact Assessment (EIA) Scoping Report was submitted to the Isle of Wight Council setting out Your Energy and Vestas' plans for the site, and inviting public feedback.

6. Alternative layouts considered by Your Energy

6.1 Prior to the submission of the turbine layout identified in the scoping report of March 2004 (shown in figure 2.18), Your Energy and Vestas actively investigated the merits of two other layouts for the site. Figure 2.19 shows Option A, which comprises a largely linear turbine layout for the site but with an additional single turbine (number seven) located approximately 750 metres to the north-east of turbine number five. Figure 2.20 shows Option B, which comprises a more compact turbine layout of only five turbines, arranged in two clusters either side of Hummet Copse.

6.2 Although both of these options were assessed in terms of their technical and environmental feasibility, both were rejected in favour of the option shown in figure 2.18 on landscape impact grounds.

6.3 Public consultation exercises setting out draft details of the proposed wind farm were undertaken alongside the submission of the planning application for the wind

anemometer in December 2000, and following the submission of the EIA Scoping Report in March 2004. These public consultation exercises took the form of manned and unmanned public exhibitions and presentations to local Parish Councils. At each consultation event, Aerolaminates Limited and Your Energy requested feedback about the specifics of the proposal and the comments received were fed into the iterative layout review process.

7. Current site layout evolution

7.1 Since the publication of the EIA Scoping Report in March 2004, Your Energy has acquired the development option for the land south of Wellow, and is now the sole company pursuing the development of wind turbines on land south of Wellow. Your Energy is only seeking to develop turbines and associated infrastructure at the site rather than the 'wind technology park' originally being sought by Aerolaminates Limited, NEG Micon and Vestas.

7.2 In addition, several important iterative changes to the site design and layout of the wind farm have occurred since the March 2004 scoping report was published. Following requests made during the scoping consultation process, Your Energy commissioned a series of specialist environmental studies, the results of which have been used to amend the site layout that appeared in the March 2004 scoping report. The principal changes to the scheme layout that have been made as a result of these additional studies include:

- turbine numbers one and two (and some access track sections) have been moved approximately 30 metres to the south to avoid affecting crop marks and other unidentified archaeological features in their vicinity
- following a detailed landscape and visual impact assessment, Your Energy has removed the outlying turbine (turbine number seven) and relocated turbine six further southwards so that the remaining six turbines are in closer proximity to each other and arranged more in a line, thereby mitigating some of the adverse visual effects associated with the scheme identified in the March 2004 scoping report
- turbine number seven was also removed from the proposed development because this turbine would have exceeded the noise criteria adopted for the project.

7.3 The extent of the changes between the location of the turbines shown in the March 2004 scoping report and the layout for which planning permission is now being sought, is shown on figure 2.21. Further details of the specialist environmental studies undertaken at the site that have resulted in the amendments to the micro-siting of the turbines are set out elsewhere within the Environmental Statement.

8. Reviewing the original site selection process

8.1 Prior to the submission of the planning application for the West Wight Project, Terence O'Rourke re-ran the initial strategic site appraisal using up-to-date

Geographical Information System datasets provided by the Office for the Deputy Prime Minister, English Nature, the RSPB, the Woodland Trust, English Heritage, the Countryside Agency, the Forestry Commission, Digital Landscapes and the Isle of Wight Council. Each of the original negative filters was re-assessed, supplemented by a consideration of the following additional constraints:

- Local and National Nature Reserves
- Important Bird Areas and RSPB Reserves
- sites owned by the Woodland Trust and areas of ancient woodland
- Scheduled Ancient Monuments, and
- National Air Traffic Services (NATS) consultation zones.

8.2 Figures 2.1A to 2.11A in Appendix 2 show the extent of these constraints, with the national trails shown in Figure 2.6A and the possible technical constraints shown in Figure 2.7A representing the most significant changes compared with those identified in the original strategic appraisal. Consequently, figure 2.12A – which shows the updated negative filter composite plan on the assumption that all potential constraints are considered to be absolute – clearly demonstrates that virtually all of the land on the Island is the subject of at least one potential constraint to the development of wind turbines, and that each constraint needs to be assessed on a site by site basis.

8.3 In line with the original methodology, Figure 2.13A shows a map of the absolute constraints applying to the Island, whilst Figure 2.14A identifies the areas of the Island that are thought to possess average wind speeds in excess of 6.5 metres per second according to the Department of Industry's NOABL database, which has superseded the ESTU data published in 1994. Although the wind speeds used in this database still only provide estimates of the annual mean wind speed throughout the UK at a height of up to 45 metres and still take no account of topography, it represents the only current non-site specific data available.

8.4 Figure 2.15A presents a composite of these two plans and includes the location of the application site and the location of the four other areas of search that emerged from the original strategic site appraisal. This plan demonstrates that the application site and areas of search numbers 8 and 10 would still have emerged from the original site-selection process had current available data been used.

9. Conclusions

9.1 Your Energy's decision to pursue the development of the West Wight Project on land south of Wellow stems from a comprehensive and methodical review of the planning, environmental and technical constraints facing the development of wind turbines on the Isle of Wight, over several years. Although the original strategic assessment dates from 1999 and initially sought to identify a suitable site for a wind farm for Aerolaminates and subsequently NEG Micon, the methodology adopted in the site-selection process is logical and methodical and is equally applicable to the development of a wind farm, as currently proposed by Your Energy. This is reinforced by the recent view of the original appraisal.

9.2 Indeed, both the original site-selection process and the review have resulted in the identification of an application site that is largely unconstrained in planning and environmental terms, but which possesses favourable characteristics in terms of the size of site, wind speed, vehicular access and the availability of a connection to the electricity grid, all of which are required to enable a viable wind farm to be developed.

9.3 The micro-siting of turbines within the application site has resulted from an iterative design process, based upon a series of technical and environmental studies undertaken at the site and following public consultation exercises. The current design and layout of the West Wight Project has therefore sought to respond positively to the issues previously raised and to minimise the likely environmental impacts associated with its development.

APPENDIX 1

APPENDIX 2