Crimp
Wind Farm

Environmental Statement

Volume 5 -
Non - Technical Summary

WEST COAST
ENERGY LTD

Introduction

Crimp Wind Power Limited, a wholly owned subsidary company of West Coast Energy Limited, has submitted a planning application to North Cornwall District Council for the development of a wind farm to generate electricity on land at Crimp, near to Kilkhampton, Cornwall

Early discussions with North Cornwall District Council indicated that the development should be subject to a formal Environmental Impact Assessment (EIA) and therefore, West Coast Energy Limited has prepared an Environmental Statement (ES) to accompany the planning application. This Non-Technical Summary is the fifth and final Volume of the Environmental Statement.

The scope of the ES was agreed in discussion with North Cornwall District Council, and other Statutory and Non-Statutory agencies. The ES provides environmental information to assist the Local Planning Authority in the process of the determination of the wind farm proposal.

The following documents have been submitted to North Cornwall District Council to support the application for the development of the wind farm.

- Volume 1 - Planning Application
- Volume 2 - Environmental Statement (Written Text)
- Volume 3 - Environmental Statement (Figures)
- Volume 4 -Appendices
- Volume 5 - Non-Technical Summary (this Volume)

Copies of the Planning Application and full ES can be purchased from West Coast Energy Limited for £120 plus post and packaging at the address listed below.

Copies of the Non-Technical Summary are available free of charge from West Coast Energy Limited. Contact Steve Salt, West Coast Energy Ltd, The Long Barn, Waen Farm, Nercwys Road, Mold, CH7 4EW, tel: 01352 757604, email info@westcoastenergy.co.uk

Wind - Clean Energy for a Sustainable Future

There is now clear evidence that global warming and climate change are a reality and have the potential to cause major adverse effects on sea levels, water supply and agriculture in the coming decades. One of the major causes of global warming is the emission of carbon dioxide from power stations burning fossil fuels (coal, oil and gas) to generate electricity. There is therefore a need to obtain clean, diverse and sustainable supplies of energy from renewable sources such as wind.

"There is no bigger long-term question facing the global community than the threat of climate change"
Tony Blair, 27th April 2004.

Wind Energy in Europe

Within Europe, virtually all member states are seeking to generate electricity from wind energy. Germany leads the way with 14,609 MW of installed capacity, with Spain at 6,202 MW of installed capacity, and Denmark at over 3,110 MW of installed capacity. However, whilst the UK is recognised as having the best wind resources in Europe, it is currently lagging in 6th place when compared with the installed capacity of other European countries. Germany has over twenty times the installed capacity of the UK.

Wind Energy in the UK - Sustainable Power

The UK Government is strongly committed to developing wind power and other renewable technologies. A market-based support mechanism for renewable energy has been introduced and this places an obligation on electricity suppliers to buy an increasing proportion of electricity from renewable energy sources. In England this mechanism is called the Renewables Obligation (RO).

Renewable energy has a key role to play in the UK Government's Climate Change Programme. Renewable energy sources generally produce low or negligible levels of pollutants such as carbon dioxide and other 'greenhouse gases', and so by displacing conventional sources of energy, they can help the UK meet its climate change targets.

By October 2004, a total wind energy capacity of 772 megawatts (MW) had been installed in the UK meeting the average electricity needs of approximately 430,000 homes from 90 onshore wind energy sites. Cornwall was the first part of the UK to see the development of wind power but at the present time there is still only 42 MW of generating capacity in the South West.

Renewable Energy in the South West

The South West currently obtains only 1.3% of its electricity needs from renewable energy sources but the target set in 2001 (RPG10) is to achieve a minimum of 11-15% of electricity from such sources by 2010.
In order to meet this level of renewable energy the Revision 2010 study by the Government Office for the South West and the Regional Assembly (June 2004) has set a Regional 2010 target of 563-665 MW of renewable capacity of which 319-415 MW will need to be obtained from onshore wind.
For Cornwall a target of some 93 MW of renewable energy capacity has been set by Policy 7 of the County Structure Plan (September 2004).
Taking into account the Counties existing capacity of some 49 MW mainly from the 7 onshore wind sites (42 MW) and from landfill gas (7 MW), this target is going to require the development of at least 44.5 MW of new renewable electrical capacity by 2010 with some 24 MW of onshore wind capacity needing to be put in place in Cornwall over the next 5 years.
The 3.9 MW of generation capacity at Crimp can therefore make an important contribution to these targets.

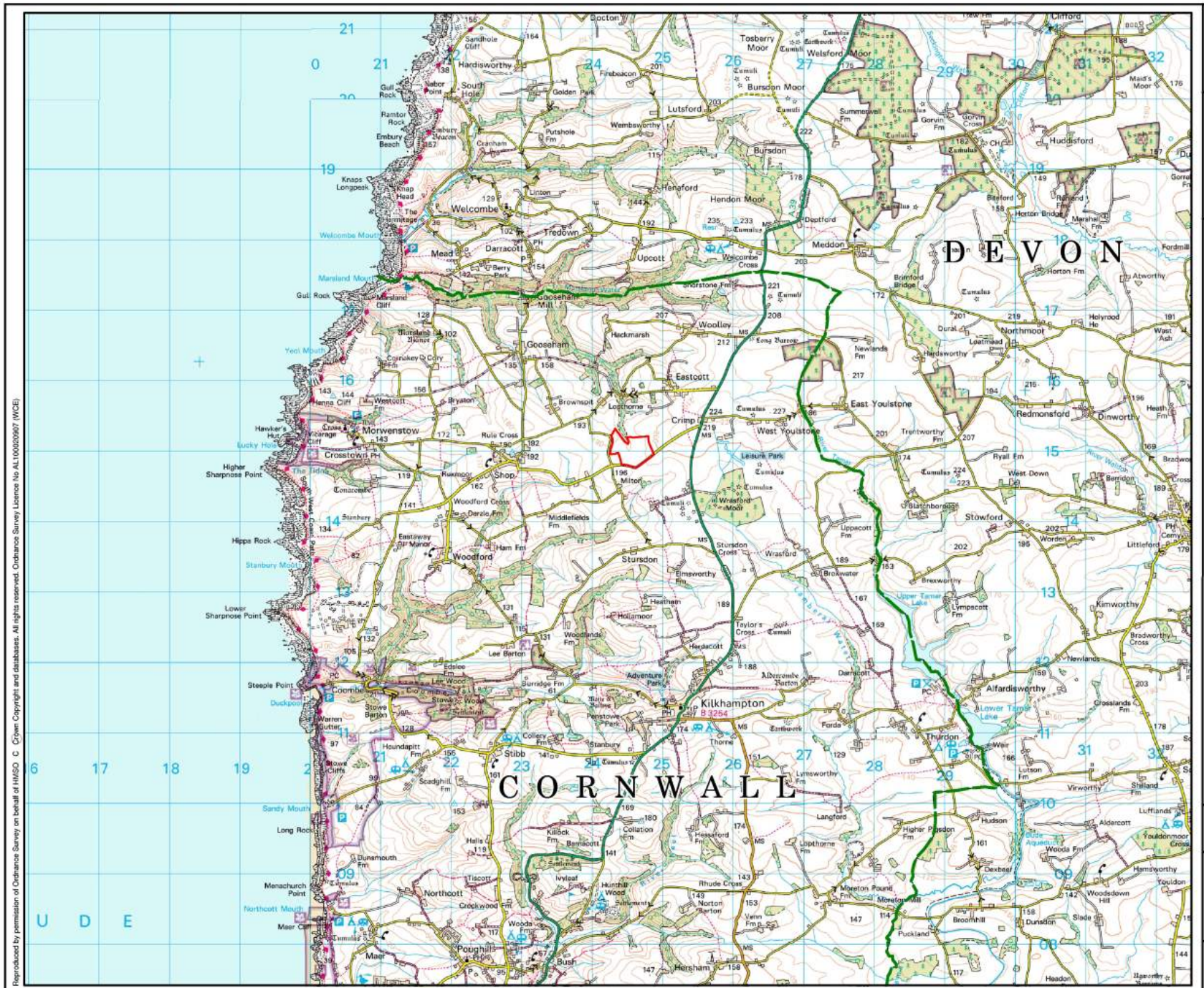
Crimp Wind Farm

The proposed site for the Crimp Wind Farm is located on land to the west of Crimp, south east of Eastcott and 4km north of Kilkhampton. The site forms part of a mixed agricultural unit.

The Crimp site was initially identified as potentially suitable for a wind farm after consideration of the following criteria:

- Good wind resource;
- Availability of an economically priced connection to the electricity grid;
- National and local planning policy;
- No nature conservation, archaeological and landscape designations;
- No detrimental effect on transmission and microwave signals crossing the site;
- Suitable access from the local highway;
- Acceptable environmental effects;

Further detailed assessment and consultations with the Council, consultees and interested parties have confirmed these initial conclusions.



Crimp Wind Farm

Key

- Planning Application Boundary
- County Boundary

Not to Scale

WEST COAST ENERGY LTD

Figure 1
Site Location

Drawn by KG	GPS Checked by
Date	24.09.04
Drawing Number	0662/BP/0297/02

Project Description

The wind farm will comprise 3 wind turbines, each having a three bladed rotor of up to 62 metres in diameter supported on a tapered cylindrical tower to give a height of up to 50 metres to the rotor hub and up to 81 metres to the blade tip. Each turbine will have a power output of 1.3 megawatts (MW). The generation capacity of the wind farm will therefore be 3.9 MW.

Topographical, technical and environmental considerations have resulted in the wind farm design as shown on the site layout plan. The wind turbines are spaced so as to minimise energy loss due to wind turbulence, to avoid sensitive local areas and to minimise impact on neighbouring properties.

On-site access will be via newly constructed hardcore access tracks approximately 5m wide. The turbines will be connected by underground cables, which will take power from each turbine to a substation at the site.

The substation will be connected to the existing Western Power Distribution Morwenstow 33kV substation. This connection will be subject to a separate application.

Wind Farm Construction and Operation

The wind farm will take approximately 4 months to construct. To provide access to the site, improvements will be made to the existing field entrance at its junction with the Crimp to Shop unclassified road to the west of the A39 (T).The route has been judged to be of a suitable standard to accommodate the construction traffic.

During the construction period, there will be three types of traffic accessing the site:- exceptional loads, conventional HGVs, and the vans and cars of construction staff. The proposed route for the delivery of exceptional loads is shown on the site location plan.

There will be around 18 exceptional loads, 17 of which will deliver the tower sections, blades and components of the turbines and the associated electrical equipment. The remaining one will deliver the mobile crane and other construction plant. With the exception of the crane, some of the long vehicles delivering the large loads will reduce in length for their return journey, thus reducing their impact.

Aggregate material for track construction, crane hardstandings, substation hardstanding and the temporary site office area will be imported to the site from local quarries during the four months of the construction period. These elements will require approximately 550 HGV loads of aggregate material. If importation of this material is evenly spread throughout this period, it will equate to approximately 6 HGV loads of aggregate per day. Concrete for the foundations will be delivered from local ready mixed batching plants, each turbine foundation will require approximately 33 lorry loads (99 in total). In addition there will be approximately 50 deliveries of plant, machinery, electrical equipment and other building materials to the site.

There will be approximately 15-20 people working on site at any one time during the period of construction and there will be various light vehicle deliveries. These vehicles will approach the site from various directions and will not create any noticeable impact during the construction period.

Site reinstatement will be carried out at the end of the construction period and at the end of the operation of the wind farm, the site will be decommissioned and restored.

Benefits

The cost of the wind farm is expected to be around £5 million, this will provide significant investment in Cornwall. Local companies will be able to bid for construction contracts worth around £1 million. Additional indirect expenditure is also expected in local shops, service stations, etc.

Once built the turbines would generate in the region of 10,250Mwh of electricity each year, sufficient for approximately 2,180 homes from a clean and sustainable energy source. This represents the annual domestic electricity needs of all the households in the Grenville Ward of North Cornwall and nearly half of the household needs in Bude and Stratton.

Furthermore, the Crimp Wind Farm could, as a minimum, displace some 8,800 tonnes of carbon dioxide, 102 tonnes of sulphur dioxide and 31 tonnes of nitrogen oxide emissions during each year of its operational life, which would otherwise be produced from conventional fossil-fuelled power stations. Crimp Wind Farm will therefore make a contribution to the Climate Change programme to increase the use of electricity from renewable sources in the UK to 10% by 2010. Significantly the site will also provide some 16% of Cornwall's likely requirement for new onshore wind energy capacity by 2010.

To provide additional benefit arising from the wind farm development, Crimp Wind Power Limited is presently investigating the opportunities to establish a Community Wind Farm Trust. This will enable support to be given to local social, educational and environmental initiatives. Discussions will take place with the local Parish Council and North Cornwall District Council on the mechanism for the legal delivery of the trust.

Environmental Impact

Early consultations with North Cornwall District Council and other consultees identified the key environmental and amenity issues to be considered in determining the planning application. These are fully addressed in the Environmental Statement which includes reports on landscape and visual amenity, noise, ecology, cultural heritage, safety, and the effects of the proposal on TV and other communication systems. Where appropriate these reports have been commissioned from independent expert consultants. The main conclusions are summarised in this document.

Cultural Heritage

Independent archaeologists were engaged to undertake an assessment of the Crimp wind Farm site. A desk based study and walk over of the site was completed.

No previously recorded Scheduled Ancient Monuments, find spots or historic structures will be directly affected by the proposed wind farm. The nearest scheduled monuments, round barrows belonging to the Bottaborough Moor group, lie 600m from the site boundary and 800 m from the nearest turbine, are not within direct line of the site and are too distant from the proposals for their settings to be affected.

Proposals for mitigation will be discussed with the Cornwall County Archaeological Service, with whom a scope of works and detailed project designs will be agreed prior to the commencement of any development.

Predicted view from: Killarney Springs
Distance to nearest turbine: 1.244 Km

Predicted view from: Stib to Kilkhampton Road
Distance to nearest turbine: 4.32 Km

Landscape and Visual Impact

An independent landscape and visual assessment (LVA) of the wind farm was undertaken, involving a review of landscape character and designations, and evaluating a range of viewpoints around the site. Computer generated images of the wind farm were superimposed on photographs to create photomontages which give an accurate impression of the scale and location of the turbines

The LVA study concludes that the development respects the scale and composition of the landscape and will not have a significant effect on either the landscape character or landscape designations at the National, Regional and local level.

It is accepted that there will be a degree of visual impact but significant effects will be limited to locations within less than 5km of the site and restricted by topography and landscape features. The cumulative effect with other wind farms in the local area has also been assessed and the conclusion is that there will be no significant cumulative visual effect between the Crimp and the Forestmoor Wind Farm which is currently being constructed.

The proposed turbines at Crimp will be of a modern 3 bladed design and will be painted an appropriate colour to be specified by the Planning Authority. A typical turbine similar to that which it is proposed to be used at the site is shown within this document. Two predicted views (photomontages) of the wind farm are shown in the central pages of this document.

Nature Conservation

An independent specialist consultant has undertaken a review of the ecology of the proposed development site and its surroundings.

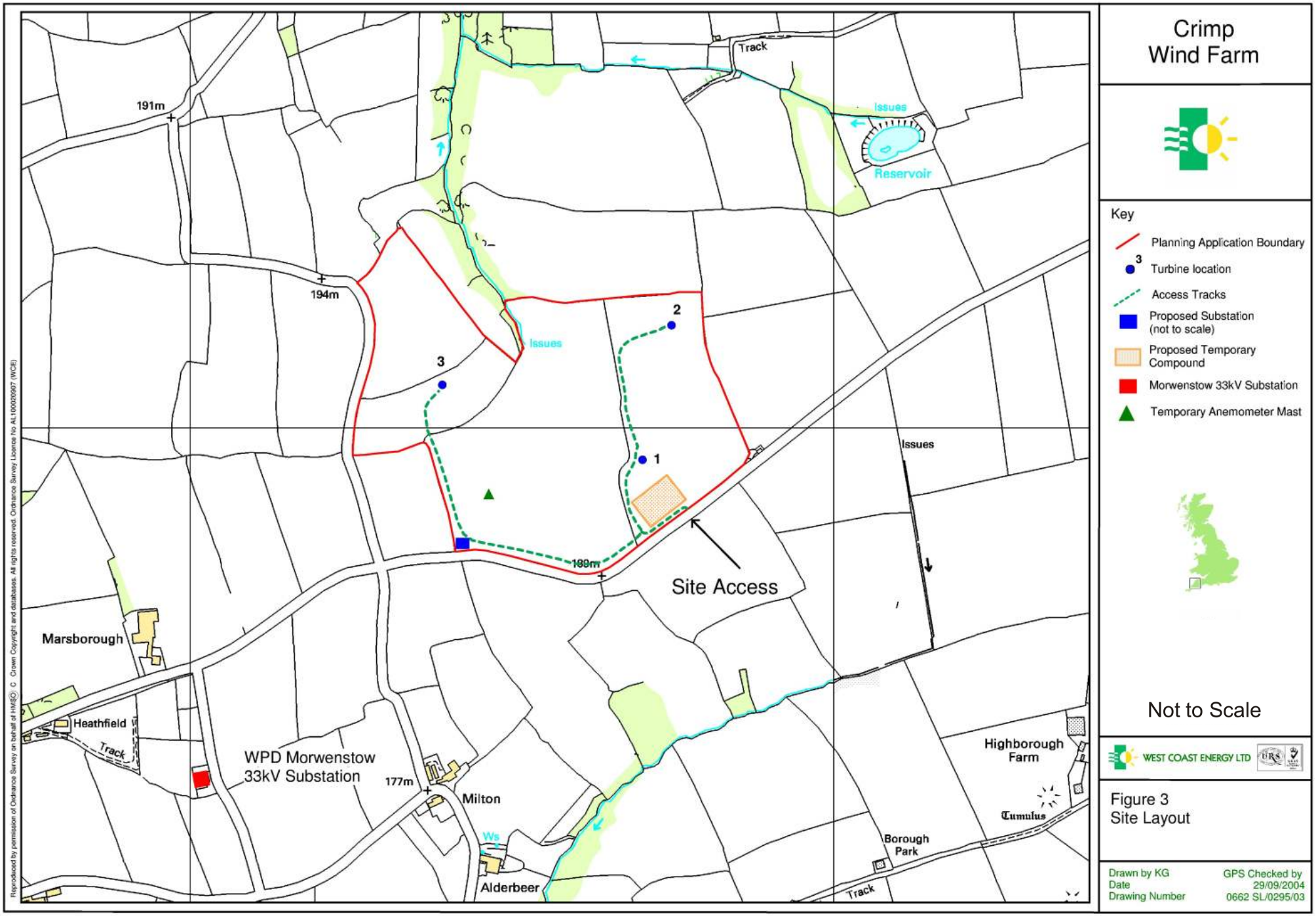
The following conclusions can be drawn as a result of this ecological assessment:

There are no badger setts located on the site and the impact on foraging badger should be minimal. There should be no impact on otter which may be present in the stream as the wet woodland area will remain undisturbed as part of the scheme.

There are no key bird issues on this site; Crimp supports only a limited diversity and relatively low numbers of mostly common bird species.

The mitigation proposals suggested by the Environment Agency to reduce any impact on the stream habitat will be put into place. The site boundary has been moved away from this area and with appropriate mitigation, outlined in a Construction Method Statement produced prior to the works being carried out, the impact on this area is likely to be minimal.

In conclusion it is considered that the site is of low nature conservation value and with the imposition of appropriate planning conditions, the wind farm will not cause any significant change to the ecological value of the site.


Crimp
Wind Farm
Key
Planning Application Boundary
Turbine location
Access Tracks
Proposed Substation
(not to scale)
Proposed Temporary
Compound
Morwenstow 33kV Substation
Temporary Anemometer Mast
Not to Scale
WEST COAST ENERGY LTD
Figure 3
Site Layout
Drawn by KG
Date
Drawing Number
GPS Checked by
29/09/2004
0662 SL/0295/03
191m
194m
189m
177m
Track
Issues
Reservoir
Site Access
WPD Morwenstow
33kV Substation
Marsborough
Heathfield
Milton
Alderbeer
Highborough
Farm
Tumulus
Borough
Park
Ws
1
2
3
Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database. All rights reserved. Ordnance Survey Licence No AL100020967 (WCE)

Interference with Television, Radio and Microwave Paths

Based on preliminary research with the communications agencies, no known television or telecommunication links would be affected by the proposed development.

Public Safety

There is no recorded incident of a member of the public being injured by a wind turbine. The UK Government considers wind energy to be a 'safe' technology, requiring no special safety provisions. Experience has shown that livestock are undisturbed by the movement of the blades and will graze underneath them as well as using the towers for shelter in bad weather. Farming at the Crimp Wind Farm site will not be affected by the development.

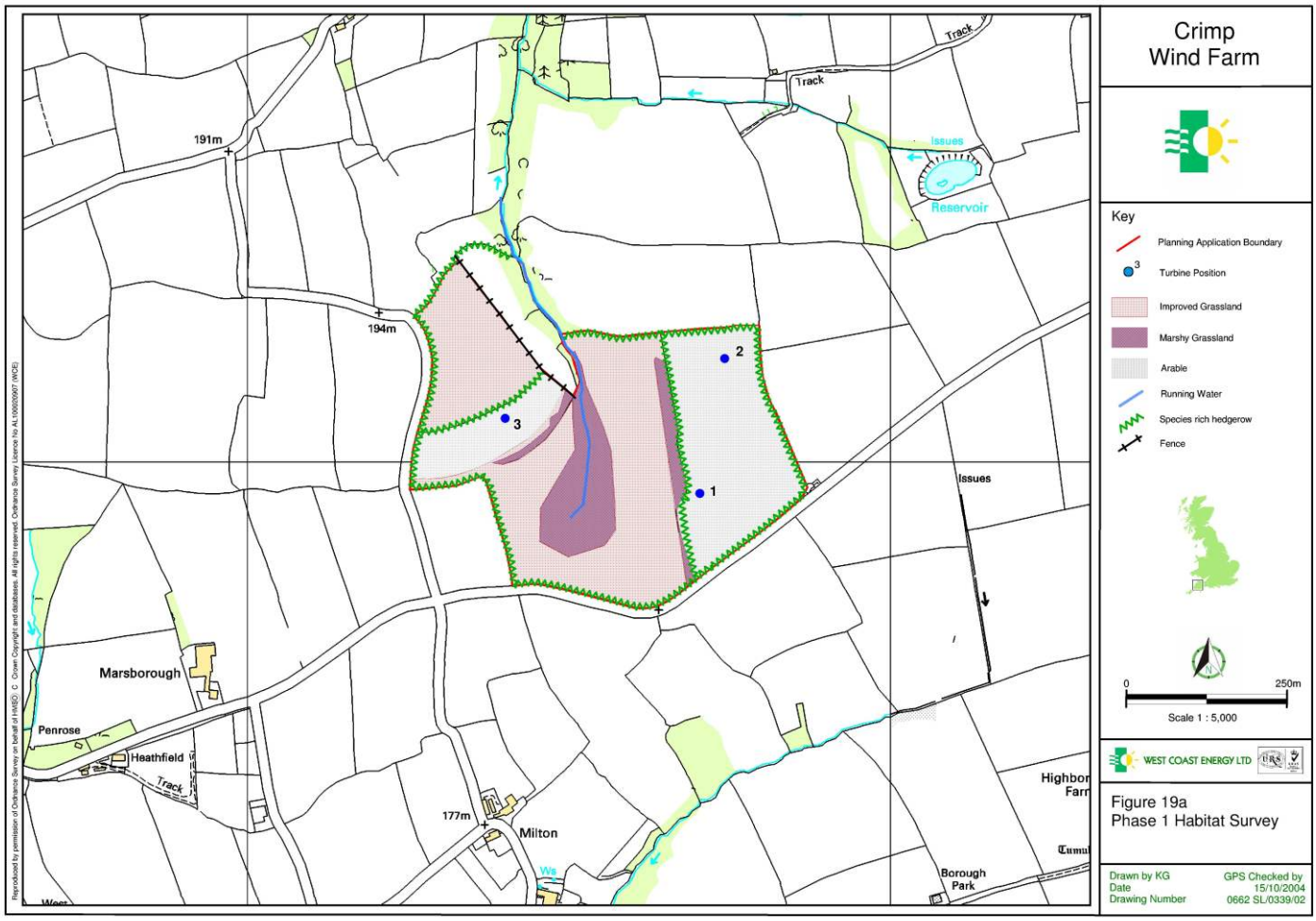
The wind turbines are designed and manufactured to withstand weather conditions at least as extreme as those occurring in the United Kingdom, in terms of wind speed, turbulence and temperature. The wind turbines are equipped with safety systems which will automatically shut down the machine should a fault occur

Turbine blades have been designed to discourage any build up of ice as this would cause the rotor of the turbine to go out of balance and the wind turbine would have to be automatically shut down. In the event that ice should accumulate on the turbine components the turbines would be stopped to allow time for the components to be pre-heated.

Shadow flicker can arise from the passing of the moving shadow of the turbine rotor over a narrow opening such as the window of a nearby residence. Various conditions need to be met to create a shadow flicker effect. These have been evaluated and it is concluded that shadow flicker will not cause a nuisance at any residential properties, as a result of the development.

The turbines will not appear suddenly to any motorist travelling at speed on roads close to the site, and therefore driver distraction is not considered to be an issue.

Although there are no marked or specific rights of public access via a public footpath on the site, appropriate steps will be taken to ensure the safety of members of the public during the construction process and operation and maintenance of the wind farm.



Noise

An assessment of the likely noise impact of the proposed Crimp Wind Farm has been carried out. Baseline noise levels were measured at 4 locations representative of the nearest dwellings to the proposed development and worst-case turbine noise levels at these locations were predicted based on sound power level data expected to be warranted by the manufacturer for the proposed Bonus 1.3 MW dual-speed wind turbines.

The assessment has been carried out by comparing predicted noise levels with noise limits described in ETSU-R-97, *Assessment and Rating of Noise from Wind Farms*, *as referred to in PPS22, Renewable Energy.*

The assessment shows that the predicted noise levels at the nearest residential locations to the site meet the accepted night-time noise limit under all conditions, and are also below the range of amenity hours noise limits, under all conditions except for a small exceedence of the lower limit for a very limited range of wind conditions for properties between Eastcott and Lopthorne.

Conclusion

National and local planning policy provides for a presumption in favour of developments which is in accord with the Development Plan unless a particular proposal would cause demonstrable harm to interests of acknowledged importance. Both the Cornwall Structure Plan and the North Cornwall District Local Plan support the generation of renewable energy and seek to provide for wind energy developments in appropriate locations which are least constrained in planning terms.

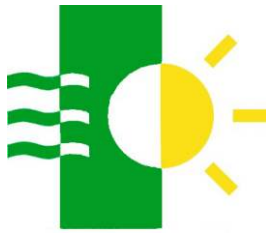
It is considered that the proposed Crimp Wind Farm is in accord with the Development Plan and the principles of sustainability, and will provide significant environmental, economic and social benefits to the local community. Taking account of the National and Regional policy context and the strategic need for additional wind energy capacity in Cornwall and having regard to the environmental assessments as set out in the Environmental Statement, it is submitted that when all material planning factors are taken into account, the balance lies in favour of the desirability and benefits to be gained from the generation of renewable energy from the wind farm.

Further Information

If you would like to find out more about the Crimp Wind Farm proposal, you can read the full Environmental Statement at North Cornwall District Council, Development Control, 3-5 Barn Lane, Bodmin, Cornwall, PL31 ILZ

For further details about this project, please contact Steve Salt at West Coast Energy Ltd, The Long Barn, Waen Farm, Nercwys Road, Mold, CH7 4EW, tel: 01352 757604 or e-mail steve.salt@westcoastenergy.co.uk.

Produced By



WEST COAST
ENERGY LTD

2004