

Jane Davidson AC/AM

Y Gweinidog dros yr Amgylchedd, Cynaliadwyedd a Thai  
Minister for Environment, Sustainability and Housing



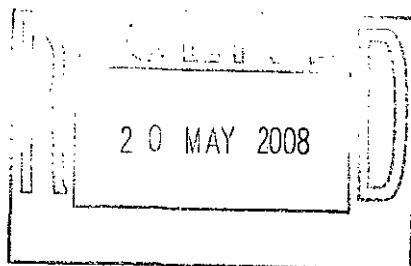
Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

Eich cyf/Your ref  
Ein cyf/Our ref JD/00537/08

RECEIVED  
20 MAY 2008

APJD

Val Lloyd  
Chair  
Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA



19 May 2008

*Dear Val,*

### PETITION RHYL FLATS

Thank you for your letter and enclosures dated 21 April 2008. I note the concerns expressed by the 'Save Our Scenery' group in relation to the Rhyl Flats development.

I have enclosed a copy of the Assembly Government's comments to the then DTI on the application with a copy of the letter from the Countryside Council for Wales (CCW). The DTI's letter of consent is also enclosed. I believe the correspondence addresses all your concerns. The CCW raised concerns about the dynamics/stability of Constable Bank but did not consider the risk of flooding as an issue.

The UK Government's Planning Bill will, upon Royal Assent, have a major effect on the issue of energy consenting powers, which you raise at the end of your letter. It is anticipated that from April 2010, large scale energy project consents (over 50MW) in England and Wales will be determined by the proposed Infrastructure Planning Commission (IPC) rather than the Secretary of State for Business, Enterprise and Regulatory Reform. The operations of the IPC will be governed by the priorities outlined in National Policy Statements (NPSs). The Assembly and UK Governments are currently in discussion to ensure that the Planning Bill provides for suitable Welsh representation on the IPC with regard to Welsh projects, and that National Policy Statements acknowledge Welsh priorities.

I hope this information is helpful to the Committee.

*Yours,*

*Jane*  
**Jane Davidson AM**

Y Gweinidog dros yr Amgylchedd, Cynaliadwyedd a Thai  
Minister for Environment, Sustainability and Housing

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Pages:	9

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 DTI ref GDBC/C/001/00026  
 Your ref  
 Date 12 December 2002

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Dear Mr Jewson

**ELECTRICITY ACT 1989 ("the Act")  
 APPLICATION FOR CONSENT TO CONSTRUCT AND OPERATE AN OFFSHORE  
 WIND FARM AT RHYL FLATS OFF THE NORTH WALES COAST**

**I. THE APPLICATION**

1.1 I am directed by the Secretary of State for Trade and Industry ("the Secretary of State") to refer to the application dated 25 March 2002 ("the Application") made by Celtic Offshore Wind Limited ("the Company"), for the consent of the Secretary of State under section 36 of the Act ("section 36 consent") to the construction and operation of an offshore wind farm with a capacity of up to 150MW together with ancillary intra-turbine cabling, sub-station and cabling between the wind farm and the relevant local planning authority boundary ("the Development").

1.2 In accordance with the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000 ("the 2000 Regulations") the Company also submitted on 25 March 2002 a document, entitled "Rhyl Flats Offshore Wind Farm Environmental Statement". This was later supplemented by additional environmental information submitted on 12 July. All these documents are hereafter referred to in this letter as the "Environmental Statement".

1.3 Conwy County Borough Council ("the local planning authority") has not objected to the Application.



## II. SECRETARY OF STATE'S DECISION ON THE HOLDING OF A PUBLIC INQUIRY

2.1 As stated in paragraph 1.3 above, the local planning authority has not objected to the Application, and the Secretary of State is not therefore obliged under paragraph 2(2) of Schedule 8 to the Act to cause a public inquiry to be held.

2.2 Paragraph 3(2) of Schedule 8 to the Act, however, requires the Secretary of State to consider all objections that she has received pursuant to the Electricity (Applications for Consent) Regulations 1990 (made under paragraph 3(1) of Schedule 8), ("the Applications Regulations"), together with all other material considerations, in order to determine whether it would nevertheless be appropriate to hold a public inquiry.

2.3 The Secretary of State has considered five objections under the Applications Regulations from representative organisations and some individuals. The objections were made on the grounds of: the inadequacy of the public consultation process, the visual and noise impacts of the project, its potential risk to navigation, and its adverse impact on tourism, fishing activity and seabirds.

2.4 The Secretary of State has carefully considered the objections and comments as follows:

### i) Public Consultation

In addition to a number of public exhibitions and meetings with various contact groups, the company duly gave formal notice of this development in accordance with regulation 14 of the 2000 Regulations and therefore the Secretary of State does not accept that public consultation was inadequate;

### ii) Visual Impact

All wind power proposals have a visual impact of some sort. However, the Development is around 8km from the coast and the impact it will have is considered to be slight – the photomontages produced by the developer indicate the likely extent of the impact (in the cases of both the original and revised turbine layouts). This impact must be balanced against the benefits of the scheme – for example, the contribution it will make towards meeting the UK's targets on CO<sub>2</sub> reduction, its contribution to security of energy supply aims and its input to increasing local employment.

The Secretary of State considers, therefore, that the benefits accruing from the Development outweigh the disadvantages;

### iii) Noise

The operational and construction noises associated with offshore wind farms, while considered unlikely to be significantly above background noise levels at key



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locations onshore, can be mitigated in such circumstances by the imposition of conditions attached to any consent. The Secretary of State believes that such conditions are adequate to ensure that the peace and enjoyment of the objector are not disturbed.

#### iv) Risk to Navigation

Having considered the information provided in the Environmental Statement on the likely risk to navigation in consultation with the Department for Transport (DfT) who advise that the risk can be adequately managed by conditions in a Coast Protection Act consent for which DfT is responsible and which is a necessary requirement for this development to proceed, the Secretary of State believes that the potential risk to navigation is not significant;

#### v) Tourism

There is no evidence to support the view that offshore wind farms have a negative impact on tourism. The Secretary of State, therefore, believes that there are no grounds on which to refuse consent on this issue.

#### vi) Impact on Fishing Activity

Having considered the information provided in the Environmental Statement as to the likely impact on fishing grounds in consultation with the Department for the Environment, Food and Rural Affairs (DEFRA), which has Government responsibility for the fishing industry, the Secretary of State believes that this development is unlikely to have a significant impact on fishing grounds;

#### vii) Seabirds

Having considered the information provided by the company in relation to the likely impact on seabirds in consultation with DEFRA and the Countryside Council for Wales, the Secretary of State is satisfied that any concerns will be adequately addressed by licence conditions under the Food and Environment Protection Act 1985 administered by DEFRA in relation to this development.

#### Conclusion

2.5 The Secretary of State has carefully considered the views of the local planning authorities, the objections received, and all other material considerations. She takes the view that it would not be appropriate to cause a public inquiry to be held into the Application.



### III. SECRETARY OF STATE'S CONSIDERATION OF POSSIBLE EFFECTS ON A EUROPEAN SITE

3.1 The Conservation (Natural Habitats, &c) Regulations 1994 ("the 1994 Regulations") require the Secretary of State to consider whether the development would be likely to have a significant effect on a European Site, as defined in the 1994 Regulations.

3.2 As a preliminary assessment that the proposed development did not lie within or sufficiently close to the boundary of an area designated as a European Site of conservation importance has been confirmed by the Countryside Council for Wales, the Secretary of State considers, therefore, that no assessment pursuant to the 1994 Regulations is necessary and finds no reason for refusing section 36 consent on the grounds of adverse effects on the integrity of a European Site.

### IV. SECRETARY OF STATE'S CONSIDERATION OF THE ENVIRONMENTAL INFORMATION

4.1 The Secretary of State is satisfied that the Environmental Statement is sufficient to allow her to make a determination on the Application.

4.2 The 2000 Regulations prohibit the Secretary of State from granting section 36 consent unless she has first taken into consideration the environmental information, as defined in those Regulations.

4.3 The Secretary of State has considered the environmental information carefully; in addition to the Environmental Statement, she has considered the comments made by the local planning authorities, those designated as statutory consultees under regulation 6 of the 1990 Regulations and other consultees and objectors.

4.4 Taking account the extent to which any adverse environmental effects will be modified and mitigated by measures the Company has agreed to take or will be required to take either under the conditions attached to the section 36 consent or by regulatory authorities, the Secretary of State believes that any remaining adverse environmental effects will not be such that it would be appropriate to refuse section 36 consent for the Development.

### V. SECRETARY OF STATE'S DECISION ON THE APPLICATION

5.1 The Secretary of State, having had regard to the matters specified in paragraph 1(2) of Schedule 9 to the 1989 Act, has carefully considered the views of the local planning authorities, the environmental information and all other relevant matters, and has decided to grant section 36 consent for the Development.



5.2 I accordingly enclose the Secretary of State's consent under section 36 of the Electricity Act 1989.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'N Peace'.

**NIGEL PEACE**  
Director, Electricity Consents  
Licensing and Consents Unit



Our ref: GDBC/C/001/00026

**DEPARTMENT OF TRADE AND INDUSTRY**  
**ELECTRICITY ACT 1989**  
**CONSTRUCTION AND OPERATION OF A GENERATING STATION AT RHYL**  
**FLATS OFF THE NORTH WALES COAST**

1. Pursuant to section 36 of the Electricity Act 1989, the Secretary of State for Trade and Industry ("the Secretary of State") hereby consents to the construction by Celtic Offshore Wind Limited ("the company"), on the area outlined in red on FIGURE 1 annexed hereto and duly endorsed on behalf of the Secretary of State ("the Site"), of an offshore wind turbine generating station at Rhyl Flats, off the North Wales coast ("the Development"), and to the operation of the generating station.
2. The Development shall be of up to 150 MW capacity and comprise:
  - (a) up to 30 wind turbine generators;
  - (b) the associated interconnecting cable array;
  - (c) a subsea cable to the seaward boundary of Conwy County Borough Council;  
and
  - (d) an offshore electricity sub-station.
3. This consent is granted subject to the following conditions:
  - (a) the commencement of the Development shall not be later than the expiry of five years from the date of this consent; and,
  - (b) except where the written permission of the Secretary of State has been given to any variation in design, construction or operation of the Development, the Development shall be constructed in accordance with the details contained in the company's application of 25 March 2002 as revised by the supplemental environmental information submitted on 12 July 2002.
4. All activities associated with the construction of the Development shall be carried out in accordance with British Standard 5228, Parts 1 and 2: 1997 and Part 4: 1992; Noise and Vibration Control on Construction and Open Sites.
5. The noise generated during the construction of the Development, when measured at Rhos-on-Sea (OS Grid Reference 284250, 379900) or Llanddulas (OS Grid Reference 290625, 378600) or Kinnel Bay (OS Grid Reference 297600, 379800) shall not in neutral weather conditions exceed the following levels on any day during the following periods:

Lo



0700-2200  $L_{eq} = 45 \text{ dB(A)}$

2200-0700  $L_{eq} = 40 \text{ dB(A)}$

except in an emergency or with the prior written approval of the Secretary of State in consultation with the Conwy County Borough Council.

6. In any instance where a limitation referred to in condition 5 above is exceeded because of an emergency, the company shall as soon as possible, and at least within two working days, provide the Secretary of State with a written statement detailing the nature of the emergency and the reasons why the limitation could not be observed.

Reason: To ensure proper control of noise during the construction of the Development.

7. Unless otherwise approved in writing by the Secretary of State, in consultation with the Conwy County Borough Council, the rating level of the noise generated by the operation of the Development shall not exceed 35 dB  $L_{A90}$  when measured in accordance with the guidance contained in ETSU-R-1997 entitled "The Assessment and Rating of Noise from Wind Farms", at a point of 1.2 metres above the ground and not less than 4 metres from the nearest residential properties on the seafront of Rhos-on-Sea, Llandulas and Kinmel Bay.

Reason: To ensure proper control of noise during the operation of the Development.

8. The commencement of the Development shall not take place until there has been submitted to and approved in writing by the Secretary of State detailed schemes for each of the following:

- (a) the protection of known archaeological and shipwreck remains as identified in the submitted Environmental Statement; and,
- (b) the recording and, if necessary, protection of any archaeological and shipwreck remains discovered during the construction of the generating station.

Reason: To protect any marine archaeological finds and shipwrecks of interest found during the excavation of the site.

9. Except with the prior written approval of the Secretary of State:

- (a) no wind turbine generator forming the Development shall exceed a height of 152.5 metres when measured from the base of the wind turbine tower at Mean Sea Level to the tip of the vertical blade;
- (b) no wind turbine shall be erected outside a radius of 50 metres from the position indicated for it on FIGURE 1, annexed hereto;





- (c) the windfarm should be lit and the lighting should be a shape, colour and character, as required by Air Navigation Order 2000 or as directed by the Civil Aviation Authority;
- (d) each turbine tower and the sub-station shall be painted in submarine grey (RAL 7035) from a point to be agreed with the Secretary of State to the top of the tower, and,
- (e) all nacelles and blades to be painted in submarine grey (RAL 7035)

Reason: To restrict any variation in wind turbine placement, to ensure air safety and that the wind turbines are painted in the agreed colours.

10. At the end of the operational life of the development or the termination of the Crown Estate lease whichever is the sooner, the company shall implement a decommissioning plan with regard to minimising the environmental impact as follows:

- (a) twelve months before the cessation of the Development, the company shall, in consultation with the Countryside Council for Wales, the Centre for Environment, Fisheries and Aquaculture Science and the Crown Estate, undertake a survey of the Development and prepare a decommissioning plan for either the full or partial restoration of the site and submit this to the Secretary of State for approval;
- (b) following approval of the plan at (a) above, the company shall arrange for the Development to be decommissioned and the site restored in accordance with the terms agreed, and, within one month of completion of the work, provide the Secretary of State with written confirmation that it has been completed.

Reason: To ensure that the Development is decommissioned in the most appropriate manner, having regard to the environmental impact of doing so.

Date: 12 DECEMBER 2002

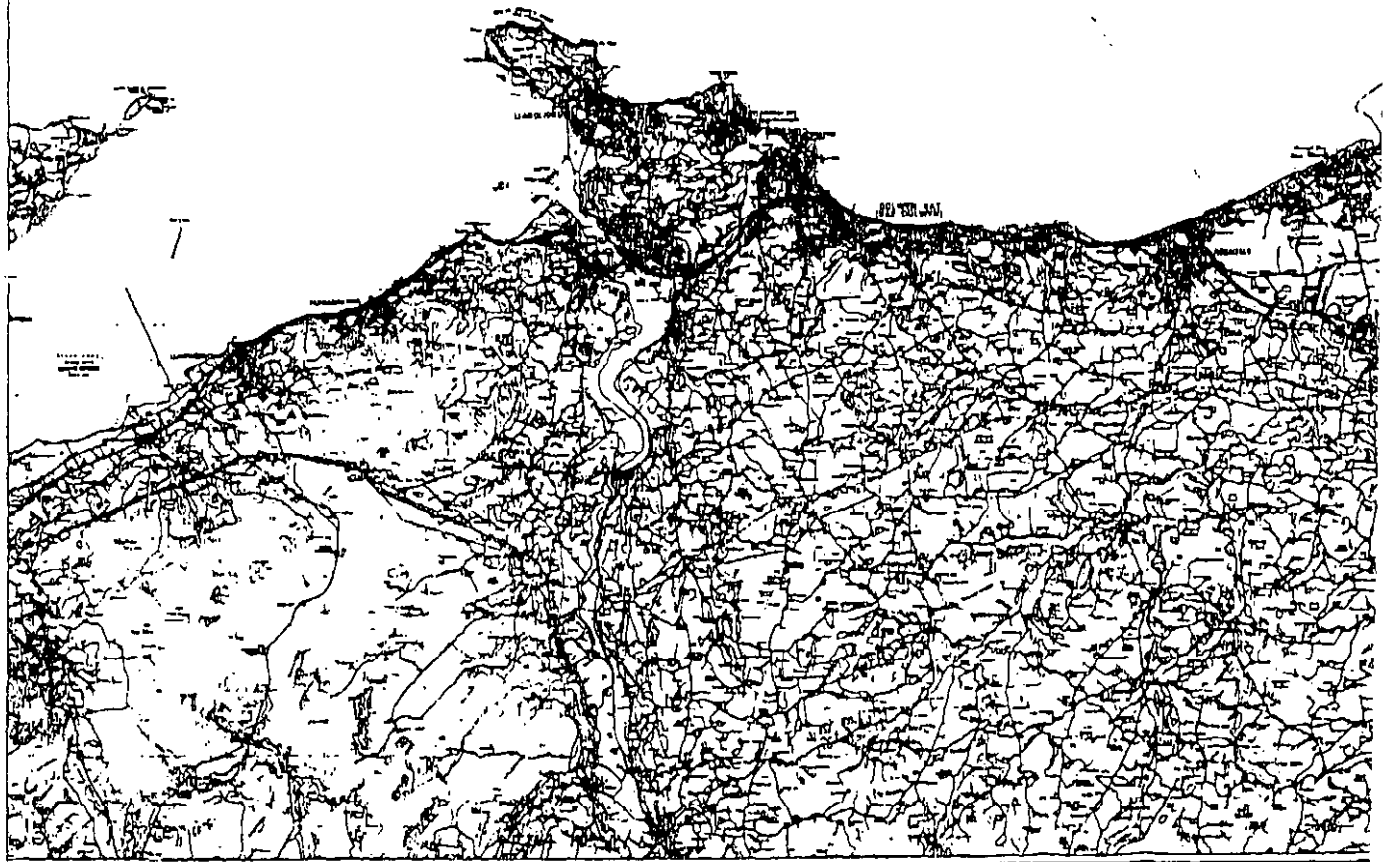
Nigel Peace  
Director  
Electricity Consents  
Department of Trade and Industry



Electricity Act 1989

Certified to be Figure 1 referred to in the consent dated 16 December 2002 given by the Secretary of State for Trade and Industry to Celtic Offshore Wind Limited for the construction and operation of wind farm of up to 150MW capacity at Rhyl Flats off the North Wales coast

Signed *ND/kan*  
Department of Trade and Industry



### Rhyl Flats Offshore Wind Farm

Key

- Turbine locations
- Demarcation of the Rhyl Flats Offshore Wind Farm
- Demarcation of the Rhyl Flats Offshore Wind Farm

WTG No	Grid N	Grid E	Grid N	Grid W	WTG No	Grid N	Grid E	Grid N	Grid W
1	83	22 47	2	26 10	15	81	22 07	8	21 77
2	83	22 31	3	26 10	17	81	22 47	3	27 25
3	83	22 26	4	26 01	18	81	22 37	2	26 88
4	83	22 10	5	27 06	19	81	22 50	2	21 22

RHYL

Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

Mr Keith Welford  
Offshore Renewables Consents Unit  
Department of Trade and Industry  
1 Victoria Street  
LONDON  
SW1H 0ET

Eich cyf . Your ref GDBC/C/001/00026  
Ein cyf . Our ref A-IAC 13 - 04 - 025

August 2002

Dear Mr Welford,

**APPLICATION BY CELTIC OFFSHORE WIND LTD (COWL) FOR CONSENT TO  
CONSTRUCT 30 NEW WIND TURBINE GENERATORS WITH AN INSTALLED  
CAPACITY OF 150MW AT RHYL FLATS, OFF COLWYN BAY.**

**SECTIONS 36 AND 37 OF THE ELECTRICITY ACT 1989  
SECTION 57 OF THE TOWN AND COUNTRY PLANNING ACT 1990  
SECTION 5 OF FOOD AND ENVIRONMENT PROTECTION ACT 1985  
SECTION 34 OF THE COAST PROTECTION ACT 1949**

I refer to your letter of 2 April 2002 enclosing a copy of the S36 application and Environmental Statement for the proposed offshore windfarm development at Rhyll Flats, Denbighshire.

Whilst this response addresses the DTI's determination of consent under Section 36 of the Electricity Act 1989 it is recognised that various consents are required by the development including the issuing of a licence under Section 5 of the Food and Environment Protection Act 1985 (FEPA licence). This is a function devolved to the National Assembly for Wales and therefore colleagues in the Assembly Government's Agriculture Policy Division are dealing with this issue separately. Their statutory role in authorising the FEPA consent is recognised by this response, but does not form part of it and this letter therefore does not in any way pre-judge that process.

The documentation enclosed with your letter of 2 April relating to the S36 consent has been circulated within the Welsh Assembly Government and through our colleagues to our statutory advisers and sponsor bodies. The following responses have been made. In order that points made by different divisions within the Assembly Government can be seen in their context, they have been transcribed

verbatim and no attempt has been made to eliminate points already made elsewhere within this response. Accordingly, there is some overlap between responses, but they do not contradict each other. Please note that if there have been any substantive changes to the application following your original letter and additional information concerning the changes to the turbine layout, the Welsh Assembly Government will not have considered these as part of this response. In addition it is recognised that issues within this response may have been in part or wholly addressed by the developer as part of the process in developing the Rhyl Flats project. However, in determining whether or not to grant a Section 36 consent, the Welsh Assembly Government considers that the DTI will need to consider whether the issues below have all been satisfactorily addressed by the developer.

1. The Welsh Assembly Government's **Agriculture and Fisheries Policy Division** has linked its comment to a strategic fisheries policy perspective on behalf of Welsh Assembly Government Agriculture Department. These comments will also feed into the FEPA process, which will consider the detailed fisheries and marine environment issues surrounding the Rhyl Flats application and is being handled in a separate process. Our Fisheries colleagues have stated that the proposals should be subject to both a pre and post-trawl survey undertaken at the site of the works and cable routes, to establish what obstructions, if any, are on the sea bed, both before and following completion of the work. In addition to this they consider that, as there will be a 50-metre exclusion zone around each turbine, and an extended 50 metres around the perimeter, good liaison should be established and maintained between the company and fisheries interests, including commercial and hobby fishermen. Concerns have been expressed that the company must be policed to ensure that decommissioning of the turbines takes place.
2. The Welsh Assembly Government's **Countryside Division** has liaised with the Countryside Council for Wales (CCW) as its statutory adviser on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment in Wales and its inshore waters. As a statutory consultee to DTI on offshore wind farm developments, the CCW have already responded separately to your request for comments. That response, dated 12 June 2002, was also copied to the Assembly Government, and is now attached for your information at ANNEX A. However their initial comments, to the company, regarding the changes to the layout is attached for your information at ANNEX A1. As CCW are working with the Company to resolve the outstanding issues, the CCW will respond separately, following an amendment to the layout of the windfarm. We suggest this response will need to be fully considered before any decision on the application is finalised.
3. The Welsh Assembly Government's **Transport Policy Division** have commented as follows (comments transcribed verbatim):

*"The application and environmental statement cover all of the aspects raised in the scoping study in a satisfactory manner. There are no significant transport issues which we wish to raise at this time although there will need to be consultation on the cable crossing of the A55 if the project proceeds".*

4. **Cadw: Welsh Historic Monuments** have also been approached separately by DTI for comments and have replied to you directly, but for completeness their comments are enclosed at Annex B
5. The Welsh Assembly Government's **Economic Development Department** have noted that between 60-70 people will be employed during the construction period of the proposed development and up to 10 people on a long-term basis to operate and maintain the windfarm. It is also noted that the developers have a stated policy to procure the services and skills of local organisations and contractors. The life-span and decommissioning and removal intentions are also noted. The construction phase of the farm is due to commence in March 2004 and completed by September 2004. Although there are a number of suitable ports local to the project, it is noted that Mostyn Docks is the prime candidate to provide a 'staging area' for the development.
6. The **Economic Policy Division** has also approached both the Wales Tourist Board (WTB) and The Welsh Development Agency (WDA) for their views on the proposals, in terms of any potential effects on tourism and economic impacts. The Wales Tourist Board has forwarded a copy of a press release, a copy of which is attached at Annex C. The Press Release is a WTB standard reply on windfarms, but with regard to this particular application they have offered additional comments, which are also contained in Annex D. Comments from the Welsh Development Agency's Head of Energy Sector are at Annex E.
7. **Estates** colleagues have commented as follows: (Comments transcribed verbatim):

*"Whether exclusion zones are necessary for health and safety reasons and, if so, whether they should be mandatory. Furthermore, the effects of such zones on the fishing industry should be fully explored including consultation with the relevant fishing authorities."*
8. The **Welsh Assembly Government's Sustainable Development Unit** have stated that subject to satisfactory resolution of issues raised elsewhere in this response, this appears to accord with the Assembly Government's Sustainable Development Scheme.
9. Finally, colleagues from both the Assembly's **Planning and Environmental Protection Divisions** have indicated they have no material comments to offer on the application.

As part of the determination process it is worth stating that no significant representations have been made to the Welsh Assembly Government by the public against the Rhyl Flats Windfarm proposal and some of the anecdotal evidence collected by the developers during their public presentations on the project in the local area has suggested a keen level of support for the development. However, it is recognised that some UK fishing interests have raised objections to the proposal and these are being scrutinised as part of the FEPA licence consideration.

The Welsh Assembly Government has taken a strategic but objective approach in its consideration of the Rhyl Flats proposal. Like any other form of renewable development each application will need to be considered on its merits affording equal weight to economic, environmental and social issues.

The proposal is in line with the Welsh Assembly Government's sustainable development commitments and fits well with the principles of encouraging economic growth that conserves natural resources and respects the environment. It is recognised that the proposed development would contribute to the UK's target of 10% electricity generation by 2010, and would make a significant contribution to climate change commitments. We trust that DTI will carefully consider any comments made by the Welsh Assembly Government in the determination of the application and would be grateful to be kept informed of progress. DTI will need to satisfy itself that all information pertinent to this case has been collected, scrutinised and accorded appropriate weight in the decision making process.

Yours sincerely

**LYNN GRIFFITHS**  
**Head of Steel and Energy Branch**  
**Innovation and Sustainable Growth Division**



Cyngor Cein Gwlad Cymru  
Countryside Council For Wales

CADEIRYDD/CHAIRMAN: JOHN LLOYD JONES OBE      PRIF WEITHREDWR/CHIEF EXECUTIVE: ROGER THOMAS  
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Keith Welford  
Offshore Renewables Consents Unit  
Department of Trade and Industry  
1 Victoria Street  
LONDON  
SW1H 0ET

12 June 2002

Dear Keith

**PROPOSED 150 MW OFFSHORE WINDFARM GENERATION STATION AT RHYL FLATS**

Thank you for your letter of 5<sup>th</sup> March 2002 and the Environmental Statement for the above proposal, in support of COWL's application for various consents and licences under the Electricity Act 1989 Section 36, Food and Environment Protection Act 1985 Part II and Coast Protection Act 1949.

As you know, CCW is the statutory advisor on landscape and nature conservation issues in Wales. We are fully committed to the Government's Renewable Energy Strategy and wish to encourage the development of marine wind energy off the Welsh coast. We have supported the application for the North Hoyle windfarm, but, unfortunately, have significant problems with this Rhyl Flats application, largely due to the footprint of the development and spacing of the turbines. The applicant has been unable to explain so far, to our satisfaction, why this wide spacing is needed and has not taken sufficient account of the environmental impacts in choosing this design.

We met with COWL and their consultants on the 2<sup>nd</sup> and 28<sup>th</sup> of May and at these meetings raised many questions about the project and the Environmental Statement. They provided a substantial file of additional information and amendments to the ES and as a result some items were clarified. On 28<sup>th</sup> May, further additional information was provided which we have not yet fully evaluated and material is still arriving. However, on the basis of the proposal as presently constituted, CCW considers it has no alternative but to object to the application.

Important natural heritage interests will be compromised by the proposed development as it stands. The ES and additional information does not provide the necessary assurances that the environmental consequences of the proposal have been minimized, or thoroughly assessed. Our major concerns, which are detailed below, are the impacts on wildlife and landscape produced by the size of the footprint and current layout, particularly as a barrier to bird movements and views. We

suggest that the impacts on landscape, birds and fish would all be decreased by reduction in the footprint of the windfarm and altering its layout. We continue to work with COWL to resolve the situation.

## **CCW's major concerns in relation to this development**

### **1. Seascape and visual impact**

In the Environmental Statement, COWL acknowledge that the proposal would cause substantial or substantial/moderate magnitude of change in views in the coastal zone between the Great Orme and Abergele. There will be significant effects on views from many viewpoints and facilities along the coast from Great Orme to Llanddulas (significant effects are summarised in table 8.10). For landscape and seascape character, they predict a significant effect on the character of the Llandudno Bay and Colwyn Bay Seascape Units. The Great Orme is designated as Heritage Coast for the purposes of preserving its coastal natural beauty and improving visitor access, the only such area between North Anglesey and St. Bees Head in Cumbria. Although Heritage Coast designations are not backed by primary legislation, and are in that sense "non-Statutory", these areas represent the finest coastal areas on a national basis, and their protection is considered by CCW to be a material consideration of great weight. Both the Great and Little Orme headlands form part of the Creuddyn & Conwy Landscape of Outstanding Historic Interest in Wales and form an essential setting for the planned Victorian resort of Llandudno (The Register of Landscapes of Outstanding Historic Interest in Wales. Cadw/CCW, 1998, pp 84-87). The proposal would have a significant and unacceptable visual impact on parts of the Creuddyn and Conwy Landscape of Outstanding Historic Interest by introducing an alien and moving industrial form into the seaward vista. Whilst the register is non statutory, it has been established as being a material consideration in the planning process.

The Rhyl Flats windfarm would occupy up to 30-40° (degrees) of the overall panorama from sites between Rhos on Sea and Llanddulas, 20-25° from the Great Orme, 20-35° from the Little Orme, and a quarter of the seaward horizon from Llandudno Bay. The visual impression produced by a development of this pattern and layout would detract from the existing character and natural beauty of the area by having the effect of visually enclosing the open bay aspect.

The turbine layout proposed with two rows of 15 turbines means that the view angle to the coast is high, and greater than for alternative layouts of, for example, 3 or 4 rows. The two rows of turbines are sited over 2km apart. The footprint of the development is large, at 12.5km<sup>2</sup>. To us, it appears inconsistent with other proposals in the UK where such a wide spacing has not proved necessary. For example, the distance between rows (even downwind) seems to be a maximum of 900m for other proposals in the UK and elsewhere (eg Kentish Flats max. 700m; Scroby max 480m; North Hoyle max 800m; Shell Flats max 900m; Rødsand max. 850m). The design of Rhyl Flats appears to be partly driven by the unlikely scenario of installing 5MW turbines.



The ES does not address the issue of alternative layouts and, following our request, COWL have supplied additional information. However, they are essentially all permutations of the two row arrangement and do not mitigate the landscape and seascape impacts. a 'high magnitude of significant visual impact' as they say themselves in their EIA (check John is this where this phrase came from ?). The development will be visible from the Great Orme Heritage Coast and the Snowdonia National Park. The Heritage Coast, of which there is very little in North Wales (?) was designated for its recreational access (John proper terminology ?). At this stage CCW consider that the present proposals on turbine layout and spacing have not sought a proper balance between maximising capture of the wind resource and minimizing the landscape and seascape environmental impact, and that the design appears to be based almost wholly on commercial considerations.

We suggest that the way forward on this issue is for COWL to provide more analysis of the balance between technical efficiency and landscape/seascape impact for various layouts. We strongly recommend that other possible layouts are explored to minimise the visual impact. We have requested they provide sieve maps showing the various constraints and a set of design principles that have been followed in aiming for the optimum solution.

CCW agree with the majority of the landscape/seascape/visual impact assessment carried out by COWL and their consultant, but we wish to challenge some aspects, the main points being listed in Appendix A.

## **2. Birds (Common scoter)**

Common scoter *Melanitta nigra* is listed on Annex 2 of the EC Birds Directive, is on the red list of the UK's species of conservation concern and is a UK Biodiversity Action Plan species. The potential impact on this species of international importance in Liverpool bay is sufficient to warrant an objection from CCW at this stage.

A significant proportion of the Liverpool Bay scoter population, which is of international importance, feed (on bivalve molluscs in the seabed) within Colwyn Bay, on the landward side of the proposed turbines. They may drift overnight with the tide, and may fly between feeding and roosting areas across the lines of turbines. Studies in Denmark have shown that windfarms act as barriers to bird flight lines, with birds preferring to fly around windfarms, rather than between turbines. There is clearly a risk that the presence of the lines of turbines could significantly reduce the use of Colwyn Bay as a feeding area, and displace the birds to less favourable feeding areas elsewhere.

There is little evidence from existing research or installed projects to determine the likely displacement, disturbance or barrier effects of wind turbines on common scoter. With significant numbers of scoter close to the site, this is a major issue and uncertainty. COWL have not provided sufficient data to give the necessary assurances that this population will not be unduly or unnecessarily disturbed. This is a potential significant impact during both operation and construction of the

windfarm as, for example, common scoter are likely to be present in the vicinity of the site during the moulting period (July to September/October) when construction work is still ongoing. There are particular gaps in the data on flight lines between feeding and roosting areas, the distribution of moulting birds and the barrier effect posed by this turbine layout. Further surveys, including at dawn and dusk and in different tidal conditions, are required before they can be resolved. An alteration in the proposed turbine layout, to reduce the barrier effect to scoter, is likely to be beneficial.

CCW are particularly concerned about the potential cumulative impacts on the common scoter population of the Rhyl Flats project with other offshore windfarm proposals in Liverpool bay, notably the projects at Shell Flats, a site which supports the highest numbers of common scoter in the Bay. This has not been dealt with in the ES, which addresses only cumulative impacts of the Rhyl Flats and North Hoyle proposals, and is a major deficiency in the assessment of impacts of this proposal.

### **CCW's other concerns in relation to this development**

#### **1. Birds**

- i. **Red throated divers** - Boat surveys by National Windpower (NWP) (North Hoyle offshore windfarm) indicate internationally important numbers of red throated diver on and close to the Rhyl flats site. Aerial surveys by CCW (in partnership with COWL, NWP and others) have also shown the significance of this area of Liverpool Bay for red throated diver, although they suggest that they are not aggregated at any one site but dispersed over the north Wales side of Liverpool Bay. However with potentially significant numbers of red throated diver on, or close to, the site, this is a major area of concern especially as the Mostyn to Dublin fast ferry will be diverted further to the north, potentially creating another 'sterile area' for the red throated diver because of disturbance. The lack of research on displacement and disturbance effects of wind turbines on red-throated diver means that this is a major uncertainty about the effect of the project.
- ii. **Cormorants** – Ynys Seiriol/Puffin Island Special Protection Area is classified for cormorants. Nationally important numbers breed on the Little Ormes Head (Creigiau Rhiwledyn) SSSI. We are concerned that little consideration has been given to the use of the Rhyl Flats site and surrounding area by cormorants from these sites. Extra information is needed to allay concerns that the development may have an impact on the feeding area of these birds.

2. **Fish (Elasmobranchs)** – Research commissioned by CCW has highlighted the potential impacts of electromagnetic fields from cables on elasmobranchs (sharks, skates and rays). We are concerned about possible effects on this group of fish given the relatively large amount of cabling in a small area. The Environmental Statement identified angel sharks and sting rays as the main species which may be affected, however in discussions with COWL we have highlighted the fact that these species are rarely present on site, and thornback and other ray species are the main focus of concern. Constable Bank has historically been an important fishery for thornback rays – a species which has suffered considerable declines in population in recent years. The ES does not present any information about the relative importance of the Rhyl Flats and

Constable Bank area for rays compared to the rest of Liverpool Bay and more information is needed on this, particularly relating to the use of the site by juveniles.

The way forward is for further discussions with COWL and their consultants to establish whether the cable shielding and burial depth chosen for the cabling is sufficient to ensure that there will be no effect. CCW's opinion is that it has not yet been demonstrated that the nominal depth of cable burial will be adequate, particularly given the lack of information on the dynamics/stability of the bank (see point 3). A reduction in the footprint of the windfarm would also be beneficial in reducing potential impacts on sharks, skates and rays.

3. **Coastal processes.** The Environmental Statement does not address the dynamics/stability of Constable Bank, particularly changes in its form over time – this is a major omission. Understanding the extent to which the site is an erosional or deposition environment is an important constraint on, for example, the depth of burial of the cable and presumably the design and construction methods for the project as a whole. It is also important in designing a monitoring program. In addition, the EIA identifies a bed form consisting of sand waves with a 5m amplitude. Since the cable burial depth being proposed is 3m, we are concerned that movements in the sand waves will lead to the cables being exposed. This has implications for EMF and elasmobranchs (see above) and habitat loss implications if rock armouring is needed at a later stage should the cables become exposed. More clarification is needed on this issue and we are in discussions with COWL and their consultants.
4. **Onshore works.**
  - i. **Protected species.** The Environmental Statement does not include adequate surveys of protected species in the vicinity of the onshore works (in particular, the surveys were not done at the appropriate times of the year). Surveys of various protected species need to be undertaken prior to the commencement of the works. This should include: badger, great crested newt, water vole, otter and breeding birds. The methodologies for the surveys should be agreed with CCW and we will wish to review the results. Changes to construction methods or routes and other mitigation measures, plus appropriate licences, may be needed. COWL have agreed to carry out surveys at more appropriate times preconstruction in 2003/4.
  - ii. **Intertidal survey.** It was agreed at the scoping stage that an intertidal survey of the cable landfall would be carried out. This was not done for the Environmental Statement. COWL have now commissioned this work to take place in June. CCW will need to review the survey report and this may result in further comments or recommendations for conditions.

#### **Other outstanding issues**

There are many other outstanding issues of which DTI should be aware. Rather than go through each of these individually, they are summarised in Appendix B. This table itemises the issues raised by CCW at our meeting with COWL on 2<sup>nd</sup> May and progress to date. Whilst many items have been signed off, many are unresolved and need to be the subject of further discussions between COWL and CCW.

## **Monitoring and conditions**

Given the nature of this response, we have not addressed the question of monitoring or conditions in any detail. CCW would wish to comment on and agree conditions covering for example, construction methods and timing, monitoring and surveys of protected species and decommissioning. The mitigation measures detailed in Volume II Section 9 of the ES will need to form part of these conditions.

Should this development proceed, the monitoring package attached to the consents would need to cover:

- Morphological changes to the seabed and suspended sediments
- Seabed fauna including epifauna in the windfarm and reference sites. Recovery of the cable corridor.
- Birds including distribution, flight lines, disturbance and barrier effects
- Abundance and species composition of electro-sensitive species along cabling routes
- The establishment of any refuge/reef function of the windfarm
- Habituation to, and public opinion of, the windfarm (residents, visitors, recreational users)
- Underwater noise and cetaceans

## **Appropriate Assessment**

Your letter did not specifically ask about whether an Appropriate Assessment would be required for this development. At this stage it is unclear whether there is likely to be a significant effect on the Ynys Seiriol/ Puffin Island SPA as a result of impacts on the feeding areas of cormorants for which this site has been classified. Therefore, we advise that an Appropriate Assessment under the 1994 Conservation (Natural Habitats, & C) Regulations may be needed. We have also considered whether an Appropriate Assessment is needed for the Y Fenai a Bae Conwy / Menai Strait and Conwy Bay cSAC and have concluded that an Appropriate Assessment for this site is not required. We wish to highlight the fact that selection criteria for marine SPAs are in the process of being developed by JNCC and it is anticipated that Liverpool bay would qualify as an SPA for both common scoter and red throated diver outside the breeding season. It is therefore important that DTI give sufficient weight to these internationally important populations in determining this application.

## **Generic issues**

Many of the uncertainties about impacts of offshore windfarms are common to several projects or sites. There is an urgent need to address these with generic research and we would welcome the opportunity to discuss with DTI how this can be taken forward. Generic topics include:

1. Noise generation under water and impacts on marine species.
2. Extent of electromagnetic fields and impacts on marine species.
3. Trialing of monitoring methods and equipment to record bird collisions, flight lines, to assess population size and map distributions
4. The benefits of random versus geometric turbine layout.
5. The methodology and process for preparing cumulative EIA's.

Please do not hesitate to contact me should you require any clarification of these points.

**Yours sincerely**

**Dr M I Hill**  
**Head of Maritime and Earth Science Group**

Cc Martin Williams, National Assembly for Wales, ISG Division  
Nicola Donlon, Welsh Assembly Government, Countryside Division  
Chris Morgan, Welsh Assembly Government, Planning Division  
Adrian Judd, CEFAS

Brian Barrows, WDA  
Ricky Carter, Environment Agency  
Carolyn Heeps, Crown Estate  
RG Wild, Director of Environmental & Planning Services, Conwy County Council  
Paul Gilliland, English Nature  
Martin Bailey, English Nature  
Rick Minter, Countryside Agency  
Carol Parliament, DEFRA  
Joanna Guthrie, DTLR  
Sian Rees, Cadw  
Simon Tribe, COWL

**Appendix A – Additional comments on the landscape/seascape/visual impact assessment carried out by COWL.**

- i. "Virtually the entire coastline of Wales is designated as National Park, AONB or Heritage Coast" (Vol II, Section 8, page 130). This is an over-statement. It should also be noted that between the Little Orme and Point of Ayr there are no such coastal landscape designations. This puts the importance of the Great Orme Heritage Coast into perspective, and the need to properly conserve the relatively limited high quality coastal landscapes along the north Wales coast.
- ii. Reference to the Miller and Morrice study of coast and sea inter-visibility, commissioned by CCW, is misleading. The ES claims that "the marine zone of Colwyn Bay is some of the least visible of the coastal waters around Wales" (Vol II, section 8, page 131). This statement is also repeated in the non technical summary. It is untrue. Land around Rhyl – Prestatyn has a low visibility of the sea (as it is low lying), but the coast from the Ormes to Abergele has a much higher visibility of the sea, as is shown by figure 8.11 of the ES. The sea off Abergele-Rhyl has a one of the highest levels of intervisibility between land and sea (i.e. areas of sea most visible from the land), as is shown by other images in the Miller and Morrice study, but not presented in the ES.
- iii. "It is not possible to visit the Orme for the sort of remote coastal experience that is possible in undeveloped stretches of coastline elsewhere in Wales" (Vol II, Section 8, page 109). This simplification fails to highlight those remote qualities of the Orme that are present, whilst recognising that various developments to date have detracted from this remoteness. Remote qualities include the upland limestone plateau and dramatic topography on the sides, the open panoramic views to sea and mountains, and the ability to completely obscure all detractors in some locations. The wind farm would add to the type and locations of detractors and so further reduce the "wilderness experience" referred to. The relative remoteness of parts of the Orme landscape, being juxtaposed so relatively close to Llandudno town, and being intruded into by various existing developments, are qualities particularly in need of conservation, which an offshore development would further detract from. This significance is more acute as the Great Orme (together with the Little Orme) lies on a generally developed coastline.
- iv. From the above CCW would disagree that the Great Orme be excluded from the table 8.9 which summaries the significant effects on seascape and landscape character. There will be a significant effect on the landscape character of the Great Orme part of the Limestone escarpment and hills" landscape type.

**APPENDIX B**

<p><b>1</b></p> <p>Text from COWL – Actions arising from CCW/COWL meeting 2 May 2002</p> <p>Timing of construction – more information and detail needed</p>	<p>Additions/clarification notes from CCW (10 May 2002)</p>	<p>Update from COWL (17 May 2002)</p> <p>Information sourced from potential contractor</p>	<p>Notes from CCW (31 May 2002)</p> <p>Information received 22/5/02. Information gives details of delivery and transport and hence disturbance in the area but we are still unclear in which months drilling and piling will take place.</p>	<p><b>'Signed off'</b></p> <p><b>No</b></p> <p>CCW will need to review working methods, timing etc once a contractor is appointed. Conditions will be required e.g. for timing of operations.</p>
<p><b>2</b></p> <p>Site selection and design. Provide sieve / constraint map showing design drivers and design principles. Indicate balance between environmental / technical / other issues. Provide wireframes / other relevant details of design evolution.</p>	<p>Yes please. Including information on the alternative sites and layouts considered. Provide update on likelihood of offshore substation. Justification for the 2km spacing between the rows.</p>	<p>Wales-based and local plans produced, text being completed</p>	<p>Information received 22/5/02. Discussed further at meeting on 28/5/02.</p>	<p><b>No</b></p> <p>Major concern.</p>
<p><b>3</b></p> <p>Mostyn Docks / onshore facility. Clarify associated works, relative to choice of location.</p>	<p>Yes please.</p>	<p>Letter obtained from Mostyn Docks</p>	<p>Information received 22/5/02. Question clarified.</p>	<p><b>Yes</b></p>

<p><b>4</b></p> <p>Check area / volume / length calculations and confirm implications for overall conclusions.</p>	<p>Including cable footprint (with figures for ploughing vs. jetting) and area covered by the turbine array is this outside the 10km<sup>2</sup> area ?</p>	<p>Waiting info from cable installer, other calcs have been checked (<i>to follow</i>)</p>	<p>Additional information received 28/5/02 amending figures given in ES.</p>	<p><b>Yes</b></p>
<p><b>5</b></p> <p>Cable route. Why was this route chosen, reason for precise route, selection of landfall point, justification for onshore overhead route as opposed to two routes up the Clwyd. Address technical and environmental constraints</p>	<p>Also clarify reason for oblique angle across the shore and dogleg in cable route.</p>	<p>Text being prepared (<i>to follow</i>)</p>	<p>Map of cable route across the intertidal and terrestrial areas received.</p>	<p><b>No</b> Not explained.</p>



6	<p>Subsea cable installation. Statement from installer / contractor, criteria for different installation methods, implications for installation within wind farm site and to shore. Explanation of use of curtain during cable installation near shore – what is threshold suspended sediment level which would trigger use of curtain technique.</p>	<p>What are the critical suspended solid levels referred to ? Clarification on trenching versus ploughing. Explanation on how arrived at required burial depths given mobility of bed forms within site and cable route. What is the 'curtain' and how does it work ?</p>	<p>Waiting from info from cable installer (to follow)</p>	<p>Additional information received 28/5/02 and discussed at meeting on 28/5/02. Serious concerns not allayed given a 5m undulation in sand waves and proposed max 3m cable burial depth with questions about the stability and dynamics of Constable Bank unanswered (see also 7 below). Although ES says 'curtain' will be used subsequent information says that none of the contractors were aware of this technique in dynamic near shore or offshore environments such as this. Conclusion – unrealistic mitigation.</p>	<p><b>No</b> This is a key issue e.g. with regard to cable burial depth.</p>
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7	<p>Geomorphological processes on the wind farm site. Clarify level of natural variability / sediment movement, movement &amp; stability of sand waves / bed forms, independence / interference between turbines and possible influence of turbine alignment on effects at the coast. Clarify 7% wave energy reduction at coast from specific wave sectors. EIA is definitive about littoral drift not being an issue, clarify difference with previous HR Wallingford report.</p>	<p>Confirm that changes in hydrodynamics are confined to the lease site. Demonstrate the trends in geomorphological processes at the site e.g. erosion/deposition, implications for cable depth.</p>	<p>Update provided by HR Wallingford, being reviewed internally.</p>	<p>Information received 22/5/02. Awaiting updated HR report EX4502. Additional information received does not answer about the stability and dynamics of Constable Bank and the sand waves present on it (see 6 above).</p>	<p><b>No</b> This is a key issue e.g. with regard to cable burial depth. Littoral drift issue still to be reviewed.</p>
8	<p>Drill arisings. Drilling procedure / how will arisings be generated / deposited? Area of sea bed likely to be affected, dispersion of deposited material, comparison of pollutant levels in sediments with existing levels, potential effect on scour, comparison of predicted with existing levels of suspended sediments.</p>	<p>Especially with regard to boulder clay. Can the need for scour protection be designed out? How will drill arisings be delivered to the sea bed and what size is this material? (slurry or lumps?) This is especially important if it is going to be used as scour protection.</p>	<p>Clarification obtained from retained marine engineer, sediment characteristics from boreholes obtained, data being reviewed by ERM (to follow)</p>	<p>Note on drilling procedure received 28/5/02. There is potential for generating significant turbidity. No modelling of the suspended sediments during construction has been carried out. COWL clarified issue of drill arisings being used as scour protection and will consult with CCW pre construction.</p>	<p><b>Partly</b> Conditions will be needed e.g. to minimise turbidity generation.</p>

9	Metals analysis. Supply detailed table of analysis. Table 8.	Raw data required.	Copy of relevant section of Titan report will be supplied	Information received 22/5/02 to be reviewed.	No Information yet to be reviewed.
10	Benthic monitoring programme to be clarified, could cover points further from turbines / control points etc.	Please discuss benthic sampling/monitoring plans with Kirsten Ramsey CCW. Cable route will need to be sampled for a baseline for monitoring if jetting method is used. Reference sites, away from both the turbine array and the area affected by increased sediment settlement during construction (determined from modelling), will need to be identified and sampled for a baseline figures.	Discussion held with Titan, COWL are willing to commit to generic programme and agree details with CCW / CEFAS at appropriate time (to follow)	Not needed immediately. Commitment adequate at this time.	Yes
11	Exclusion areas / artificial reef effects. Clarify implications of exclusion areas and possible reef effects for fish resource / other species. Provide case studies etc of effects observed in similar conditions. Review attitudes of local fishermen.	Clarify how exclusion area will operate and be policed.	Edison Mission statement on operational aspects of exclusion areas obtained, fishing organisations canvassed on exclusion zones, ERM currently sourcing case study data (to follow)	Additional information received 28/5/02 and discussed at meeting 28/5/02. COWL/ERM admit that reef effects likely to be minor and benefits in ES overstated.	Yes



14	<p>Electro-magnetic fields. Consider thornback ray (known to be present in area) in more detail. Clarify distances / shielding effects / depth of burial etc -- telecommunication operators may be useful source of info.</p>	<p>As well as thornback other ray species e.g. cuckoo and blonde should also be considered as these are known to be present in the area. Consider seasonality of catches from the commercial and recreational sectors. Data to be collected to identify the significance of the site (and surrounding area) for elasmobranchs for spawning, nursery and feeding areas. Determine likely impact of electric fields on the behaviour of juvenile and adult elasmobranchs. Cumulative issues with other windfarms must be considered. They do not depend on spatial extent of impacts overlapping.</p>	<p>ERM and Neil Clarkson (fisheries liaison officer) to confirm distribution of sensitive species (ongoing), ERM sourcing research on installed cables <b>(to follow)</b></p>	<p>Additional information received 28/5/02. The importance of the site for elasmobranchs has been addressed for a number of species of adults but not for juveniles and needs to be. COWL confirm that Angel sharks are extremely rare in the project area.</p>	<p><b>Partly</b> Major concern.</p>
15	<p>Fish. Check consistency of statements regarding timing of spawning. Fig 7.7 – gannt charts. Chris to send through.</p>	<p>Clarify the timing of the works in relation to fish spawning.</p>	<p>Comparison of respective 'timetables', ongoing <b>(to follow)</b></p>	<p>Additional information received 28/5/02. Statement includes species which spawn in deep or open water and are not relevant. For commercial species with well defined spawning grounds close to or on the site Dec to June is the most sensitive time.</p>	<p><b>Yes</b> Conditions may be needed</p>

16	Navigation risk assessment report to be provided for evaluation, when completed.	Collision risk in figures for comparison with other operations. Commitment for a contingency plan in construction and operation.	Assessment underway, results to be provided when available ( <i>to follow</i> )	No Information not yet received.
17	Badger report to be circulated.	Yes please.	Report available, to be forwarded ( <i>to follow</i> )	No Information yet to be reviewed.
18	Check target notes on habitat maps, check plant species – one missing?	Yes. Please supply target notes. Supply clearer maps of cabling route onshore. Confirm that protected species surveys can be undertaken before construction and that route and working methods can be amended if required.	Maps produced. Timing of surveys checked with consultant.  Information received 22/5/02 with target notes and clearer maps. Also confirmation that surveys can be undertaken in 2003. Methodologies for the surveys should be agreed with CCW and we need to see copies of the results.	Partly Conditions will be needed. Depending on the results of the protected species surveys avoidance schemes, mitigation measures and appropriate licences may be need.

<p><b>19</b></p> <p><b>Birds</b></p> <ol style="list-style-type: none"> <li>1. Review JNCC field report on colony boundaries – cormorants etc.</li> <li>2. Evaluate potential effects on sandwich terns during passage period (Spring / Autumn).</li> <li>3. Include potential effects of offshore substation, drawing birds to potential perches.</li> <li>4. Evaluate movement of birds across area, potential for exclusion from feeding areas due to barrier effects etc.</li> <li>5. Review 2000/1 aerial data – this could be useful in providing more baseline information.</li> <li>6. Provide updated boat survey report (Feb 2002).</li> <li>7. Review March / April aerial survey data, place boat and aerial survey data in context, prepare assessment of cumulative effects on red throated diver and other relevant species. Address issues raised by NWP / Casella survey March 2002.</li> </ol>	<ol style="list-style-type: none"> <li>1. Also need actual data on bird usage of the site.</li> <li>1.</li> <li>2.</li> <li>4. Data needed here and justification on the size of the gap between the turbines.</li> <li>5.</li> <li>6. What extra information can you provide ?</li> <li>7.</li> <li>8. Data needed to support/allay fears that birds are moving through the site on route between the Dee and Traeth Lafan.</li> <li>9. Modelling work needs to be supported by field work (dusk/dawn/tidal), particularly for the Scoter.</li> <li>10. Clarification is needed on whether the divers are aggregated/dispersed at the site.</li> <li>11. More information is needed on moulting birds and potential impacts, particularly during construction period.</li> </ol>	<p>Work ongoing, diver distribution maps will be available Wednesday, COWL response to be provided shortly after <i>(to follow)</i></p>	<p>Additional information received 28/5/02 some still to be reviewed.</p>	<p><b>No</b></p> <p>Some issues of major concern remain especially relating to common scoter, red throated divers and cormorants.</p>
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20		Address possible impacts on seal populations CCW will supply a copy of the latest seal survey report.	Waiting for report <i>(to follow)</i>	Draft report sent to ERM 23/5/02. Received 24/5/02. Additional information/text received from COWL 28/5/02.	Yes
21		Can you confirm that access to the turbines for maintenance will be by boat ?	Response obtained from retained marine engineer <i>(to follow)</i>	Response received 28/5/02 confirming access would be by boat.	Yes
22		Will a substation at sea increase the number of maintenance trips needed	Response obtained from retained marine engineer <i>(to follow)</i>	Response received 28/5/02 stating it is not expected that an offshore sub station would increase the number of boat trips.	Yes
23		Have you any data on the variation in beach levels on the foreshore ?	Responsibility of installation contractor <i>(to follow)</i>	Response received 28/5/02 stating this is the responsibility of the installation contractor. CCW recommend that data on beach levels should be obtained by COWL from Local Authority now.	No
24		Has the collision risk assessment taken into account the possibility of bigger turbines and changing vessel routing ?	Full risk assessment is being conducted <i>(to follow)</i>	Response received 28/5/02 stating that collision risk assessment as taken this into account. Full assessment still to be seen.	Partly



25		Can you clarify the lighting which will be on the turbines and in the associated area and how this will be viewed from the shore?	Info obtained from Trinity House, CAA, lighting supplier, maps showing likely visibility being produced.	Response received 28/5/02.	Yes
26		Can you consider lighting that could be reduced at times of high visibility ?	Yes	Response received 28/5/02.	Yes
27		Can flashing lighting be synchronized ?	Yes	Response received 28/5/02.	Yes.
28		What will be the impact on noise levels for recreational areas such as the Great and Little Ormes ?	Response obtained from Malcolm Hayes	Additional statement received 28/5/02. Issue clarified.	Yes



Cyngor Cein Gwlad Cymru  
Countryside Council For Wales

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Simon Tribe  
Celtic Offshore Wind Ltd  
The Long Barn  
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CH7 4ED

26 July 2002

Dear Simon

**PROPOSED OFF SHORE WIND FARM AT RHYL FLATS - REVISED  
TURBINE ARRAY AND OUTSTANDING ISSUES OF CONCERN**

CCW as the statutory advisor on landscape and nature conservation issues in Wales is fully committed to the Government's Renewable Energy Strategy and wish to encourage the development of marine wind energy off the Welsh coast. In response to the Environmental Statement submitted by yourselves in support of the various consents and licences for the proposed Rhyl Flats offshore wind farm, we highlighted our major concerns with this application (letter to DTI 12/6/02 copied to yourself). These concerns were largely due to the footprint of the development and spacing of the turbines. We suggested that the impacts on landscape, birds and fish would all be decreased by a reduction in the footprint of the wind farm and altering its layout. On the basis of the proposal as it was presented, CCW considered that it had no alternative but to object to the application.

Since we responded to DTI, we have met with you and seen alternative layouts from the original two rows of 15 turbines as; 3 rows of 10 (grid), 7-10-13 and 7-11-12. We have considered these alternative layouts from a landscape perspective and it is CCW's view that all three of the proposed layouts are substantial improvements on the original two row array first suggested. Of the three new layouts suggested we feel that there is relatively little to chose between them, although the 7-11-12 arrangement is the best compromise. This arrangement has the benefit of;

- reducing the width spread across the horizon in views from the Great and Little Orme areas compared to the 10-10-10
- fractionally increasing the distance of the closest turbine from the Orme when compared to the 7-10-13 layout.

- appearing random in views from the Great to Little Orme and Colwyn Bay.

It is important to realise that at this stage our preferences relate only to the effect on the landscape. The possible impacts that a change in layout may have on other aspects of the marine environment must also be taken into account e.g. coastal processes, birds.

Obviously we have now seen the Public Notice (Daily Post 13/7/02) notifying the proposed changes to the application in the turbine array and we received a supplementary Environmental Statement from yourself (18/7/02) with the new proposed 7-11-12 layout and some supporting information. The ornithology section to the ES supplement arrived on the 24/7/02 and we await the navigational risk assessment which we understand is imminent. We now await advice from DTI on how and when they want us to formally respond.

With regard to the outstanding issues from the original layout and Environmental Statement, we also received your letter of 23/7/02. It is our view that a number of outstanding concerns and queries have not yet been addressed. We have suggested meeting with you to further these actions as it is likely that discussions would better clarify what is needed and the way forward. We, like you are keen to resolve issues as soon as possible. However, several of our key specialist staff are taking annual leave during July and early August - hence our suggested meeting date of 22 August. As discussed with Geriant Jewson, we would also like to invite DTI to the meeting. We understand that you feel waiting until that date would represent a significant delay to the project. Consequently we will try and do as much as possible in e-mail and written correspondence. Perhaps you can suggest alternative dates and I will check the availability of key staff for those suggested. If a suitable date can not be reached we would suggest meeting on a specific issues e.g. birds or geomorphological processes to progress them forward in the absence of all the specialists.

In the absence of a meeting date at present, I list below our views on the way forward on the remaining outstanding concerns. These have been taken out of our original response to DTI (12/6/02) and the table which was attached to that letter which has been amended several times by yourself and CCW. It should be stressed that these relate to the original layout and ES, but many will have similar knock on effects to the revised layout and so an attempt to resolve them is critical.

Given that the landscape issue is being dealt with the following concerns remain to be addressed on other issues.

#### **1. Birds - Common scoter**

This is the most significant of our outstanding concerns and the comments in our response to DTI on 12/6/02 still stand.

We have not yet received any new data to resolve these concerns. We must re-iterate that there are particular gaps in the data on flight lines between feeding and roosting areas, the distribution of moulting birds, the movement of non breeding scoter and the barrier effect posed by this turbine layout. Further surveys, including

at dawn and dusk and in different tidal conditions are required before these can be resolved.

Obviously the suggested alteration in the proposed turbine layout, to reduce the barrier effect to scoter, is likely to be beneficial, but the gaps in the data will still need to be filled.

As stated in our letter of 12/6/02, CCW are particularly concerned about the potential cumulative impacts on the common scoter population of the Rhyl Flats project with other offshore wind farm proposals in Liverpool bay, notably the projects at Shell Flats, a site which supports the highest numbers of common scoter in the Bay. This was not dealt with in the ES, which addressed only cumulative impacts of the Rhyl Flats and North Hoyle proposals, and is a major deficiency in the assessment of impacts of this proposal.

We note that DEFRA supported our issues of concern on scoter and cormorants (see below) in their response to DTI on 11 July 2002. We have also been copied your response to this letter (18/7/02) and note that it does not respond to the possible barrier effects to scoter. In addition your response to DEFRA makes reference to the absence of clear guidance on the requirements for cumulative assessment during the preparation of the ES. We would like to draw your attention to the detailed scope from CCW in a letter 24/7/01 to Geriant Jewson, in response to a letter of 4/6/01 by COWL.

## **2. Birds - Red throated divers**

We are satisfied that the red throated diver are not aggregated at the Rhyl Flats site but dispersed over the north Wales side of Liverpool Bay. However, possible impacts on these birds are still of concern to us. We recognise that there is a lack of research on displacement and disturbance effects of wind turbines on red-throated diver and suggest that monitoring and conditions could be used to allay these concerns and move the application forward.

## **3. Birds - Cormorants**

We have expressed our concern that little consideration has been given to the use of the Rhyl Flats site and surrounding area by cormorants. Extra information is still needed to allay these concerns that the development may have an impact on the feeding area of these birds and may be needed for an appropriate assessment.

## **4. Fish - Elasmobranchs**

There is information from fishermen, and also from the additional information you supplied (11/7/02), that thornback rays spawn on or close to the site and that juveniles use the area. Also research shows that these species are highly site specific. This is enough to treat this area as an important ray recruitment area. The additional information received on 11/7/02 contains many assumptions which are unsubstantiated and are not sufficient to support the conclusions drawn.

However, we recognise that the potential impacts of electromagnetic fields from offshore windfarms on elasmobranchs is a generic issue of concern for many offshore windfarms. Therefore, we feel that this should be addressed as a matter of urgency through a group like COWRIE and we understand that the Crown Estate will

be commissioning work this summer. In an ideal world we would wish to have the results from this research before developments are given consent. As this may not be possible, we must base our advice on the information given and act under the precautionary principle. We suggest that given the uncertainty in this area that there will need to be a condition attached regarding the depth of cable burial, pending the results of the COWRIE research. As a baseline for monitoring more information on the elasmobranch use of the area is needed. It will also be picked up in monitoring conditions.

#### **5. Coastal processes**

Our comments in CCWs response to DTI (12/6/02) still stand and these issues have also been raised by DEFRA (11/7/02). Additional information was received and discussed in the meeting we had on 23/5/02, following which we asked for more clarification and a copy of the HR Wallingford report EX4502. A full copy of this report arrived by e-mail (16/7/02) and in hard copy on 24/7/02 with additional text in the letter that accompanied it. We have not had sufficient opportunity to evaluate the recent additional information in any detail and our specialist is on leave until 13/8/02. However, there are several points which we can make now;

- This report does not address concerns about the long term changes and stability in Constable Bank as raised by ourselves (12/6/02) and DEFRA (11/7/02).
- The additional material supplied to us (23/7/02) contradicts the ES with regard to size and extent of the sand waves at the site. In addition the conclusion in the text of the letter that 'there do not appear to be any significant sand waves in the area proposed for the wind turbines' appears un-substantiated.
- We still await results of the modelling of suspended sediments during construction.
- Will the numerical model be re-run for the new layout ?

Please note we have commented previously on an earlier version of this report (25/1/02) and several points in that response remain unresolved. We would like opportunity to discuss these and other issues with you and your consultants.

#### **6. Onshore works - Protected species**

We would like to review the methodologies for the protected species surveys which you have agreed to carry out at more appropriate times pre-construction in 2003/4. We will wish to review the results. Conditions may need to be imposed and depending on the survey results, changes to construction methods or routes and other mitigation measures, plus appropriate licences, may be needed.

#### **7. Intertidal survey**

We received and reviewed the intertidal report and responded in a letter on 12/7/02. We now await the core analysis. Conditions will be needed on construction techniques and possibly for the cable route.

#### **8. Timing**

Although extra information has been supplied on the delivery and transport of the turbines to the site we are still unclear in which months various construction activities

will take place. This could be resolved through discussions on conditions attached to the FEPA licence and when a detailed method statement is produced.

**9. Navigation assessment**

We have still not received this information but understand that it is imminent.

**10. Subsea noise**

We have attached here the review of the underwater acoustics section of the ES which was prepared by Dr John Gould of the University of Wales Bangor. We would be grateful for your comments on this.

**11. Other**

Thank you for the extra information on why there is a dogleg in the cable route and the Badger survey results. We are satisfied on these issues.

Finally we are aware that you are keen to start discussions on monitoring conditions for the various consents and licences. We would like to see the resolution of outstanding concerns on the significant issues given the highest priority, but understand that you are eager to progress the application promptly to apply for capital grants. Consequently we would be happy to review any suggestions you have and meet to discuss these if necessary.

Yours sincerely

**Dr M I Hill**  
**Head Maritime and Earth Sciences Group**

Cc Keith Welford, DTI  
Carol Gray, DEFRA  
Adrian Judd, CEFAS  
Chris Morgan, Welsh Assembly Government, Planning Division  
Nicola Donlon, Welsh Assembly Government, Countryside Division  
Martin Williams, Welsh Assembly Government, ISG Division  
Glyn Perryman, Welsh Assembly Government, Agriculture and Fisheries  
Policy Division  
Paul Gilliland, English Nature  
John Osley, CCW NEA  
Tim Jones, CCW NEA

**Comments from CADW which have been transcribed verbatim**

"Cadw offers no objection to the application for the Off-shore Wind Farm at Rhyl Flats. However, the risk of some degree of potential impact upon the historic environment has been identified in the Environmental Statement and we recommend that the licence is conditional upon mitigation being undertaken at the time of construction and a programme of monitoring of impact being agreed.

The Environmental Statement identifies the following potential impacts:

**A. Offshore Environmental Impact****1. Rhyl / Abergele Foreshore Environmental Site.**

This site, classed as having a potential for having regional if not national importance comprises an extensive area of peat and clay deposits along the foreshore at Rhyl and extending to Abergele. Eroded sections of these deposits on the foreshore have exposed a large number of artefacts that suggest that the deposits hold strata associated with early prehistoric settlement and flint working. This site will be cut by the cable laying and possibly by installation of the turbines, if these deposits are found to extend further out to sea.

**Mitigation.** The suggested mitigation for this impact is an undertaking to seek archaeological advice on the specification and implementation of marine geotechnical surveys (boreholes), and the provision of recovery of samples. A Written Scheme of Investigation will be developed for the construction phase in consultation with Cadw and Clwyd Powys Archaeological Trust. The preparation of this WSI will be informed by archaeological coring across the foreshore, with provision for recovery of cores, palaeo-environmental assessment and radio carbon dating of sub-samples.

Cadw approves this proposed mitigation; the archaeological coring and analysis of cores should be undertaken by suitably qualified archaeological personnel approved by Cadw. If further grab samples of sea bed sediments are taken, material gathered should be open to inspection by the archaeologist. Provision for appropriate publication of the results of the foreshore sample analysis should be made during the preparation of the contract.

**Monitoring.** No monitoring is proposed in the Environmental Statement. Cadw recommends that there be undertaken a programme of monitoring of the impact of the cable laying across the foreshore to detect any increase in erosion or scouring of adjacent sections of the foreshore site due to destabilisation of ground strata.

## 2. Resurgam Submarine

This is designated as a nationally important wreck. It lies 3.6km to the north east. The potential for adverse impact upon the wreck is considered negligible, due to the distance from the farm.

**Mitigation:** The designated area around Resurgam will be marked as an exclusion zone on contract documents.

Cadw considers that the potential for adverse impact is greater than assessed by the environmental statement, given the nature of tides and currents in the area. The area marked as the exclusion zone for contract vessels should be considerably greater than the statutorily designated area, and the position of the wreck should be buoyed as a guide to vessels, after consultation with Cadw. The impact on the wreck by scouring or, conversely, of sedimentation due to the positioning of the turbines should be monitored in accordance with a programme to be agreed with Cadw.

## 3. Offshore Wrecks

11 side scan anomalies have been discovered within the working area. These are of unknown importance and the impact upon them is equally uncertain.

**Mitigation:** The Environmental Statement proposes that these anomalies should be discussed with Cadw and, if necessary, exclusion zones defined around those suspected as being of archaeological importance. If construction appears likely to impact on any of these, further archaeological work (diving inspection) should be undertaken. Cadw approves this mitigation proposal but recommends that the further diving inspection be supplemented by sub – bottom profiling. In the event of features being found to be of archaeological interest, those features should be protected by exclusion zones.

## 4. Offshore Archaeology

Cadw considers that there remains a potential for impact on unknown buried archaeology off-shore which could be further reduced.

Cadw recommends that the following should be undertaken:

Sub-bottom profiling of the estuary and the off-shore cable routes should be undertaken in advance of final determination of the cable line. This will assist in the proposed preservation in situ of archaeological features or structures. Assuming that this work would be undertaken for a variety of reasons, the results should be made available to the archaeologists contracted to undertake the archaeological watching brief. Sub-bottom profiling of the sea bed in relation to the final location of the off-shore sites of the turbines should be undertaken to check for buried and unknown wreck sites not revealed by side-scan sonar survey. Cadw considers that the side scan sonar survey so far undertaken should be supplemented by this further work. The Environmental Statement mentions 'further geophysical survey; but without a specific commitment to undertake the work.



## **B. On-shore Environmental Impact**

The Environmental Statements shows that no scheduled ancient monuments are affected by the proposed underground cable run, on-shore sub station, construction compounds and access routes. There is a potential for any or all of these operations affecting unknown archaeological sites.

**Mitigation:** The Environmental Statement proposes pre-construction coring across the foreshore, a walkover of the line of construction and review of aerial photographs, and exclusion zones being drawn up around any archaeological features discovered during this survey. A WSI will be drawn up for the construction phase to direct archaeological work during construction in consultation with Cadw and CPAT. Archaeological work to be undertaken, where a potential for adverse impact is recognised, include watching briefs.

Cadw approves this proposed mitigation but recommends that the approval of Cadw and CPAT for the WSI is secured before the work of construction commences.

Cadw suggests that the licence should be granted conditionally upon the above measures being implemented".



## WALES TOURIST BOARD

### STATEMENT OF POLICY ON WINDFARM DEVELOPMENT

The following statement has been extracted verbatim from the Wales Tourist Boards' Board meeting on the 22<sup>nd</sup> September 2000. The statement deals specifically with those aspects of wind farm development, which lie within the statutory remit, and technical competence of the Board.

The policies are intended to inform local authorities, developers and other interested parties of the Boards position with regard to this matter. In accordance with our general approach on land use planning matters, we will not be commenting on individual planning applications involving wind farm development.

The Board agreed to revise its policy on wind farms and specifically to endorse the following position:

- **The Board opposes the introduction of commercial wind turbines and wind turbine power stations in both the primary designated areas (National Parks, Heritage Coast, National Marine Nature Reserves and Areas of Outstanding Natural Beauty) and on natural sites that are clearly visible from the primary designated areas. We consider that elsewhere proposals should demonstrate that there will be no detrimental effect on tourism.**
- **That the Board oppose the development of offshore wind farms adjoining the coastline, which is either within a National Park, designated Heritage Coast, Areas of Outstanding Natural Beauty or National Marine Nature Reserves. Elsewhere, in assessing the suitability of locations for off shore wind farms in the proximity of traditional coastal resorts the effects on tourism should be a material consideration in the determination of applications for such developments.**
- **That the Board recommends that the National Assembly for Wales provides clear land use policy guidance on the provision of wind farms and that the scope for less intrusive forms of renewable energy be investigated.**

This is a stronger stance that has previously been taken by the WTB and attempts to protect areas which are adjoining the primary designated areas but which we feel are of equal importance with regard to the protection of the tourist industry in Wales. Elsewhere, the WTB is asking that the impact on tourism become a material consideration in assessing wind farm proposals.

**October 2000**

**Comments from the Wales Tourist Board which have been transcribed  
verbatim**

"The Board would be concerned about the potential visual impact of the proposals on the tourist resorts of Rhyl and Llandudno. They feel that it is difficult to assess the impact without a visualisation of the appearance of the development from these resorts - if they appear as small objects on or near the horizon, then their impact is likely to be marginal."

**Comments from the Welsh Development Agency transcribed verbatim**

**STRATEGIC VIEW**

"The Welsh Development Agency's (WDA) primary purpose is to 'activate business success' and to promote economic development in Wales within the national strategic framework 'www.betterwales.com'. Under its Corporate Plan, the WDA proposes programme expenditure of some £409m over 3 years to develop a new economy for Wales.

Readily available and financially accessible supplies of energy are fundamental to the functioning and growth of a modern industrial society. The underlying principle is that citizens and companies should have access to the energy they need. The objective of UK policy is to ensure competitive energy markets while achieving safe, secure and sustainable energy supplies.

Off-shore windfarms offer an opportunity for a step-change in the contribution from renewable energy. The UK Government is working hard to resolve consent issues and recognises the cost hurdles that have to be overcome to get this technology underway. Much has to be learnt about building and operating off-shore windfarms and the recent bidding round for consents to build off-shore is the first step in enabling this experience to be obtained.

It should be recognised that off-shore wind projects are at an early stage of 'product life-cycle', when opportunities exist to gain a market lead through innovative 'product' development. Research and Development targeted in this area could show good returns. The Rhyl Flats proposal would be one such demonstration site.

Whilst off-shore wind power offers good prospects for mass replication, this is essentially, a 'new product', and offers much opportunity for design refinement to bring the cost per MW installed down to commercially competitive levels.

The Rhyl Flats project has significant economic development potential given the developers stated policy to secure renewable supply companies in Wales.

**TECHNICAL VIEW**

This project has the most significant Welsh content of all three proposed here. The project is led by Mold based Renewable Development Company (RDC). With much of the technical work being carried out by their sister company West Coast Energy. The WDA Energy Office played a part in putting together the consortium to enable the Celtic Offshore Wind Energy (COWL) to pre-qualify with the Crown Estates.

This represents a significant growth opportunity for a Welsh SME in conjunction with Edison Mission Energy, to establish itself in this new high growth technology area. RDC are already a significant developer of onshore

wind projects with a strong track record. The WDA was instrumental in securing a partnership with John Brown Hydrocarbons for the management and development of the marine aspects of the project. These are a leading global player in the design, build and operation of offshore engineering facilities.

Edison Mission energy is a significant contributor to the North Wales economy, operating Dynorwig & Ffestiniog Pumped storage plant. They also have their operating H.Q. at St Davids Business Park in Flintshire. This project has already made a significant commitment to the Welsh content of the project development with the contract for the anemometer monopole already placed with A local company. They also express a strong commitment to place the order for turbine towers and mono-piles with the same local company".