

**PROFORMA FOR RECORDING MARINE SCOTLAND'S CONSIDERATION OF A PROPOSAL AFFECTING A POTENTIAL/DESIGNATED SAC OR SPA**

**SITE DETAILS: FEPODWT, METHIL**

**FILE REF: 022/OW/SEM - 10**

**APPROPRIATE ASSESSMENT CONCLUSION:** Marine Scotland Licensing Operations Team (MS-LOT) is in agreement with the findings of Scottish Natural Heritage (SNH) that the proposed Fife Energy Park Offshore Demonstration Wind Turbine (FEPODWT) will not adversely affect the integrity of the Firth of Forth SPA, SSSI and Ramsar Site, Forth Islands SPA, Loch Leven SPA, SSSI and Ramsar Site and the Firth of Tay & Eden Estuary SAC.

**1a. Name of Natura site affected & current status available from:**

<p><b>1. Firth of Forth SPA &amp; Ramsar</b>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8499">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8499</a>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8424">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8424</a></p>
<p><b>2. Forth Islands SPA</b>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8500">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8500</a></p>
<p><b>3. Isle of May SAC</b>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8278">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8278</a></p>
<p><b>4. Firth of Tay &amp; Eden Estuary SAC</b>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8257">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8257</a></p>
<p><b>5. Loch Leven SPA &amp; Ramsar</b>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8530">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8530</a>  <a href="http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8436">http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8436</a></p>

**1b. Name of component SSSI if relevant**

<b>1. Firth of Forth SSSI</b>	<b>2. Forth Islands SSSI</b>
<b>3. Isle of May SSSI</b>	<b>4. Eden Estuary SSSI</b>
<b>5. Loch Leven SSSI</b>	

**1c. European qualifying interests & whether priority/non-priority:**

<p><b>1. Firth of Forth SPA</b></p> <ul style="list-style-type: none"> <li>▪ Bar-tailed godwit (non-breeding)</li> <li>▪ Common scoter (non-breeding)*</li> <li>▪ Cormorant (non-breeding)*</li> <li>▪ Curlew (non-breeding)*</li> <li>▪ Dunlin (non-breeding)*</li> <li>▪ <b>Eider</b> (non-breeding)*</li> <li>▪ Golden plover (non-breeding)</li> <li>▪ Goldeneye (non-breeding)*</li> <li>▪ Great crested grebe (non-breeding)*</li> <li>▪ Grey plover (non-breeding)*</li> <li>▪ Knot (non-breeding)</li> <li>▪ Lapwing (non-breeding)*</li> <li>▪ Long-tailed duck (non-breeding)*</li> <li>▪ Mallard (non-breeding)*</li> </ul>	<p><b>2. Forth Islands SPA</b></p> <ul style="list-style-type: none"> <li>▪ Arctic tern (breeding)</li> <li>▪ Common tern (breeding)</li> <li>▪ Cormorant (breeding)*</li> <li>▪ Fulmar (breeding)*</li> <li>▪ Gannet (breeding)</li> <li>▪ Guillemot (breeding)*</li> <li>▪ Herring gull (breeding)*</li> <li>▪ Kittiwake (breeding)*</li> <li>▪ Lesser black-backed gull (breeding)</li> <li>▪ Puffin (breeding)</li> <li>▪ Razorbill (breeding)*</li> <li>▪ Roseate tern (breeding)</li> <li>▪ Sandwich tern (breeding)</li> </ul>
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<ul style="list-style-type: none"> <li>▪ Oystercatcher (non-breeding)*</li> <li>▪ Pink-footed goose (non-breeding)*</li> <li>▪ Red-breasted merganser (non-breeding)*</li> <li>▪ Redshank (non-breeding)</li> <li>▪ Red-throated diver (non-breeding)</li> <li>▪ <b>Ringed plover</b> (non-breeding)*</li> <li>▪ Sandwich tern (passage)</li> <li>▪ Scaup (non-breeding)*</li> <li>▪ <b>Shelduck</b> (non-breeding)</li> <li>▪ Slavonian grebe (non-breeding)</li> <li>▪ Turnstone (non-breeding)</li> <li>▪ Velvet scoter (non-breeding)*</li> <li>▪ Wigeon (non-breeding)</li> <li>▪ Waterfowl assemblage (non-breeding)</li> </ul> <p>* = assemblage qualifier only  <b>BOLD</b> = listed as breeding in SSSI</p>	<ul style="list-style-type: none"> <li>▪ Shag (breeding)</li> <li>▪ Seabird assemblage (breeding)</li> </ul> <p>* = assemblage qualifier only</p>
<p><b>3. Isle of May SAC</b></p> <ul style="list-style-type: none"> <li>▪ Grey Seal</li> </ul>	<p><b>4. Firth of Tay &amp; Eden Estuary SAC</b></p> <ul style="list-style-type: none"> <li>▪ Common (harbour) seal</li> </ul>
<p><b>5. Loch Leven SPA</b></p> <ul style="list-style-type: none"> <li>▪ Teal (non-breeding)</li> <li>▪ Cormorant (non-breeding)</li> <li>▪ Gadwall (non-breeding)</li> <li>▪ Goldeneye (non-breeding)</li> <li>▪ Pink-footed goose (non-breeding)</li> <li>▪ Pochard (non-breeding)</li> <li>▪ Shoveler (non-breeding)</li> <li>▪ Tufted duck (non-breeding)</li> <li>▪ Whooper swan (non-breeding)</li> <li>▪ Waterfowl assemblage (non-breeding)</li> </ul>	

**1d. Conservation objectives for qualifying interests:**

<p>To avoid deterioration of the habitats of the qualifying species (detailed in section 1c) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p>
<ul style="list-style-type: none"> <li>• Population of the species as a viable component of the site</li> </ul>
<ul style="list-style-type: none"> <li>• Distribution of the species within site</li> </ul>
<ul style="list-style-type: none"> <li>• Distribution and extent of habitats supporting the species</li> </ul>
<ul style="list-style-type: none"> <li>• Structure, function and supporting processes of habitats supporting the species</li> </ul>
<ul style="list-style-type: none"> <li>• No significant disturbance of the species</li> </ul>

## PROPOSAL DETAILS

### 2a. Proposal title & name of consultee (i.e. applicant or competent authority)

Fife Energy Park Offshore Demonstration Wind Turbine.  
Scottish Enterprise

### 2b. Date of Consultation:

SNH response to S36 and Marine Licence consultation received 01 October 2012

### 2c. Type of Case:

Appropriate Assessment (AA) of the proposed Offshore Demonstration Wind Turbine at the Fife Energy Park, Methil, Fife.

### 2d. Details of proposed operation (inc. location, timing, methods):

The proposal is to construct, operate and decommission a site for the testing of new designs of offshore wind turbines with a capacity of up to 7 MW at the Fife Energy Park, Methil. The Development would be operational for 5 years. Timing of the works is proposed to be August 2012 – June 2018. During this timescale there is potential for more than one turbine model to be tested at the site. Once one turbine had been tested it would be removed from the site and replaced with a new turbine which would fall within the same design parameters (maximum hub height of 110 m, rotor diameter of 172 m, and maximum height to turbine tip from MSL of 196 m). Only one turbine would ever be installed at any one time. The base would remain in place throughout the Development. All turbines will be removed after 5 years from the operation of the first turbine.

The Development will comprise:

- A single, three bladed demonstration wind turbine with an installed capacity of up to 7 MW. The turbine tower is up to 110 m tall, from Mean Sea Level (MSL) including the base jacket. The turbine has a maximum rotor diameter of 172 m, giving a maximum level from the MSL to turbine tip of up to 196 m;
- A personnel bridge connection between the Fife Energy Park (FEP) and turbine tower;
- Construction of an onshore crane pad on the FEP; and
- Construction of an onshore Control compound

## ASSESSMENT IN RELATION TO REGULATION 20 or 48

### 3a. Is the operation directly connected with or necessary to conservation management of the site? YES/NO If YES give details:

The operation is not connected with or necessary to conservation management of the site

If yes and it can be demonstrated that the tests in 3b have been applied to all the interest features in a fully assessed and agreed management plan then consent can be issued but rationale must be provided, including reference to management objectives. If no, or if site has several European qualifying interests and operation is not directly connected with or necessary to the management of all of these then proceed to 3b

### 3b. Is the operation likely to have a significant effect on the qualifying interest? Repeat for each interest on the site.

During the consultation phase of the S36 and Marine Licence process, SNH concluded that the proposed turbine is:

- **Likely** to have a significant effect on harbour seals as the qualifying feature for Firth of Tay and Eden Estuary SAC if vessels with ducted propellers are used.
- **Likely** to have a significant effect on any qualifying features of the Firth of Forth SPA due to collision risk, loss of or damage to foraging habitat and from disturbance and displacement impacts.
- **Likely** to have a significant effect on any qualifying features of the Forth Islands SPA due to collision risk.
- **Likely** to have a significant effect on the qualifying interest of non-breeding cormorants in the Loch Leven SPA due to collision risk.

The following are not considered further in this assessment as SNH concluded that the proposed turbine is:

- **Not likely** to have a significant effect on grey seals as the qualifying feature of the Isle of May SAC

The potential impacts to consider for birds are collision risk with turbine blades, disturbance and displacement due to the construction and decommissioning activities and loss of or damage to foraging habitat.

The potential impacts to consider for seals are disturbance due to the construction and decommissioning activities and physical interaction with ducted propellers of work vessels, if vessels with ducted propellers are used.

- i) Indicate which feature of interest could be affected by the proposed operation and briefly in what way; if none proceed to v), otherwise continue;*
- ii) Refer to other plans/projects with similar effects/other relevant evidence;*
- iii) Consider scale, longevity, reversibility of effects;*
- iv) Consider whether proposal contributes to cumulative or incremental impacts with other projects completed, underway or proposed;*
- v) Give Yes/No conclusion for each interest.*

YES
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**If no for all features, a consent or non-objection response can be given and recorded under 4 (although if there are other features of national interest only, the effect on these should be considered separately). If potential significant effects can easily be avoided, record modifications required under 3d.**

**If yes, or in cases of doubt, proceed to 3c.**

### **3c. Appropriate Assessment of the implications for the site in view of the site's conservation objectives.**

- i) Describe for each European qualifying interest the potential impacts of the proposed operation detailing which aspects of the proposal could impact upon them.*
- ii) Evaluate the significance of the potential impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. Record if additional survey information or specialist advice has been obtained.*

**SPA** - Based on appraisals carried out, SNH concluded the Turbine will have no adverse affect on the integrity of the Firth of Forth SPA, Forth Islands SPA and Loch Leven SPA.

Disturbance and Displacement

No likely significant effect (LSE) to qualifying interests of the Forth Islands SPA in relation to disturbance impacts. The appraisal considered the construction methods, the scale of the site, the distance from the SPA and the limited importance of the immediate are for species from the SPA.

The appraisal for the Firth of Forth SPA considered the bird species which may be disturbed are those which use the intertidal area:

- Bar-tailed godwit (*Limosa lapponica*)
- Curlew (*Numenius arquata*)
- Dunlin (*Calidris alpina alpina*)
- Golden plover (*Pluvialis apricaria*)
- Grey plover (*Pluvialis squatarola*)
- Knot (*Calidris canutus*)
- Oystercatcher (*Haematopus ostralegus*)
- Redshank (*Tringa totanus*)
- Ringed plover (*Charadrius hiaticula*)
- Turnstone (*Arenaria interpres*)

The conclusion was reached through consideration of the following factors:

- the area immediately adjacent to the development site does not appear to be a particularly high-value foraging habitat and;
- by using drilling and grouting (rather than pile-driving) for installation of the turbine and bridge foundation, this also limits the extent of potential disturbance impacts.

Loss of or Damage to Available Foraging Habitat

No LSE to qualifying interests of the Forth Islands SPA in relation to impacts on foraging habitat. This conclusion was reached due to the limited value of the development site for foraging by species from the SPA.

The appraisal considered that the potential foraging areas for the qualifying species of the Firth of Forth SPA (and SSSI) that may be affected by the seabed preparations and the development footprint extending into the intertidal area.

The conclusion was reached through consideration of the following factors:

- the relatively poor quality of the habitat at this location and;
- the small scale of the area impacted relative to availability of similar and higher quality habitat in other parts of the SPA.

Collision Risk with Turbine Blades

Predicted annual mortality (see table below) is not expected to give rise to any detectible population-level effects upon any of the SPAs qualifying species. The relatively short operating period of 5 years gives additional comfort that collision mortality is unlikely to be of concern for this proposal. It is noted that there is an interchange between cormorant breeding in the Forth Islands SPA and those wintering in Loch Leven SPA (which MS-LOT has taken into account in this assessment).

Receptor	Cormorant	Shag	Oystercatcher	Kittiwake	Sandwich Tern	Common Tern
Collision Risk (birds/year)	0.83	0.64	1.16	1.34	3.89	1.43

Based on an appraisal of the proposed Turbine and knowledge of other developments or activities in the Forth and Tay region, any potential cumulative and in combination effects will not adversely effect the integrity of any SPA. This appraisal considered the following factors:

- consideration of proposals and activities we are aware of occurring over the duration of the proposed project and;
- the localised, modest and time-limited nature of potential impacts associated with this proposal.

**SAC** - Based on appraisals carried out, SNH concluded the Turbine will have no adverse effect on the integrity of the Firth of Tay & Eden Estuary SAC.

The appraisal considered the localised, modest and time-limited nature of the potential impacts and through the applicants' commitment to use a Marine Mammal Observer (MMO) during all construction operations. Further to these considerations, where possible, alternatives to ducted propellers (if proposed to be used) should be considered and development activity during harbour seal breeding season (~1st June to 31st August) should be avoided. Mitigation of impacts through use of an MMO is essential and a protocol should be approved through agreement of the Construction Method Statement (CMS) with Marine Scotland.

Based on an appraisal of the proposed Turbine and knowledge of other developments or activities in the Forth and Tay region, any potential cumulative and in combination effects will not adversely effect the integrity of any SAC. This appraisal considered the following factors:

- consideration of proposals and activities we are aware of occurring over the duration of the proposed project and;
- the localised, modest and time-limited nature of potential impacts associated with this proposal.

Impacts upon harbour seals are of particular concern due to population declines on the east coast, including an 'unfavourable declining' status of the Firth of Tay and Eden Estuary population. The harbour seal Potential Biological Removal (PBR) for the Scottish East Coast Seal Management Area was last updated on the 31<sup>st</sup> May 2012 to just 2 individuals.

In conclusion, MS-LOT is in agreement with the findings of SNH (as above) that the development will not adversely affect the integrity of the SPAs or SAC assessed.

*iii) In the light of the assessment, ascertain whether the proposal will not adversely affect the integrity of the site for the European interests. If SAC and/or SPA and/or Ramsar site, give separate conclusions. If conditions required, proceed to 3d.*

The proposed Fife Energy Park Offshore Demonstration Wind Turbine will not adversely affect the integrity of the Firth of Forth SPA, SSSI and Ramsar Site, Forth Islands SPA, Loch Leven SPA and the Firth of Tay & Eden Estuary SAC.

### 3d. Conditions proposed.

Indicate conditions/modifications required to ensure adverse effects are avoided, & reasons for these.

<i>Condition:</i>	<i>Reason:</i>
1. No pile-driving for installation of device and bridge foundations (drilling and grouting only).	1&2. To avoid the need for further assessment of noise to take into account disturbance to cetaceans.
2. The Licensee shall ensure that a Marine Mammal Observer (MMO) is in place on the installation vessel prior to, and during, noisy activities to remove any risk of injury or disturbance to any cetaceans and seals.	1,2&3. To ensure that there is no significant injury or disturbance to marine mammals, including those which are European Protected Species (EPS) i.e. cetaceans. If the applicant adopts the appropriate mitigation then they do not also need to make an application for an EPS licence under The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations). Any person employed as an MMO needs to have the relevant training from JNCC as well as relevant work experience
3. The Licensee shall reduce usage of vessels with ducted propellers where possible (if proposed to be used), and will not conduct works with ducted propellers during harbour seal breeding season (~1st June to 31st August), without written consent from Marine Scotland Licensing Operations Team (MS-LOT).	4. To allow a better understanding of possible impacts on marine wildlife.
4. A Construction Methods Statement (CMS), and an Environmental Monitoring and Mitigation Plan (EMMP) (previously known as a Post-Construction Monitoring Plan (P-CMP)) are to be put in place and agreed with Scottish Natural Heritage (SNH) and Marine Scotland Licensing Operations Team (MS-LOT) one month prior to the commencement of the works.	5. To represent good practice and further reduce any residual effects. In combination with adherence to SMWWC guidelines to help minimise the risk of seal injury from vessel thrusters.
5. As part of the Construction Method Statement (CMS) a Marine Mammal Observer (MMO) Protocol is to be agreed with Marine Scotland Licensing Operations Team (MS-LOT) prior to the commencement of the works.	6. To allow a better understanding of possible impacts on marine wildlife.
6. The Construction Method Statement (CMS) shall detail methods proposed for the exchange of turbines to be tested at the site. Notification to Marine Scotland Licensing Operations Team (MS-LOT) of a proposed turbine exchange is required three months prior to the commencement of the works.	7. To ensure the proposed development has remained holt and resting place free, thereby verifying that an EPS licence or mitigation are not required.
7. Carry out a further pre-construction otter survey.	

#### 4. RESPONSE

##### a) Marine Scotland's Comments

For Marine Scotland advice to other authorities:

Will not adversely affect integrity of the sites
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For Marine Scotland response to request for opinion on effects of permitted development:

Will not adversely affect integrity of the sites
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For Marine Scotland response to application:

Licence process will continue
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<b>Name of assessor</b>	Alexander Ford
<b>Date</b>	18 December 2012
<b>Name of approver</b>	Gayle Holland
<b>Date</b>	17 January 2013