

To

Ministry of the Environment and Energy

## **RESPONSE**

**Dnr M2012/00714/Me; regarding application for permit according to the Swedish Exclusive Economic Zone Act (1992:1140) for the installation and operation of an offshore windfarm on Södra Midsjöbanken.**

With reference to missive from the Ministry of Environment and Energy dated 2015-08-31, and subsequent received acceptance for an extension of the deadline.

The following material from E.ON Wind Sweden AB (“E.ON Wind”) is the response to the consultation statements that has been sent to the Ministry of Environment and Energy.

### **A. Introduction**

#### **A.1 Received Statements**

E.ON Wind has received a number of statements from Swedish Armed Forces, National Defence Radio Establishment, Swedish Defence Materiel Administration, Swedish Civil Contingencies Agency, Coast Guard National Board, National Board of Health and Welfare, Administrative Services Agency, County Administrative Board of Blekinge, County Administrative Board of Kalmar, County Administrative Board of Gotland, National Heritage Board, Swedish National Maritime Museums, Swedish Environmental Protection Agency, Swedish Agency for Marine and Water Management, Swedish Meteorological and Hydrological Institute, Swedish Geotechnical Institute, National Board of Housing, Building and Planning; Swedish Maritime Administration, Swedish Civil Aviation Administration, Swedish Transport Agency, Geological survey of Sweden, Swedish Transmission System Operator, Swedish Energy Agency, Mörbylånga Municipality, County Council of Gotland, Swedish Ornithological Society (BirdLife Sweden), Swedish Wind Power association, Swedish Fishermen's Federation, Swedish Fishermen Economic association, Wildfowl & Wetlands Trust and Kjell Larsson

## **A.2 Referral Responses**

E.ON Wind notes that Swedish Energy Agency, National Board of Housing, Building and Planning, Swedish Defence Material Administration, National Board of Health and Welfare, Swedish Meteorological and Hydrological Institute, Swedish Windpower Association, Geological Survey of Sweden, Swedish Civil Aviation Administration and County Council of Gotland has no objection to the application.

The Swedish Armed Forces, National Defence Radio Establishment, Swedish Civil Contingencies Agency, Coast Guard National Board, County Administrative Board of Blekinge County, County Administrative Board of Gotland, National Heritage Board, Swedish National Maritime Museums, Administrative Services Agency, Swedish Geotechnical Institute, Swedish Maritime Administration, Swedish Transport Agency, Mörbylånga Municipality, County Administrative Board of Kalmar, Sweden Fishermen Economic Association and Swedish Transmission System Operator has provided substantive comments on the application, to EON wind's understanding, have not explicitly objected to the admissibility of the requested operations.

Swedish Environmental Protection Agency and Swedish Agency for Marine and Water Management believes that the government cannot approve the permit based on the existing data while Swedish Ornithological Society (BirdLife Sweden), Swedish Fishermen's Federation, Kjell Larsson and Wildfowl & Wetlands Trust has objected to the admissibility of the applied activity with reference to the risk of impact on porpoises and wintering waterfowl, especially long-tailed duck.

With regard to the risk to the long-tailed duck and porpoises the concerns are commented below in sections D and E. As regards to other comments received from the consultation bodies these have been addressed in a report prepared by Sweco, see Appendix 1.

## **B. Adjusted design of the windfarm**

The importance of Södra Midsjöbanken as a wintering habitat for e.g. the long-tailed duck has led E.ON Wind to make extensive adjustments to the windfarm's original design.

The adjustment means that the original development area is reduced by half, i.e. from a surface area of approximately 320 km<sup>2</sup> to 160 km<sup>2</sup>. The number of wind turbine generators (WTGs) erected will be reduced from the original 300 to 120 and will be replaced with a higher and

more powerful model. The distance between the WTGs will increase by 20 percent from 1000 meters to 1200 meters. The construction time is reduced from three years to about 1.5 - 2 years. Furthermore, the most sensitive area for foraging has been exempted from WTGs since none will be placed in water areas shallower than 18 meters.

The above adjustments also implicates that the total height for the WTGs needs to increase from 200 meters to a maximum of 240 meters. Since the maximum height of 240 meters has not been included in the Environmental Impact Assessment for the project, E.ON Wind commissioned an additional consultation process regarding the increase of the total height for the WTGs. Overall, E.ON Wind notes that the revised design was perceived, by all respondents, as a "better alternative" than the original proposal.

For a more detailed description and accompanying maps, please refer to section 5 of Sweco's report, Appendix 1.

## **C. Legal basis for assessment**

### **C.1 The development of windpower is a stated public interest**

The Land and Environment Court of Appeal has in several decisions<sup>1</sup> ruled that the expansion of wind power is a stated public interest and constitutes an important part of society's efforts towards sustainable development.<sup>2</sup> Even the European Court of Justice has in a recent ruling held that the promotion of electricity produced from renewable energy sources constitutes a key priority for the EU, in addition to securing and diversifying energy supplies, among other things, contribute to environmental protection and sustainable development and to meeting the objectives of the Kyoto Protocol.<sup>3</sup> The requested operation's net addition of more than 1000 MW of renewable energy should be seen in light of this.

The activity also has significance for energy security in a regional and local perspective. The production deficit in the region is significant today and is expected to increase significantly if one or more nuclear reactors in southern Sweden are phased out. The windfarm will meet a

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<sup>1</sup> See amongst others Land and Environmental Court of Appeal ("MÖD") judgements the 23 November 2011 in cases M 824-11, M 825-11 and M 847-11; MÖDs judgement the 16 June 2009 in case M 7051-07; MÖDs judgment the 14 October 2010 in case M 10316-09; MÖDs judgement the 19 November 2008 in case M 2210-08; and others.

<sup>2</sup> The national planning goals for renewable energy are clear see amongst others government bill. 2001/02:143, 2005/06:143 and 2008/09:163.

<sup>3</sup> Judgement the 4 May 2016, in case C-346/14. See even judgement the 26 September 2013 in case C-195/12.

significant demand for local power generation. The windfarm will also help to reduce transmission losses from alternative, more distant, regional access points.<sup>4</sup>

## C.2 Opposed interests

Large-scale offshore windfarms must be built on offshore banks. Since offshore banks are also extensively used by seabirds, the conflicting interests must legitimately be weighed against each other. If the protection of birds always prevails for all offshore banks - regardless of whether the area is designated as a Natura 2000 area or not - E.ON Wind states that large-scale offshore windfarms will never be built in Sweden. In terms of the government's ambition that Sweden should reduce dependence on nuclear power and hydroelectric power for the benefit of other renewable power (prop. 2008/09: 162) and that the conditions for the development of offshore wind energy must be improved (Prop. 2015/16: 100 and SOU 2016: 21) - such a consequence will be very unfortunate.

In the present case, the urgent and public interest of a large-scale renewable energy production (Southern Midsjöbanken is designated as being of national interest for windfarms and the area is the single largest risk area of interest for wind power in Sweden) is held against the interests to protect wintering seabirds and porpoises.

In reconciling the differences the Ministry of Environment and Energy will assess both sides. In this regard E.ON Wind would like to make the following additions and clarifications.

Södra Midsjöbanken is not designated as a Natura 2000 site under the Habitats Directive and / or under the Birds Directive.<sup>5</sup> Södra Midsjöbanken is however classified as an Important Bird Area ("IBA") by BirdLife International. IBA classification has no binding legal status - but, as E.ON Wind understands it - gives certain significance for the designation of new Natura 2000 sites. For some respondents, they argue that the IBA classification indicates that Southern Midsjöbanken will be designated as a Natura 2000 area in view of, among other things, the long-tailed duck. E.ON Wind does not question this task, but notes in this context that the long-

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<sup>4</sup> Energy Agency's opinion in the subject headlined, 2015-02-24.

<sup>5</sup> Neither designated as an area for Site of Community Interest ("SCI") or Special Area of Conservation ("SAC") under the Habitats Directive or the area of Special Protection Area ("SPA") under the Birds Directive.

tailed duck is not mentioned at all as a species related to reasons for an IBA classification of Södra Midsjöbanken - which however Black Guillemot is.<sup>6</sup>

The Long-tailed Duck contrasts however as a species related to reasons for an IBA classification of Norra Midsjöbanken and Hoburgs Bank.<sup>7</sup> These two banks are therefore also designated as Natura 2000 areas with respect to, inter alia, long-tailed duck and black guillemot. Hoburgs bank conservation plan indicates that the winter population of long-tailed duck is concentrated to the sea banks of Hoburgs Bank and Norra Midsjöbanken, Gulf of Riga, including areas around Ösel and Dagö, and the German and Polish Baltic coast.<sup>8</sup>

E.ON Wind assumes that the government, facing designated Natura 2000 areas for sea birds and in particular long-tailed duck, has made a required evaluation on the balance between the protection needs of wintering birds in the Baltic Sea and the interest of a large-scale deployment of renewable energy. The protection of wintering birds should therefore be regarded as satisfactory by the designation of North Midsjöbanken and Hoburgs Bank Natura 2000 sites.

Notwithstanding the above, E.ON Wind is aware that these conditions may change in the future. During the supplementary consultation in the spring of 2016 for example, it emerged that the county administrative boards in Kalmar and Gotland have proposed Södra Midsjöbanken as a Natura 2000 area for porpoises.

### **C.3 The Espoo Convention**

The present application has been the subject of a complementary cross-border consultation under the Espoo Convention.

New comments have been received from Finland, Estonia and Poland that are both substantive and procedural in nature. The substantive comments are mainly attributed to questions concerning the impact on porpoises, long-tailed ducks and commercial fishing. Most of the comments received are handled within in this response document. The procedural observations, however, that relates to questions concerning the written procedure has not been addressed since it is not within the control of E.ON Wind.

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<sup>6</sup> The Black guillemot has been categorized as Least Concern according to The International Union for Conservation of Nature ("IUCN"). Swedish Red Lists according to the Swedish Species Information Centre, which although based on internationally accepted criteria of the IUCN, categorizes black guillemot as near threatened.

<sup>7</sup> <http://www.birdlife.org/datazone/sitefactsheet.php?id=9003>;  
<http://www.birdlife.org/datazone/sitefactsheet.php?id=9002>.

<sup>8</sup> [http://www.lansstyrelsen.se/gotland/SiteCollectionDocuments/sv/djur-och-natur/skyddad-natur/natura-2000/natura-2000-pa-gotland/hoburgs\\_bank.pdf](http://www.lansstyrelsen.se/gotland/SiteCollectionDocuments/sv/djur-och-natur/skyddad-natur/natura-2000/natura-2000-pa-gotland/hoburgs_bank.pdf).

## D. Impact on the long-tailed duck

As noted in Section B above, E.ON Wind commissioned extensive adjustments to the windfarm design features for wintering waterfowl, especially the long-tailed duck. Overall, the change means that a significant part of the shallowest areas of Södra Midsjöbanken and consequently the most attractive feeding areas are completely excluded from windfarm establishment. The parks feared displacement effects of long-tailed ducks and other waterfowl will thereby be reduced and the loss of habitat for the long-tailed duck restricted considerably.

Applying the experience of the Danish parks Nysted and Horns Rev on Södra Midsjöbanken, i.e. that long-tailed ducks avoid windfarm areas during the operational phase, Sweco's assessment is that some 11 000 individuals ( $0.9 \times 160 \text{ km}^2 \times 75 \text{ individuals / km}^2 \approx 10,800$  individuals) ~~mating~~ will be dislocated (averted) from the area - which is equivalent to about 0.7% of the wintering population in the Baltic Sea.

The change also means that the risk of disruption during the construction phase is decreased; partly because of the windfarm scale has been halved, partly because E.ON Wind proposes no construction traffic will be allowed during the winter in the eastern parts which are not exploited. The adjustment means that a significant area is completely undisturbed in both construction and operational phases. Suggested precautions also bring positive effects on other wintering waterfowl, such as the black guillemot and guillemot.<sup>9</sup>

## E. Impact on the porpoise

The SAMBAH<sup>10</sup> project is an important source of knowledge about the porpoise population in the Baltic Sea. Inventory results from the SAMBAH project show among other things that porpoises reside around Södra Midsjöbanken and it is also the mating ground for porpoises in the southern Baltic.

E.ON Wind has had informal contact with representatives from the SAMBAH project and has thus been able to take into account the results of the project in the EIA of the applied activities.

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<sup>9</sup> E.ON notes that offshore wind is expected to have positive effects on the black guillemot, since it can be assumed that the fishing restrictions within the park area results in a reduced catch of the species. By-catch in fisheries is one of the main threats to the black guillemot.

<sup>10</sup> Static Acoustic Monitoring of the Baltic Sea Harbour Porpoise – was an international project involving all EU countries around the Baltic Sea, with the ultimate goal to secure the conservation of the Baltic Sea harbour porpoise.

Because of porpoises sensitivity to high sound levels E.ON Wind considers that the project apply extremely stringent noise requirements <sup>11</sup> and a number of other precautions, see also the proposal for the conditions under section G.

The overall assessment of this therefore indicates that the requested windfarm, with regard to the proposed precautions and E.ON Winds other commitments presented in Sweco's report (Appendix 1) in section 2.1.3, is not likely to have any negative impact on the harbor porpoise population.

## **F. Discussion of conditions**

Several referral bodies have submitted proposals for specific conditions that E.ON Wind has evaluated. E.ON Wind has also done a general review and update of the previously proposed conditions catalogue for the requested operation. The previous conditions in the catalogue application from 2012 and in the "Supplement II of the application" from 2013 are waived and thereby replaced with proposal for a new conditions catalogue, see section G below.

The discussion on conditions below follows the headings in E.ON Winds proposed conditions catalogue.

### **F.1 General**

#### **F.1.1 Condition 1**

Within the framework of the general conditions E.ON Wind suggests that minor changes to the activities may be conducted after approval by the regulatory authority.

#### **F.1.2 Condition 4**

The condition relating to compensation to the National Defence Radio Establishment ("FRA") has been revised with respect to the conditions design. E.ON Wind accepts that the Company shall pay reasonable compensation to the FRA to compensate for distortions introduced in FRA's signal intelligence.

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<sup>11</sup> Standard Investigation of the Impacts of Offshore Wind Turbines on the Marine Environment (StUK4) Bundesamt für Seeschifffahrt und Hydrographie, BSH-nr.7003 (2013). Concept for Protection of Harbour Porpoises from Sound Exposures during the construction of offshore windfarms in Germany North Sea (Sound Protection Concept) Bundesministerium Kammarkollegiet für Umwelt, Naturschutz und Reaktorsicherheit.

In their latest opinion the FRA assessed that the costs of compensation are estimated to about 70 million SEK. Since the windfarm has been reduced to almost half its original extent and there are reasons to consider technology advances, E.ON Wind considers that it is not appropriate to specify the amount or technology in the conditions. The recoverable costs should in addition be validated by the FRA.

## **F.2 Construction phase, information and choice of material**

Blekinge County Administrative Board has made a number of proposed conditions related to this heading. For this reason E.ON Wind want to emphasize the following:

Lead-sheathed cables are not used or hardly remain on the market. E.ON Wind sees no need that these must be regulated in the conditions. E.ON Wind finds it also less appropriate to impose conditions on waste management and sanitary sewage in the same way that is usually prescribed for onshore windfarms. E.ON Wind proposes instead that the regulator is granted an opportunity to stipulate on waste management and sanitary sewage if proved to be required.

Given that it is now a legal requirement that ship fuel must contain low-sulphur oil, E.ON Wind sees no need to maintain the original conditions requiring the use of low-sulphur oil. E.ON Wind therefore drops this condition.

### **F.2.1 Condition 8**

With regard to wintering seabirds E.ON Wind suggests a condition which aims to protect the eastern parts of Södra Midsjöbanken from all forms of construction traffic during the period from December to February.

## **F.3 Dredging jobs and sedimentation**

Regarding turbidity E.ON Wind shares The Swedish Agency for Marine and Water Management's view that given the nature of the seabed clouding should not be problem in the present case. Condition (13) that sediment spill from dredging may not exceed five percent of the occupied volume should therefore be sufficient.

## **F.4 Noise**

To limit the occurrence of harmful underwater noise levels from the proposed activities E.ON Wind suggests a number of extensive noise-limiting conditions.

Proposed conditions take as a starting point the limits and restrictions applied in Germany. It is noted that proposed conditions have been accepted by the Land and Environment Court of Appeal in another case involving an offshore windfarm (see Case No. M 6960-14) and accepted by the Swedish Agency for Marine and Water Management.

For E.ON Wind, application of the German concept is estimated to provide a cost increase of over half a billion SEK. E.ON Wind is also obliged to ensure and verify that porpoises are not within a radius of 750 meters from noise source, giving rise to noise levels above the SEL 160 dB re 1  $\mu\text{Pa}^2$  s. For this purpose, E.ON Wind will apply a gradual escalation of piling operations (so-called ramp-up) and use the equipment to scare off porpoises from the immediate area prior to impact pile driving and blasting (so-called pingers).

It may also be noted that Denmark, based on new available scientific research, choose to deviate from the German concept and now applies much more generous limits.

In addition to the noise requirements E.ON Wind undertakes to perform no noisy seismic surveys, pile driving or blasting during the period that is important for porpoises reproductive period, specifically during June 1 to July 15. During other times of the year, such work will be done after the approval of the supervisory authority.

#### **F.5 Precautions for Shipping / Maritime Safety**

Proposed conditions relate to response to comments submitted from the Swedish Maritime Administration, Coast Guard and the Swedish Civil Contingencies Agency.

E.ON Wind allows virtually unchanged the proposals put forward, with some minor language adjustments.

#### **F.6 Restoration / Security**

E.ON Wind accepts in principle the County Administrative Board of Blekinge's proposed conditions with respect to demands for restoration and security.

E.ON Wind accepts to provide security up to two (2) million SEK per installed WTG, the cost of demolition and recovery operations as well as for any necessary hydrographic surveys in connection with the closing down of operations.

## **F.7 Monitoring Programme**

Following statements in the conditions (28) - (31) the proposed monitoring programme with respect to flora and fauna, migrating bats, wintering birds (especially long-tailed duck) and underwater noise and porpoises will be described below.

### **F.7.1 Bats**

In line with the proposal of, among others, the Environmental Protection Agency, E.ON Wind proposes for the company to monitor the impact on bats in the context of a monitoring program. The monitoring program shall be for a period of at least two years before construction starts.

Even though E.ON Wind deems that it as an unlikely scenario; the company must - if conducted inventories show great bat activity as well as significant risk of impact on the bat population - equip the WTGs with equipment for detecting bats. It should also be possible, in exceptional cases, to turn off individual WTGs during bat migration periods. Such suspension shall be limited to wind speeds of less than 5m / s, because bats have mainly fly and hunt at wind speeds below 5m / s. Operating losses due to suspensions must not be too comprehensive and with such a high margin of caution that it risks jeopardizing the whole project economics.

### **F.7.2 Seabirds**

E.ON Wind proposes that a monitoring program will be developed in collaboration with bird experts and relevant organizations and agencies in order to increase knowledge about the birds' behaviour in the vicinity of offshore windfarms.

The program is proposed to have a main focus on the long-tailed duck, but will also include other wintering birds.

The monitoring program will be based on monthly surveys from October to March, and cover the period - two years before the start of construction, during construction and also two years after completing construction.

### **F.7.3 Underwater noise and porpoises**

To ensure that the conditions E.ON Wind has proposed to protect harbor porpoise population has the desired effect E.ON Wind is committed to undertake real-time monitoring of underwater noise during work that may lead to the proposed limits being exceeded. This allows E.ON Wind

to ensure that noise abatement measures have the desired effect, that the proposed limit values are contained and that activities are interrupted when exceeding prescribed noise levels.

Control of underwater noise, combined with passive recording of porpoises within a 20 km wide area of Södra Midsjöbanken means that E.ON Wind in an effective way can verify that porpoises do not dwell and get injured in the area. The monitoring program will contribute valuable knowledge about the impact of offshore wind power on the porpoise's habituation. See Sweco's report (Appendix 1) in section 2.1.4.

#### **F.8 Delegated questions**

E.ON has no objection that the supervisory authority is authorized to issue additional conditions in certain specific respects in accordance with the County Administrative Board of Blekinge's request.

### **G. Proposed conditions**

#### *General*

- (1) The activities to be carried out shall, in principle, comply with the application and its annexes, as well as according to what the company has otherwise stated or agreed upon in the matter unless otherwise stated in the decision.

Minor changes may be carried out after the approval of the supervisory authority.

- (2) The total height of the WTGs may not exceed 240 m above the average water level.
- (3) No WTG may be erected in waters shallower than 18 meters deep.
- (4) The Company shall pay reasonable compensation to FRA to compensate for distortions introduced in FRA's signals. Recoverable costs must be evidenced by the FRA.

Compensation shall be provided in time for the FRA to take appropriate action before the fault occurs.

*Construction phase, information and choice of material*

- (5) For the construction of the foundations, the proportion of natural gravel must not exceed 20 percent of the total gravel volume.
- (6) Containers and construction components containing oil must be equipped with leakage protection that is designed in such a way that spillage or leakage cannot reach the sea.
- (7) No construction traffic may occur during the period December-February through or adjacent to the eastern parts of Södra Midsjöbanken which is exempt from exploitation.
- (8) The Coast Guard will, in time, be informed of the timing of the works beginning and end, and be regularly informed of progress of the work from an environmental and maritime traffic point of view.

The Coast Guard should also be contacted if oil or other harmful substances get into the sea and in imminent danger of spills or other accidents.

- (9) In connection with the foundations erosion control is to be built.
- (10) Prior to the construction phase, additional studies should be undertaken to protect the marine heritage sites in the area. Findings should be reported so that appropriate measures can be taken in consultation with the responsible authorities.

*Dredging jobs and sedimentation*

- (11) Works in the water will be carried out in a way that minimizes the turbidity.

The Company shall no later than six (6) months prior to the planned construction in the water begins, submit a plan to the supervisory authority, for how the work are proposed to be done and the precautions that will be taken to limit inconvenience and damage.

- (12) The planning of works causing turbidity shall take into account the prevailing wind and current conditions to minimize the accumulation effects in the surrounding areas.

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- (13) Sediment spill during dredging should not exceed five (5) percent of the dredged volume during the park's construction. Dredged masses may be used for coverage of submarine cables in the park.

*Noise*

- (14) Works in water that generates high underwater sounds during the installation of the foundations may not be conducted without the necessary noise abatement measures.
- (15) For the piling or blasting acoustic deterrent devices must be used to remove fish and marine mammals from the area before work can begin.

During piling ramp-up should be used.

- (16) Noisy seismic surveys, piling and blasting is not permitted during the period 1 June to 15 July. At other times, these measures may take place after approval by the regulatory authority.
- (17) Technical solutions and the choice of method to be used should produce such low sound emissions as possible from the sound source. Noise levels in the water should not exceed the following values:
- SEL 160 dB re 1  $\mu\text{Pa}^2 \text{ s}$  at a distance of 750 meters from the sound source.
  - SPL peak-peak 190 dB re 1  $\mu\text{Pa}$  at a distance of 750 meters from the sound source.

The Company shall ensure that porpoises are not found within a radius of 750 meters from noisy works that give rise to noise levels above the SEL 160 dB re 1  $\mu\text{Pa}^2$  during both the construction and decommissioning phase.

- (18) With the timing of the construction and decommissioning phase, the cumulative effects should be taken into account, such as parallel ongoing construction works involving high underwater sound levels within the exploitation area.

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*Shipping and Maritime Safety*

- (19) The construction work must be carried out so that the shipping access is not impeded.
- (20) A detailed risk analysis is to be completed no later than two (2) years before the start of construction. The risk analysis should be based on the park's final design comprising investigation into:
- (i) the safety distance from sea traffic;
  - (ii) risks to maritime traffic during the construction and operational phases; and
  - (iii) radar interference

Regarding the detailed risk analysis the risks, consequences and impact of the risk mitigation measures should be reported.

- (21) The safety distance to established paths with vessel traffic shall be determined in consultation with the Swedish Maritime Administration, the Swedish Transport Agency and the Swedish Coast Guard.

The Company shall provide the Swedish Maritime Administration with data so that the safety distance can be recognized by the authority in nautical publications and charts.

- (22) The Company shall establish a routine for security and emergency responses. The routine should include reporting of accident prevention and measures to prevent accidents, including the management of fire safety issues.

The routine must be submitted to the Swedish Civil Contingencies Agency and the agencies responsible for aviation safety issues, including the Swedish Coast Guard, for consultations before the routine is established.

The procedure should be developed no later than one (1) year prior to the start of construction.

- (23) Information on safety distance and other required information to shipping must be submitted through Notices to Mariners.
- (24) The WTGs will be equipped with obstacle lighting for sea and air transport according to regulations.

Obstacles lighting must be synchronized within the windfarm.

#### *Restoration, Security*

- (25) If the electricity production at one of the WTGs has not been conducted for a period of 24 months it should be considered to have been taken out of service. A remediation plan will be sent to the supervisory authority no later than one (1) year after the WTG ceased operations.
- (26) For decommissioning of some or the entire windfarm, the area should be restored to an acceptable condition.
- (27) The Company shall provide security for the costs of demolition and recovery actions, and for any necessary hydrographic surveys in connection with the termination of activities.

The security will be two (2) million SEK per installed WTG. The security should be adjusted with CPI with the year of commissioning forming the base.

#### *Monitoring Programme*

- (28) A monitoring programme shall be developed that covers the construction, operation and decommissioning phases. The monitoring program must be approved by the supervisory authority, among other things, include a check of both the sea bed placement of cables and fixed installations of the windfarm impact on flora and fauna, including the so-called reef effects.
- (29) A monitoring program which includes the registration of bats at a monitoring station is to be prepared by E.ON Wind for approval by the supervisory authority. The monitoring program shall be for a period of at least two (2) years prior to the start of construction.

If high activity of bats is recorded and it is judged to be of a significant risk of impact on bats at the population level, the WTGs shall - to a reasonable extent –be equipped with equipment for the detection of bats.

Conditions that the WTGs should be shut down may only be prescribed in conjunction with the bat migration period and at a wind speed of 5 m / s or lower.

- (30) A monitoring program in respect of wintering birds, especially long-tailed duck, will be established in consultation with the supervisory authority, Mörbylånga Municipality and any of those parties jointly appointed as bird experts.

The monitoring program shall be ready no later than two (2) years prior to the start of construction.

The monitoring program will be based on monthly surveys from October to March and include both the Northern (Norra) and Southern (Södra) Midsjöbanks. The monitoring program will include continuous reporting and cover the period of two (2) years prior to the start of construction, during construction, as well as two (2) years after completion of construction.

- (31) A monitoring program with respect to the underwater noise from noisy construction work will be established according to German standards<sup>12</sup> and a procedure will be established to be able to immediately stop the work if the values according to the conditions (17) are at risk to be exceeded.

The Company is to have continuous real-time monitoring of underwater noise during noisy operations.

The control will also include documentation of ensuring that porpoises are not found within a radius of 750 meters from the noisy activities that give rise to noise levels above 160 dB re SEL 1 $\mu$ Pa<sup>2</sup>s.

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<sup>12</sup> Standard Investigation of the Impacts of Offshore Wind Turbines on the Marine Environment (StUK4) Bundesamt für Seeschifffahrt und Hydrographie, BSH-nr.7003 (2013). Concept for Protection of Harbour Porpoises from Sound Exposures during the Construction of offshore windfarms in Germany North Sea (Sound Protection Concept) Bundesministerium Kammarkollegiet für Umwelt, Naturschutz und Reaktorsicherheit.

- (32) The monitoring program should include passive recording of porpoises up to 20 km from the Södra Midsjöbank with known C-POD technology. A network of C-PODs will be installed a year before the start of construction and monitored during construction and up to a year after the windfarm has been put into operation. The aim will be to observe porpoise's behaviour in relation to construction activities and to clarify porpoise's habituation to the windfarm in operation.

### **G.1 Delegated questions**

The supervisory authority will delegate the possibility to issue those additional conditions that are necessary regarding:

- (1) Monitoring and exemption from the requirement on monitoring under the conditions (31), concerning the requirement of real-time monitoring and alternative methods for monitoring.
- (2) Limitations on the nuisance and damage caused by dredging works, but not additional restrictions on time.
- (3) Handling of waste (excluding dredging spoils) and sanitary wastewater generated during the construction, operation and decommissioning.

## **H. Other**

### **H.1 The Swedish Transmission System Operator (Svenska kraftnät)**

E.ON Wind notes that Svenska kraftnät has evaluated that a connection to Nybro substation cannot be in place until 2027-2028. Notwithstanding that the timetable presented by Svenska kraftnät itself is noteworthy E.ON Wind believes that the year of when a connection can be made is of less importance to the current assessment - the most important thing is that the windfarm can be connected to the Swedish main grid.

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Stockholm/Malmö May 31, 2016

E.ON WIND SWEDEN AB, through



Per Molander  
(Power of Attorney)



Therese Strömshed  
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### **Appendices**

1. Report by Sweco (2016-05-31)

RESPONDING TO COMMENTS MADE UNDER REFERRAL OF AMENDMENT II,  
ENVIRONMENT AND ENERGY MINISTRY LETTER M2012 / 00714 / EM AND SUMMARY OF  
CONSULTATIONS REGARDING CHANGE OF DESIGN OF WINDFARM WITH REGARD TO  
OVERWINTERING BIRDS

2. Report by Sweco (2016-03-16) – Appendix to Report by Sweco (2016-05-31)

CONSULTATION SUPPORT DOCUMENT TO ALLOW FOR AN INCREASED TOTAL HEIGHT  
FOR THE WINDTURBINES