

## Annex 6

### **Licence for construction of North Sea (north) Offshore Wind Farm with related offshore grid in the North Sea (Construction licence)**

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It should be emphasised that a number of the terms and conditions of this licence refer to legislation and regulations issued pursuant to certain legislation which belong under the auspices of other authorities than the Ministry of Energy, Utilities and Climate. The Danish Energy Agency cannot guarantee that all relevant regulations etc. that the Concessionaire is obligated to follow have been mentioned in this licence. In this context it should be noted that amendments to current regulations may take place at any time and that the Concessionaire should therefore be aware that current legislation in force is to be complied with.

Costs incurred as a result of terms and conditions imposed on the basis of current legislation are of no concern to the Danish Energy Agency.

**This licence is granted pursuant to section 25 of the Promotion of Renewable Energy Act (the RE Act), cf. Consolidating Act no. 122 of 6 February 2015, as amended by Act no. 744 of 1 July 2015, and section 22a of the Electricity Supply Act, cf. Consolidating Act no. 1329 of 25 November 2013, and is subject to the following terms and conditions:**

**1. General terms and conditions**

- 1.1 This licence for the construction of an electric power generating plant with related offshore grid is granted to the Concessionaire on the basis of the tender of [*date April*] 2016, cf. section 25 of the RE Act and section 22a of the Electricity Supply Act.
- 1.2 This licence will expire upon issue of a licence to put into operation the electricity production plant to exploit wind power pursuant to section 29 of the RE Act.
- 1.3 The Concessionaire is responsible for ensuring that the offshore wind farm project stays within the framework of the EIA reports approved for North Sea (north) Offshore Wind Farm and the associated consultation memorandum. The EIA report for North Sea (north) Offshore Wind Farm comprises an assessment of the offshore wind farm project's potential impact on the physical/chemical, human and natural environment for the duration of the project – the construction phase, the operational phase and the decommissioning phase – as well as an assessment of the cumulative impacts of the offshore wind farm project, cf. Executive Order no. 68 of 26 January 2012 on environmental impact assessments (EIA) in connection with projects to establish offshore electric power generating plants. The EIA report also comprises an impact assessment of the offshore wind turbines' impact on international nature reserves and an impact assessment for protected species (Annex IV species) in the area, cf. Executive Order no. 1476 of 13 December 2010 on impact assessments concerning international nature reserves and the protection of certain species in connection with projects to establish, etc. offshore electric power generating plants and offshore electricity supply grids.
- 1.4 The Concessionaire must not begin construction, operation or decommissioning works which do not fall within the approved EIA report. If the Concessionaire has doubts as to whether construction, operation or decommissioning works fall within the approved EIA report, the Concessionaire must report this to the Danish Energy Agency.
- 1.5 The Concessionaire may construct an offshore wind farm with a maximum installed capacity (nameplate capacity) of [xx] MW, +/- 5 MW. The upper limit for installed capacity at the individual site is 200 MW. The final installed capacity must be determined by no later than at the date of determination of the detailed project plan, see terms and conditions under 2.2.
- 1.6 The Concessionaire is responsible for applying for any relevant licences pursuant to other legislation.
- 1.7 The Concessionaire must follow the regulations applicable at any time, including EU regulations that are immediately applicable.
- 1.8 It should be noted that this licence does not otherwise exempt the Concessionaire from possible civil liability arising from the presence of the wind farm. Nor does this licence contain a guarantee for the security, safety and stability of the proposed structures.

- 1.9 The Danish Energy Agency reserves the right to require reasonable changes to the plant for safety reasons prior to the commencement of construction.
- 1.10 No significant changes or expansion of the plant may be carried out after this licence has been granted, without prior consent from the Danish Energy Agency.
- 1.11 The Concessionaire must take out insurance to cover any damage which the Concessionaire – or other persons on behalf of the Concessionaire – may cause in connection with the activities performed under this licence. Documentation in this respect is to be submitted to the Danish Energy Agency for information purposes prior to the beginning of construction work.
- 1.12 If the area covered by the licence (or areas within this area) is not subject to, or is exempt from, Danish sovereignty pursuant to international law (including by international agreement), the Concessionaire must respect any resulting reduction of the area without the right to make claims against the Danish Energy Agency or the Danish State in general.
- 1.13 The licence does not entail any restrictions on the sovereignty of the Danish State over Danish territorial waters or the exclusive right of the Danish State to the Exclusive Economic Zone. The licence does not therefore, within the area covered by the licence, preclude other operators than the Concessionaire from being granted a licence to conduct other forms of activity than the activities covered by this licence. In this connection the Danish Energy Agency will ensure that any such activities are not of major inconvenience to activities covered by this licence.
- 1.14 The Danish Energy Agency is entitled to demand a fee for work performed in connection with processing and supervision of this licence, cf. Executive Order no. 835 of 27 June 2013 on payment for authority processing under the Electricity Supply Act and the RE Act.

## **2. Timetables and detailed project plan**

- 2.1 An overall timetable for implementation of the project must be presented to the Danish Energy Agency by no later than 10 January 2107. The timetable must document how the Concessionaire will organise work in order to ensure connection to the collective grid of the entire offshore wind farm by 31 December 2020. The timetable must include milestones for collaboration with the grid company and/or Energinet.dk with respect to the onshore part of the internal collection grid. In addition, the timetable must as a minimum include information about when the Concessionaire expects to:
- submit an underwater noise forecast as well as a measuring programme and plan for any noise-reducing measures;
  - present a detailed project plan for the construction work;
  - commence construction work;
  - pull cables onshore;
  - apply for a licence to exploit the wind energy and an electricity production authorisation;
  - supply the first kWh from the first turbine to the collective grid;
  - connect the last turbine to the collective grid;
  - conduct a meeting about the loss-of-value scheme as well as an offer for sale of shares pursuant to the option-to-purchase, cf. sections 6-17 of the RE Act.

Furthermore, the timetable is to include proposed dates for status meetings with the Danish Energy Agency, status reporting, etc.

The Danish Energy Agency is to be kept continuously up to date about any significant deviations from the timetable.

- 2.2 A detailed project plan, including a detailed project description and an updated, detailed timetable, must be presented to the Danish Energy Agency for approval by no later than two months prior to commencement of the construction work. The detailed project plan must document that the terms and conditions of this licence will be satisfied. Furthermore, the detailed project plan is to contain the information which, according to this licence, is to be submitted to the Danish Energy Agency for approval or for information purposes. The Danish Energy Agency will coordinate approval of the detailed project plan with the relevant authorities.

The project description must contain information regarding managing underwater noise, layout of the farm, choice of suppliers, choice of turbine types, foundations, internal collection grid, number of cables routing onshore, transformer equipment and buoys etc. Furthermore, the final location and design of the turbines must be described, including temporary buoys in the construction phase and permanent buoys and marking in the operating phase, as agreed with the Danish Maritime Authority and the Danish Transport and Construction Agency.

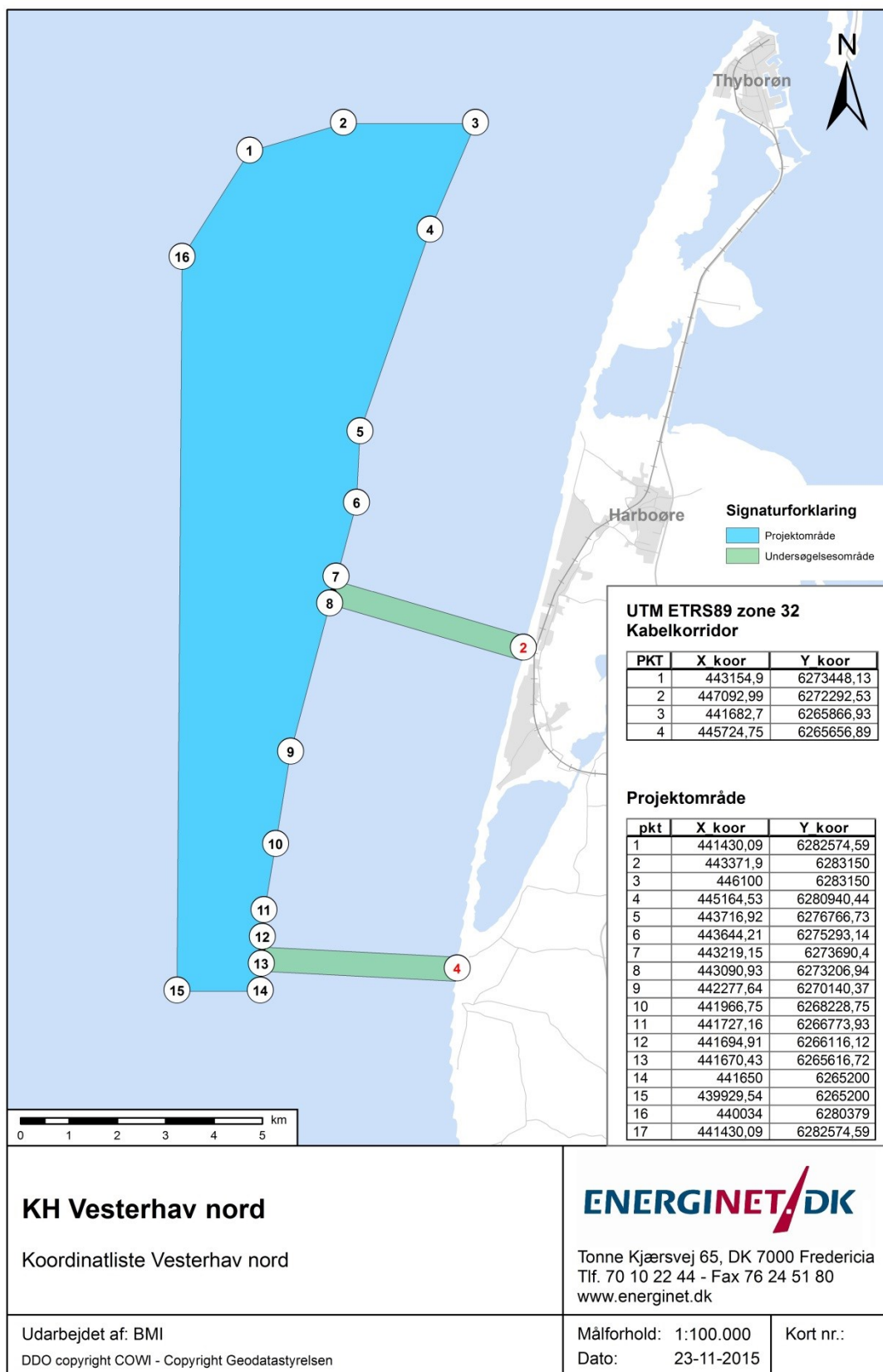
- 2.3 Along with the detailed project plan, the Concessionaire must submit a signed collaboration agreement between the Concessionaire and Energinet.dk and/or the local grid company which confirms the main elements and the timetable in the collaboration between the parties during the construction phase.
- 2.4 The Danish Energy Agency will be able to authorise commencement of the construction work on the offshore wind farm by at the latest two months after the Danish Energy Agency has received sufficient documentation for compliance with the terms and conditions in the detailed project plan. Soon after receipt of information and documentation, the Danish Energy Agency will report back regarding any missing information. Construction work on the offshore wind farm may not be initiated until the Danish Energy Agency has granted a licence.
- 2.5 Application should be made for a licence to commence operation of the electric power generating plant with a view to exploiting wind energy pursuant to section 29 of the RE Act. This cannot take place until the construction work has been commenced and no later than two months prior to delivery of the first kWh from the first turbine to the collective grid. Production of electricity which is supplied to the collective grid must not be carried out until the licence pursuant to section 29 has been obtained. A condition for obtaining the licence pursuant to section 29 is that the Concessionaire can document in a report that all terms and conditions of this licence have been complied with or will be complied with, cf. section 25 of the RE Act. The report must be presented to the Danish Energy Agency in connection with the application for a licence pursuant to section 29 of the RE Act. At the same time as this application, the Concessionaire must also apply for an authorisation to produce electricity pursuant to section 10 of the Electricity Supply Act, cf. Consolidating Act no. 1329 of 25 November 2013.

### **3. Supervision**

- 3.1 The Danish Energy Agency will supervise compliance with the terms and conditions of the licence pursuant to the provisions of the RE Act.
- 3.2 Detailed agreements concerning terms and conditions for the plant should be discussed directly with the relevant authority on behalf of which the terms and conditions have been established.
- 3.3 The Danish Working Environment Authority will supervise health and safety before, during and after the construction of the offshore wind farm.
- 3.4 The Danish Maritime Authority will supervise health and safety at sea, on floating and mobile platforms (jack-up platforms etc.) and it will supervise diving operations before, during and after construction of the offshore wind farm.
- 3.5 The Danish Maritime Authority will supervise buoying for navigation.
- 3.6 The Danish Maritime Authority will approve and supervise the establishment of and compliance with temporary (buoyed) work areas.
- 3.7 The Danish Maritime Authority will approve and supervise the work and guard vessels, etc. used.
- 3.8 The Danish Environmental Protection Agency will supervise the construction and the operation of the offshore wind farm project as well as noise from the wind turbines, cf. the Executive Order no. 1736 of 21 December 2015 on noise from wind turbines. However, this does not apply to supervision of underwater noise (see terms and conditions 8.2).
- 3.9 The Naval Staff of the Joint Defence Command Denmark may require the possibility to take oil samples from both onshore installations and individual offshore wind turbines.
- 3.10 The Concessionaire must accept any control measures carried out by the police, the customs authorities, the Naval Staff of the Joint Defence Command Denmark, the fishery inspectorates and other public authorities to ensure compliance with the provisions on the construction and operation of the offshore wind farm.
- 3.11 The Concessionaire must provide seaborne transportation and accommodation as well as internal transportation in the installation area in connection with performance of supervision.

### **4. Coordinates and physical design**

- 4.1 The coordinates of the survey area and of the two possible corridors for routing onshore of the internal collection grid are stated below. Furthermore, the map below shows the area for the preliminary surveys and the two possible corridors for routing onshore of the internal collection grid. The area for construction of wind turbines has been restricted to take account of the Agger Tange Lighthouse, so as to ensure that the turbines do not interfere with the leading lights. The final area within which offshore wind turbines may be constructed is:



- 4.2 The planned offshore wind farm must not exceed an area of more than [xx] km<sup>2</sup>. The area is calculated on the basis of the locations of the turbine foundations. The calculation of this area excludes the area designated for the cable routes for routing the internal collection grid onshore. This must be confirmed in the detailed project plan.
- 4.3 A buffer zone will be determined around the new offshore wind farm. Until and including the end of 2033, the buffer zone area will be [6] km in all directions. After this time, the buffer zone area will be reduced to 4 km in all directions. Establishment of this buffer zone means that no licence will be granted for the construction of new offshore wind turbines in this area without prior consent from the Concessionaire.
- 4.4 Establishment of cables in the coastal area must be coordinated with the Danish Coastal Authority with regard to any existing and future coastal protection in the areas in question. Routing onshore must take account of possible natural coastal erosion.  
If the **northern** route is chosen, a steerable trenchless cable-laying method must be applied on the revetments, the dyke and the unreclaimed natural area adjacent to the dyke. The trenchless solution must be performed in a way which will ensure there is no greater penetration of water than through the original dyke material.  
If the **southern** route is chosen, a steerable trenchless method must be applied on the sea shore, the slope and the unreclaimed natural area adjacent to the slope. A trenchless method must also be used to lay submarine cables on wetlands. The depth must enable the possibility to dredge drainage canals.
- 4.5 The turbines must be white in colour (RAL no. 7035). The lower part of the turbines must be yellow from the sea surface and up to a height of which is agreed with the Danish Maritime Authority prior to the detailed project plan. Furthermore, the turbines must be marked with a reflective number/letter and the direction of rotation must be clockwise from the windward. Technical installations should preferably be placed in the turbine tower, so that the wind turbine appears as a homogeneous construction. A homogenous structure is to be understood as a structure which visually has a homogenous appearance when seen from land. Furthermore, the minimum height from the bottom-most blade tip on the turbines to the sea surface (HAT) must be 20 metres.
- 4.6 The offshore wind turbines must be established in an easily perceivable geometrical pattern and they must appear as a discrete entity in the landscape. All of the offshore wind turbines must be of the same type, height and appearance.
- 4.7 To minimise the visual impact of the wind farm, endeavours should be made to construct high-capacity turbines, so that the number of turbines may be reduced. Furthermore, the turbines should be placed as far as possible from the coast.
- 4.8 At the time of connection to the collective grid, the offshore wind farm must meet the requirements for technical certification of wind turbines, cf. Executive Order no. 73 of 25 January 2013 on a technical certification scheme for wind turbines. The project certificate must be in place as soon as possible after commencement of operation and no later than three months after all turbines are in operation.
- 4.9 Oil-free cables must be used for internal cables in order to prevent any risk of subsequent pollution, and plant must be designed with devices for collection of possible oil leaks.

- 4.10 The Concessionaire must comply with the regulations set out in the Chemicals Act, cf. Consolidating Act no. 849 of 24 June 2014 with later amendments, and must heed the lists of harmful substances published by the Danish EPA. These lists include substances which the Danish EPA recommends against using, including anti-fouling paints and biocides containing tributyltin (TBT).

## **5. Dismantling, decommissioning plan and guarantee**

- 5.1 The Concessionaire is obliged, at its own account, to restore the area to its former condition, including to carry out the necessary remediation and clean up in the area, as well as to decommission and dispose completely of the electricity production plant pursuant to a decommissioning plan approved by the Danish Energy Agency, in the event that
- The electricity production licence expires,
  - The plant is not maintained or is wrecked,
  - The plant is no longer used as a wind farm, or
  - The terms and conditions of the electricity production licence are not fulfilled or complied with.

The Danish Energy Agency may order the Concessionaire to remove all plants, in whole or in part, according to a timetable stipulated by the Danish Energy Agency.

- 5.2 The Concessionaire must submit a plan for decommissioning the wind turbines with related offshore grid (decommissioning plan) for the Danish Energy Agency's approval,
- by no later than two years prior to the expiry of the electricity production licence,
  - two years before the time when one or more installations etc. are expected to come to the end of their useful lives,
  - if the plant is not maintained or is wrecked, or
  - if the terms and conditions of the electricity production licence are not fulfilled or complied with.

The decommissioning plan must contain an account of how the plant facilities will be removed and a proposal for a timetable for doing so. The Danish Energy Agency may stipulate further requirements for the contents of the plan.

In addition to a plan for physical decommissioning of the wind farm, pursuant to current EIA regulations in force, and together with the decommissioning plan, the Concessionaire must submit a detailed assessment of any environmental impacts entailed by the plan. This environmental assessment is to provide the Danish Energy Agency with a decision basis for whether an actual EIA report is to be prepared. If an EIA report is not required, the Danish Energy Agency will make this decision public at the same time as it grants authorisation to the applicant.

The Danish Energy Agency will submit the plan and the environmental assessment for consultation with relevant authorities with a view to determining specific terms and conditions for decommissioning the offshore wind farm. For example, this includes terms and conditions pertaining to the safety of navigation, marking and buoying, or environmental protection.

If removal of only part of a plant is required, this may be supplemented by a further requirement that remaining parts of the foundations are not exposed in connection with natural, dynamic changes in the sediment. Furthermore, it is likely that there will be requirements to use the best available technology and the best environmental practice when removing the plant.



- 5.3 The Concessionaire must provide sufficient security (guarantee) for dismantling and decommissioning the plant. The guarantee must be approved by the Danish Energy Agency. The guarantee must be provided when required by the Danish Energy Agency, but by no later than 15 years after supply of the first kWh to the collective grid from the first turbine. This applies even if a decommissioning obligation should occur at an earlier date, see section 5.2 above. At least six months prior to this time, the Concessionaire must submit a plan to the Danish Energy Agency with details of how the guarantee will be provided. The amount guaranteed *[is fixed proportionally to the size of the wind farm, so that for a 50 MW farm the guarantee is DKK 50 million, for a 100 MW farm it is DKK 100 million, and for a 200 MW farm it is DKK 200 million]* must be at least DKK [xx] million, unless the Danish Energy Agency approves of a lower amount.

If the Concessionaire can document to the Danish Energy Agency no later than 14 years and 6 months after connection to the grid of the first turbine that the dismantling and decommissioning costs are expected to be less than DKK [200] million, the Danish Energy Agency may decide to reduce this amount. The Danish Energy Agency reserves the right to order third-party verification of the assessment of the dismantling and decommissioning costs at the expense of the Concessionaire.

The guarantee may be provided in the form of a parent-company guarantee or a guarantee from a financial institution or insurance company or similar. The guarantee must cover all potential costs in connection with the clean-up obligation. The financial institution or insurance company or similar which provides the guarantee must meet further requirements for rating, as laid down by the Danish Energy Agency in advance of the deadline for providing the guarantee. In order for the Danish Energy Agency to accept a parent-company guarantee for the remainder of the guarantee, the parent company must have the necessary financial capacity and this will be assessed by the Danish Energy Agency. Every five years, the parent company must also submit new documentation for the financial capacity of the company to the Danish Energy Agency so that the Agency can continuously ensure that the financial capacity is in place. However, the Concessionaire will be liable to cover all expenditures associated with the clean-up, regardless of whether these exceed the guarantee provided.

## **6. Direct and indirect transfer of licence**

- 6.1 The Concessionaire may not, without the consent of the Danish Energy Agency, transfer its rights and obligations under this licence to a third party, neither directly nor indirectly. In this connection, the Danish Energy Agency will ensure that the required economic, financial and technical capacity is in place. Consent will only be given if this is possible in accordance with the EU public procurement regulations, the current RE Act, the Concession Agreement as well as all the terms and conditions set out in this licence.
- 6.2 The Danish Energy Agency is entitled to request from the Concessionaire any additional documentation deemed relevant by the Danish Energy Agency for assessment of the desired transfer.

## **7. Service, health and safety, etc.**

- 7.1 The Concessionaire must describe how maintenance work and service of the offshore wind farm will be carried out and must present this to the Danish Energy Agency. This should be as a part of the application to the Danish Energy Agency for an authorisation to produce electricity and electricity

production licence.

- 7.2 Before commencement of offshore construction work, the Concessionaire must establish a plan for environmental management and quality assurance for the work in question. The Concessionaire must carry out work in accordance with this plan.
- 7.3 From 1 January 2016, the plant must be constructed in compliance with the new Electricity Safety Act (Act no. 525 of 29 April 2015). This new Act replaces the High-Voltage Current Act, cf. Consolidated Act no. 990 of 8 December 2003.
- 7.4 An emergency response plan must be prepared covering the construction period and the operating period. This plan must be forwarded to the Danish Energy Agency in due time before commencement of construction work. The emergency response plan must as a minimum contain a procedure for contact to, and involvement of, the Naval Staff of the Joint Defence Command Denmark, in the event of collision risk involving one or several wind turbines. Furthermore, the plan must describe the procedure in connection with oil or chemical spills to the marine environment.
- 7.5 The Concessionaire must follow the guidelines and regulations stated in the Working Environment Act, cf. the Ministry of Employment's Act no. 1072 of 7 September 2010 with later amendments, and associated executive orders, for example Executive Order no. 117 of 5 February 2013 on the contractor's duties, Executive Order no. 110 of 5 February 2013 on the duties etc. of project planners and consultants under the Working Environment Act, and Executive Order no. 115 of 5 February 2013 on the design of construction sites. Furthermore, a number of special executive orders apply, for example Executive Order no 302 of 13 May 1993 on work with code-numbered products, Executive Order no. 1125 of 28 November 2011 on work with substances and materials (chemical agents), Executive Order no. 612 of 25 June 2008 on the design of technical equipment, Executive Order no. 693 of 10 June 2013 on the design, etc., of machinery, Executive Order no. 908 of 27 September 2005 on measures to protect workers from the risks related to exposure to carcinogenic substances and materials at work, and Executive Order no. 1109 of 15 December 1992 on the use of technical equipment.
- 7.6 The Concessionaire must take out insurance to cover any damage, cf. clause 1.11

## **8. Environmental considerations**

- 8.1 If construction activities cause disturbance and spread of seabed sediment, e.g. in connection with excavation or sluicing, the disturbance must be reduced as much as possible through the use of methods and material which ensure the best environmental practice. The actual spread of sediments in relation to time, place and method is to be agreed with the environmental authorities. However, there is a precondition that the environmental authorities accept the actual spread of sediments.
- 8.2 Construction activities are likely to cause underwater noise. In order to protect marine mammals against the harmful effects of underwater noise, the terms and conditions in 6.2 and 6.6 apply to underwater noise in connection with the installation of foundations (pile driving).

The so-called accumulated SEL from each installation sequence must not exceed a threshold value of 190dB. When complying with this term, the Danish Energy Agency's guidelines on underwater noise when pile driving (Vejledning om undervandsstøj i forbindelse med ramning af pæle) must be complied with. Furthermore, this procedure must be complied with both before the installation and during the actual installation of the piles. Guidelines will be provided containing more detailed provisions on how to calculate the accumulated SEL and requirements for noise forecasting, control measurements, documentation and other technical matters.

*[The guidelines will be updated on the basis of the corresponding guidelines for Horns Rev 3.]*

- 8.3 At a time defined by the Concessionaire, when submitting the detailed project plan at the latest, the following information must be submitted to the Danish Energy Agency for approval:
- a. A forecast of the source noise level and the distribution of noise from at least four piles. This must include a forecast for the four piles to be first installed. Further a forecast for three piles selected so that none of the other piles can be expected to cause more noise. Control measurements must be performed when installing at least the first four of the piles for which forecasts have been made.
  - b. Calculation of accumulated SEL on the basis of the forecasted source noise level. The calculation may assume that efficient use of pingers and a seal repellent system can scare off marine mammals up to 1.3 km.
  - c. A statement of the noise abatement measures planned in accordance with the forecast and what measures have been planned as reserves in the event that the forecast underestimates the noise.
  - d. A programme for control measurements when installing the piles for which forecasts have been made, including how the Concessionaire will ensure compliance with the terms and conditions set out.
- 8.4 Prior to the installation of the individual foundations, marine mammals must be scared away from the vicinity using pingers and seal repellent systems.
- 8.5 When approval from the Danish Energy Agency is available, the following procedure applies for the actual installation of piles:
- a. The first installation round must include between four and eight piles. When installing the four first piles, control measurements of underwater noise must be performed. If the noise distribution constants have been validated beforehand, the actual accumulated SEL can be calculated immediately after installation. If this is not the case, the noise distribution constants will have to be validated and, then, the actual accumulated SEL can be calculated. The Concessionaire must have a quality-assured value for the actual accumulated SEL, before proceeding to the next step.
  - b. If the actual accumulated SEL does not exceed the threshold value, installation work can proceed as planned. If, on the other hand, the actual accumulated SEL exceeds the threshold value, then the Concessionaire must take measures to identify the causes of this deviation and perform corrective measures, including adjusting the installation method. When this work has been carried out, the next piles can be installed. In this situation, control measurements of underwater noise must also be performed for this next pile, and so forth, until the threshold value is complied with or the final pile in the installation round has been installed.
  - c. When the first installation round including the four to eight piles has been completed, the Concessionaire must prepare a detailed report to the Danish Energy Agency about control measurements and any adjustments to the prognosis and the installation method. If the Concessionaire has arrived at an installation method for which there are control

measurements and prognosis which can document compliance with the threshold value for all piles including the ones that are expected to cause the most noise, then the installation work can proceed directly to the next installation round and does not have to wait while the Danish Energy Agency processes the submitted report. In the event that the Concessionaire cannot document compliance with the threshold value through control measurements and prognosis, the Concessionaire must propose substantial methods for reducing underwater noise as well as prepare a revised forecast in addition to the report. Proposals for improved methods for reducing underwater noise are to be submitted to the Danish Energy Agency for approval. The next installation round cannot be commenced until the Danish Energy Agency has approved proposals and forecasts.

- 8.6 Upon completion of the overall installation work, a detailed report on all control measurements is to be submitted to the Danish Energy Agency for approval. With regard to other construction activities which cause underwater noise, the so-called accumulated SEL from each construction activity must not exceed a threshold value of 190 dB.
- 8.7 In preparation for a monitoring of impulse noise for the construction activities (pile driving, air guns etc.), these activities must be reported to the Danish Energy Agency. The report shall include the time of for the noise activity (date), location, sound level and information of the activity that has caused the impulse noise.  
*[The Danish Energy Agency will develop a report form which can be used to report underwater noise. Collection of data takes place as part of Denmark's obligations of the Marine Strategy Framework Directive about monitoring and assessment of the environmental status in the Danish marine area.]*
- 8.8 The Concessionaire must lay down guidelines for transport, including fixed transport routes in and out of the wind turbine area, both by sea and by air, which can help reduce the effect of noise and disturbance, especially to take account of the marine mammals and bird populations in the area.
- 8.9 The Concessionaire must comply with the regulations set out in the Marine Environment Act, cf. Consolidating Act no. 963 of 3 July 2013 on protection of the marine environment, including Executive Order no. 1130 of 23 September 2015 on bypass, exploitation, and dumping of dredged material, as well as regulations issued in pursuance of the Environmental Protection Act, cf. Consolidating Act no. 879 of 26 June 2010, including regulations in Executive Order no. 1284 of 15 December 2011 on noise from wind turbines.
- 8.10 If there are plans to extract and use substantial amounts of marine raw materials, the Concessionaire must notify the Danish Nature Agency ([nst@nst.dk](mailto:nst@nst.dk)) as early as possible in the process about the expected amounts and the area of extraction, cf. Consolidating Act no. 657 of 27 May 2013 on raw materials, as well as whether there are plans to exploit common areas, auction areas or other areas.

## **9. Defence Command Denmark and radars**

- 9.1 The construction of North Sea (north) Offshore Wind Farm will have implications for Defence Command Denmark's radars at Thyborøn. Therefore, mitigation measures will be necessary in the form of gap-filler radars, modification of existing radars, or replacement of radars. When assessing whether a wind farm interrupts air surveillance radars, the Danish Defence Acquisition and Logistics Organisation will apply the procedures described in the publication "EUROCONTROL Guidelines on How to Assess the Potential Impact of Wind Turbines on Surveillance Sensors". This publication is

available upon request from the Danish Defence Acquisition and Logistics Organisation or the Danish Energy Agency. The Concessionaire must complete and submit the questionnaire in Annex E of the "EUROCONTROL Guidelines on How to Assess the Potential Impact of Wind Turbines on Surveillance Sensors".

- 9.2 In the event that the offshore wind farm leads to changes in the quality of existing radar surveillance, which will be determined by the Danish Defence Acquisition and Logistics Organisation, the Concessionaire must enter into an agreement with the Danish Defence Acquisition and Logistics Organisation about the required mitigation measures such as updating hardware, including whether supplementary radars and/or software will have to be procured. The Danish Defence Acquisition and Logistics Organisation will determine which measures are necessary. Such measures will be incurred by the Concessionaire and will have no delaying effect on the offshore wind farm project. The Danish Defence Acquisition and Logistics Organisation may request that this be registered as a restrictive covenant on the offshore wind farm.  
*[The Danish Defence Acquisition and Logistics Organisation has assessed the costs of any mitigation measures. In a worst case scenario, the radar at Thyborøn will have to be replaced and a gap-filler radar will have to be set up so as to provide sea-surface coverage. The price of this is estimated to be around DKK 22 million (approx. DKK 20 million to replace the radar at Thyborøn and approx. DKK 2 million to buy a gap-filler radar).]*
- 9.3 The construction of North Sea (north) Offshore Wind Farm will also have a negative impact on Naviar's civilian surveillance radars RAMME VOR, however the scope of this cannot be identified in advance. Therefore, the Concessionaire must contact Naviar to agree possible mitigation measures. The mitigation measures may be installed after the construction of the wind farm. In the last resort, it will be necessary to replace the existing VOR navigation installations with VOR navigation installations that are less sensitive. *[Naviar estimates the cost of such replacement to be around DKK 1.5 -2 million per installation.]*
- 9.4 In the event that any UXOs (unexploded ordnances) are identified in the area, all work must be stopped immediately and JOC Aarhus must be notified, cf. section 14 of Executive Order no. 1351 of 29 November 2013 on safety of navigation in connection with construction work and other activities etc. i Danish waters. In the event of identification of UXOs, the following contact information for Joint Operations Centre (JOC) Defence Command Denmark should be used:  
Head of on-duty staff at JOC: +45 72850332  
Officer on duty: +45 72850380 jrcc@sok.dk  
Maritime Assistance Service: +45 72850371 [mas@sok.dk](mailto:mas@sok.dk)  
*[JOC Aarhus will notify Danmarks vagten. Immediately upon notification, Danmarks vagten will assess the task and the options available for disposing of the UXOs. Under normal circumstances, information on how the task will be performed will be provided the next workday before noon.]*

## 10. Fisheries

- 10.1 The Concessionaire must take contact to relevant commercial fishermen with a view to organising the construction activities in a way that does not affect commercial fishing more than necessary.
- 10.2 The Concessionaire must contact the commercial fishermen in the area in order to negotiate possible compensation for documented losses pursuant to sections 76-80 of the Fisheries Act, cf. Act no. 568

of 21 May 2014. Queries about legislation pertaining to fisheries may be addressed to the Danish AgriFish Agency.

The Danish Fishermen's Association is responsible for compensation negotiations. However, there is no confirmation that the Danish Fishermen's Association represents all commercial fishermen. Possible compensation includes the offshore wind farm and the internal collection grid. If a compensation sum is determined, the sum must be paid by the Concessionaire.

- 10.3 The issue of compensation for nuisance to fisheries during the construction phase and for permanent losses, and the size of the possible compensation, should as far as possible be settled before the construction phase.

## **11. Cultural heritage**

- 11.1 Cultural heritage interests in territorial waters are protected under the Museum Act. A marine archaeological preliminary survey programme must be conducted in the offshore wind turbine area. This survey must contain all or parts of the following, recommended archaeological preliminary surveys:
- Testing for the existence of submerged prehistoric sites through inspection and documentation of 14 selected side-scan anomalies.
  - Testing for the existence of traces of Early Stone Age settlements based on seismic data, geotechnical drilling and sample excavations using suction dredgers at selected points, if the location of the turbines overlap with area 1 in the report.
  - Drilling sample registration around the cable routing onshore and radiocarbon dating of any prehistoric finds, because top-glacial deposits have been interpreted for all of profiles.
- The Danish Agency for Culture will decide the scope of these surveys on the basis of a concrete survey and budget proposal required from Moesgaard Museum by the contractor.
- A marine archaeological preliminary survey must be conducted at the cost of the contractor, pursuant to section 29g(4) of the Museum Act.
- 11.2 Work must be suspended immediately if protected/listed heritage remains are encountered, whether they be ancient monuments or historic shipwrecks, or if the Concessionaire is made aware that the construction site holds interests similar to those mentioned above, cf. Section 29h(1) of the Museum Act. Such discoveries and information are to be notified to the Danish Agency for Culture immediately, addressed to: Torben Malm, Fortidsminder, H.C. Andersens Boulevard 2, 1553 Copenhagen V, Denmark, tel. +45 33 74 51 00.

## **12. Consideration for other activities at sea**

- 12.1 Construction work must be coordinated with the Danish Maritime Authority so that relevant information can be submitted to the shipping industry through the Danish equivalent to Notices to Mariners. With regard to various works at sea, reference is made to Executive Order no. 1351 of 29 November 2013 on navigation safety in connection with construction works and other activities etc. in Danish waters and to the associated assessment form "[Assessment form for assessing the safety of navigation in connection with works at sea](#)"

- 12.2 Siting of the individual turbine must adhere to the requirement for at least 200 metres between the turbines and the line of sight in existing radio link systems.
- 12.3 Navigation between the turbines in the operating phase will be permitted. During the construction phase, navigation will be prohibited in the work area, and any documented additional costs associated with navigation by the Danish Coastal Authority to areas where raw materials are extracted must be paid by the Concessionaire.
- 12.4 The turbine foundations must have a collision-friendly design, so as to avoid unnecessary damage to vessels in the event of a collision. The contractor will be obligated to substantiate that the chosen type of foundation is safe.
- 12.5 *Permanent buoying* of the wind farm must be approved by the Danish Maritime Authority no later than two months prior to commencement of construction activities. A description of the permanent buoying must be included in the detailed project plan, cf. clause 2.2.
- 12.6 Temporary buoying and marking of work areas, etc. must be approved by the Danish Maritime Authority at least three months prior to commencement of the construction work.
- 12.7 During the construction phase, prohibition zones should be established to maintain order and prevent danger around the offshore wind farm. Application for this should be submitted to the Danish Maritime Authority no later than 3 months prior to commencement of the construction work.
- 12.8 The work and guard vessels used must comply with the regulations for equipment, crew, etc., laid down by the Danish Maritime Authority.
- 12.9 If there are plans to extract and use substantial amounts of marine raw materials, the Concessionaire must notify the Danish Nature Agency ([nst@nst.dk](mailto:nst@nst.dk)) as early as possible in the process about the expected amounts and the area of extraction, cf. Consolidating Act no. 657 of 27 May 2013 on raw materials, as well as whether there are plans to exploit common areas, auction areas or other areas.

### **13. Buoying**

- 13.1 The Concessionaire must follow the terms and conditions set out by the Danish Maritime Authority concerning marking and buoying before, during and after construction; correct siting of foundations and cables; reporting of time and date of work; etc., cf. Appendix "*Expected requirements from the Danish Maritime Authority for temporary work area and temporary and permanent marking and buoying, etc.*" The final requirement for buoying and marking will be stipulated on the basis of the specific project. Furthermore, each turbine must be identifiable from numbers/letters on the turbine towers. These numbers/letters must have an appropriate size (0.5-1 metre). Specific proposals must be approved by the Danish Maritime Authority along with other buoying and marking on the basis of the regulations in Executive Order no. 1351 of 29 November 2013 on navigation safety in connection with construction works and other activities etc. in Danish waters and the associated assessment form "[Assessment form for assessing the safety of navigation in connection with works at sea](#)" Reference is moreover made to Executive Order no. 45 of 22 January 2015 on buoying in the Danish and Greenlandic buoying area etc. as well as the publications "Buoying and marking in Danish territorial waters" and "IALA Recommendation 139 on the Marking of Man-Made Offshore Structures".

- 13.2 If navigation between a port and the offshore wind farm in connection with work activities crosses a sea lane, the Danish Maritime Authority may establish a navigation corridor which work vessels must use.
- 13.3 Turbines with a height of 100 metres or more above terrain must be reported to, and approved by, the Danish Transport and Construction Agency, cf. section 67a of the Air Navigation Act, cf. Consolidating Act no. 1036 of 28 August 2013, prior to commencement. The Danish Transport and Construction Agency will then issue a certificate for the project with the lighting requirements. See the lighting requirements in Regulations for Civil Aviation (BL) 3-11 (Regulations on obstruction marking of wind turbines) with associated guidelines, which are available (in Danish) at [www.trafikstyrelsen.dk](http://www.trafikstyrelsen.dk) Notification should be via [info@tbst.dk](mailto:info@tbst.dk). As far as possible, the Concessionaire should use alternative beaconing causing less disturbance. Preferably, this is to be agreed with the Danish Transport and Construction Agency. The Concessionaire must pay all expenses for marking and buoying for navigation and aviation.

#### **14. Internal cabling etc.**

- 14.1 When the cables have been established and included in the official nautical charts, a 200-meter safety zone on both sides of the subsea cables will be established pursuant to section 4 of the Danish Maritime Authority Executive Order no. 939 of 27 November 1992 on the protection of subsea cables and pipelines. This safety zone includes a ban against anchoring and against any use of gear etc. that are towed along the seabed. The Concessionaire must contact the Danish Maritime Authority in order to clarify the protection of subsea cables in the offshore wind farm.
- 14.2 If large rocks are removed along the cable routes, these should be relocated pursuant to agreement with the Danish Nature Agency. If stones are removed and this leads to changes in water depths, the Danish Maritime Authority and the Danish Geodata Agency must be notified about the location and water depth.
- 14.3 The Danish Maritime Authority must be notified no later than four weeks, and preferably six weeks, before cable-laying work is expected to commence. The notification must include a plan/list of coordinates of the cable routes, a timetable and a detailed work description, describing the work vessels used, call signs, contact possibilities as well as information regarding the extent of obstacles to navigation. A proposal for possible temporary marking and buoying during performance of the work must also be enclosed with the notification, including a proposal for possible permanent marking, buoying or sign-posting for the cable routes. On the basis of the information provided, negotiations will be instigated with the Danish Maritime Authority about how to accommodate traffic during performance of work.
- 14.4 During performance of the work, the Danish Maritime Authority must be kept continuously informed about any changes to dates and times, work methods, etc. Furthermore, on completion of work, the Danish Maritime Authority as well as the Danish Geodata Agency are to be notified that the work has been completed. Soon after this date, the same authorities are to be forwarded updated detailed drawings and information about coordinates.
- 14.5 The terms and conditions stated in clause 14.3 and 14.4 do not apply if the work is performed within an area of work already buoyed/marked off. However, information about the exact location must be provided to the Danish Geodata Agency after establishment.



14.6 Any later repairs of the cables must be notified to the Danish Maritime Authority pursuant to current regulations. If a repair necessitates a change in the position of a cable or depth of excavation, updated detailed drawings and position descriptions as stated above must be submitted to the Danish Maritime Authority following completion of the work.

14.7 In the event that cables etc. are no longer used for their original purpose, they must be removed completely from the territorial waters, unless otherwise approved by the relevant authorities.

## **15. Requirements for grid connection, etc.**

15.1 The total wind power plant must comply with the technical regulations concerning wind power plants of more than 25 MW. These technical regulations are available on the Energinet.dk website.

15.2 The Concessionaire will establish the offshore wind farm with associated internal collection grid up to the grid connection point, cf. Appendix 9 of the tender material.

15.3 The grid company and/or Energinet.dk will ensure the required expansion and reinforcement of the collective electricity supply grid from the grid connection point. *[Expansion and reinforcement of the electricity grid below 100 kV is the responsibility of the relevant grid company.]* Expansion and reinforcement of the electricity grid above 100 kV is the responsibility of Energinet.dk.

15.4 The electricity from the offshore wind farm plant is to be routed onshore to the Danish collective electricity supply grid.

## **16. Requirements for compliance with the option-to-purchase scheme and the loss-of-value scheme**

16.1 In order to be paid a price supplement, the Concessionaire must have completed the public meeting about the loss-of-value scheme, cf. section 9(1) of the RE Act, and Energinet.dk must have approved that the option-to-purchase sales material has been prepared and that the offer for sale of ownership shares has been conducted in accordance with section 13(1)-(7), sections 14 and 15, and section 17(1) of the RE Act, including regulations issued in pursuance hereof, cf. section 13(8).

## **17. Compliance with the terms and conditions of the licence**

17.1 The Concessionaire is obliged to provide the Danish Energy Agency with such information as the Danish Energy Agency deems necessary for supervision, cf. section 59 of the RE Act. The Danish Energy Agency must keep commercially sensitive information confidential.

- 17.2 The Danish Energy Agency may demand a fee for work on processing and carrying out supervision of this licence, cf. Executive Order no. 835 of 27 June 2013 on payment for authority processing under the Electricity Supply Act and the RE Act.
- 17.3 The licence granted may be revoked if terms and conditions of the licence are not fulfilled.
- 17.4 Fines may be imposed, cf. section 72 of the RE Act, in the event of:
- Breach of the terms and conditions of this licence,
  - Failure to provide the information dealt with in section 59 of the RE Act, or
  - Submission of incorrect or misleading information or failure to submit information upon request.

## **18. Appeals**

- 18.1 Pursuant to sections 66 and 67 of the RE Act, a party entitled to appeal may bring an appeal against this licence before the Danish Energy Board of Appeal, Frederiksborggade 15, 1360 Copenhagen K, Denmark. The appeal must be in writing and must be submitted within four weeks of notification of the decision to grant this licence. The licence may not be exercised prior to expiry of the deadline for appeals. Appeals will not have suspensory effect, unless the Energy Board of Appeal decides otherwise. Decisions by the Energy Board of Appeal cannot be appealed to another administrative authority.