

## **Is there a need for new Danish offshore safety laws for wind power?**

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Offshore wind power is developing by leaps and bounds at present. More and bigger wind farms are being established, not just in Denmark but also throughout Northern Europe. The wind turbines themselves are also increasing in size and complexity. They are being erected further from shore and in deeper waters. This increases the risks associated with the construction and operation of wind farms, and also for the crew involved in set-up and operation.

All players are part of an international supply chain that is steadily becoming more complex and refined. The question is whether the regulation of occupational safety and health relating to offshore wind-power activities has kept up with these developments. In our view, there may be a need to consider whether existing occupational safety and health regulations should be clarified, tightened or amended.

### **Regulation of offshore wind turbines**

Offshore wind turbines are primarily regulated in Denmark by the act for the promotion of renewable energy (the “Renewable Energy Act”). This law applies on land, in territorial waters and in the exclusive economic zone. However, the Renewable Energy Act does not regulate special issues relating to occupational safety and health. General Danish law covers this area.

### **Occupational safety and health regulations**

There is no separate occupational safety and health legislation which applies to offshore wind turbines, by contrast with the primary rule of law in the offshore area relating to the extraction of hydrocarbons (oil and gas). In the absence of separate regulation, general legislation applies, i.e. the Occupational Safety and Health act with accompanying statutory instruments. The Occupational Safety and Health Act applies onshore and in territorial waters (twelve nautical miles out from shore). This covers inshore wind farms and most of the large offshore wind farms existing in Denmark. In other words, it applies to Rødsand I and II, Horns Rev I and Anholt, all of which are in territorial waters. But Horns Rev II, located in the exclusive zone (between 12 and 200 nautical miles from shore) is different and, formally speaking, is not covered by the Occupational Safety and Health Act. Neither separate nor general legislation applies to Horns Rev II.

### **Regulation by terms and conditions**

In the absence of separate regulations for Horns Rev II, the state – represented by the Danish Energy Authority – has had to resort to the terms and conditions in the concession agreement to bridge this legislative gap. The concession agreement for Horns Rev II therefore states that “The Concession Holder shall observe the guidelines and rules stipulated in the Occupational Safety and Health Act, Act no. 268 of 18 March 2005, with subsequent amendments and regulations issued pursuant to this, ...”. This specifically bridges the gap. Yet why refer to the Occupational Safety and Health Act and not the Offshore Safety Act? This was the choice of the Danish Energy Authority (and thus the Minister for Energy). The Danish Parliament was not included in this decision, and, when it comes down to it, we cannot be sure whether our general legislative assembly even considered the expediency of using the

general “land-based” rule instead of rules specifically developed for the offshore sector. Drafting separate rules to govern offshore wind-power activities or applying the offshore safety act could conceivably be “breaking a butterfly on a wheel” – but the question still needs to be asked.

## **Special risks entailed by offshore wind turbines**

The Occupational Safety and Health Act applies to land-based wind turbines and one might ask whether there is any difference between onshore and offshore wind turbines when it comes to occupational safety and health. By way of introduction, we need to remember that occupational safety and health risks vary in relation to the different phases of a wind turbine’s service life, i.e. installation, operation, maintenance, etc., and dismantling. We are already aware of a number of special risks relating to onshore wind turbines:

- heavy lifting of equipment that can cause injury during lifting or if dropped;
- working at heights (risk of falling);
- protection against the machinery and electrical installations;
- fireproofing.

These challenges are regulated to some extent by international standards and requirements, laid down by either the industry itself or through international rules such as the EU Machinery Directive. Offshore installations face a number of extraordinary challenges, however. These include transport to and from the installation site, the impact on crew and equipment of wind, waves and ice (and combinations of these), not to mention evacuation or forced stays if a crew is caught by bad weather or transport problems. The obvious question here is whether the unique challenges can be dealt with by applying the general rules of the Occupational Safety and Health Act or whether special regulations are needed in the offshore area. One area where inspiration is available is the offshore oil and gas sector.

## **Occupational safety and health rules for oil and gas production**

The Offshore Safety Act covers physical safety at offshore structures and the crew’s safety when working offshore, including on service tasks on platforms associated with hydrocarbon exploration and production. This regulates design work, construction, installation, operation, maintenance, modification and dismantling of offshore facilities. The act is based on the principle that offshore safety and health should reflect society’s technological and social developments. Risks should be “as low as reasonably practicable” (also known as the ALARP principle), which is based on international practice, as is also the case for the offshore sector in general.

Another feature of the Offshore Safety Act is that it is based on a self-regulating principle whereby companies implement a management system for occupational safety and health.

## **What about future requirements for occupational safety and health?**

Will it be possible for us to continue to be “content” with applying land-based occupational safety and health rules to offshore wind turbines? We do not intend to answer this, but rather to put it up for discussion. In our view, the offshore wind turbine area – like the offshore sector in general – is an international industry with a consequent need for international solutions. This should also include occupational safety and health rules. It should be possible for Danish companies to work abroad without hindrance, relatively speaking, and by the same token, it should be possible for foreign companies to work in the Danish sector. Having excessive differences between sets of national regulations does not promote this possibility.

At first sight, we are dissatisfied with it being possible for a Danish government minister, without any further political or legal debate, to decide which occupational safety and health regulations should apply to offshore wind turbines. This is now the case beyond Denmark’s territorial waters (in the exclusive economic zone), specifically at Horns Rev II and in the future also at Horns Rev III and Kriegers Flak.

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We are also interested in having the powers that be reconsider whether the Occupational Safety and Health Act adequately regulates work performed in territorial waters. It should be the task of the Danish Parliament to determine which rules we should have. And this should be done by means of a transparent law-making process which also involves the players in the sector. The process could also incorporate ideas provided by the Global Wind Organisation (GWO) or similar international bodies involved in wind-power matters. There could be an opportunity here to require standards such as these to be incorporated into law in the same manner that ALARP principles have gained acceptance in the offshore oil and gas sector.

This should not depend on any particular solution model. What is decisive is to uphold a high level of occupational health and safety in the offshore wind power sector. There are several possible solutions to discuss, and in our view, it is crucial to take up this debate and for industrial participants and political stakeholders to take part in it.

This article is based on a presentation given by the authors at the second annual conference under the auspices of the industrial collaboration entitled "Energy at Sea" held in Esbjerg, Denmark, in March 2012

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For questions or comments to this newsletter or energy and offshore in general, please contact Bo Sandroos on +45 4088 5422 or [bos@wsco.dk](mailto:bos@wsco.dk).

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