

**Rødbyhavn designated as production site**

## 1. Introduction

The EU Commission has prepared new guidelines for the interpretation of the EIA Directive<sup>1</sup>, which Femern A/S has been ordered to follow in a letter from the Danish Minister for Transport dated 16 March 2011. The new guidelines mean that the environmental approval of the Fehmarnbelt Fixed Link and the necessary production facilities for the establishment of the fixed link must be viewed within a single context and form part of an overall approval process. The new guidelines mean that Femern A/S is responsible for determining where the production facilities will be located, rather than leaving this decision to the contractors as was assumed previously.<sup>2</sup>

Therefore, with assistance from organisations including the Legal Adviser to the Danish Government (Kammeradvokaten), Femern A/S has attempted to clarify how the company may comply with the new guidelines in the most appropriate way. This work has particularly emphasised the minimisation of risks in terms of time for the project, including the risk of long running appeal cases, particularly those concerning the environment. The clarification has been concluded with the following strategy for the choice of the production site:

- Femern A/S will determine in advance the location of the production site(s) on the basis of an overall assessment of the significant parameters, including those in relation to technical requirements, environmental impacts, finance, time and risks (e.g. in relation to transport and logistics), etc.
- Femern A/S will carry out an EIA approval of the production facilities and ensure the required context between the approval of the fixed link itself, the production facilities and the extraction of raw materials.
- It will be a condition in the tender documentation that bidding contractors must use the designated production sites, and that the contractors must adhere to all of the conditions within the environmental approvals issued. The requirement will solely cover the location of the production facilities and the overall technical design, but will place no restrictions on e.g. the nationality of the companies or employees and the organisation of the work, etc.

The Danish Ministry of Transport and Femern A/S presented this approach at a meeting with the EU Commission in Brussels on 11 April 2011. Participating in the meeting were representatives from the Directorate-General for the Environment, responsible for the preparation of the non-paper, in addition to a representative of the Directorate-General for Mobility and Transport. The EU Commission declared that the approach outlined was in

---

<sup>1</sup>The guidelines are given in the EU Commission's "Non-Paper on large-scale transboundary projects and the challenges in applying the EIA procedure" dated 5 November 2010 and in the "Interpretation line suggested by the Commission as regards the application of Directive 85/337/EEC, as amended, to associated/ancillary works" dated 25 March 2011.

<sup>2</sup>Reference is made to Femern A/S' *Report on the location of production sites in the light of the EU Commission's non-paper (Redegørelse for lokalisering af produktionspladser i lyset af EU Kommissionens non-paper)* dated 4 May 2011 for a more detailed review of the content of the Commission's new guidelines and the consequences of the Fehmarnbelt project.

accordance with the guidelines set out in the non-paper and the interpretation statement issued subsequently.

Therefore, the amended strategy for the location of production sites, including both the geographic and financial impacts, is a direct consequence of the EU Commission's new guidelines for the completion of the EIA process that Femern A/S has been ordered to follow.

The first stage of the strategy means that Femern A/S must determine the location of the production facilities for the production of the tunnel elements. This determination placed an emphasis on the following parameters:

- Technical suitability
- Environmental impacts
- Time implications
- Risks

#### Technical suitability

An entirely crucial parameter for the work in determining the location of the production site is that the location must be technically suited to the establishment of a production site in accordance with the production methods that it is assumed will be used in the conceptual design for an immersed tunnel.

In the first instance, this means that it is assumed that the location as a minimum should have space for four production lines for standard tunnel elements in addition to a production line for special elements. Thus, it would not be possible to achieve the intended economies of scale if the production of tunnel elements was spread out over too many production sites. The requirement that the location should be able to accommodate 4+1 production lines means that the location should be around 60 hectares in size.

Secondly, it is a requirement that the physical scope of the location allows a mass production arrangement to be established for tunnel elements similar to the method used in the construction of the Øresund link. A significantly higher quality will be achieved by producing the tunnel elements under cover in an industrial manner, e.g. with regard to how watertight the tunnel elements are in comparison with if these were produced in a traditional mould in a dry dock where the work takes place in an unprotected environment and therefore is exposed to the weather. In addition, the industrial method of production provides a greater certainty of time schedules, etc. being adhered to. One of the preconditions associated with the industrial method is that it is possible to establish casting buildings with basins at the front, which partly raises a demand concerning the width of the production facility, and partly requires that it is possible to establish basins with the requisite water depth in front of the production facility.

Thirdly, the tunnel elements have a water depth requirement, as there must be a water depth of at least 10 metres between the production facility and the proposed route itself.

Fourthly, the size of the tunnel elements themselves (e.g. a standard element is 217 metres long, 42 metres wide and weighs around 73,500 tonnes) means that it will be a challenge in

terms of navigation to transport these from the production site to the proposed route. This is particularly applicable if transportation is to take place through narrow waters and waters subject to heavy traffic, e.g. harbour entrances or narrow fjords. This means that locations with good navigation conditions will be more suitable than locations where conditions are more difficult.

### Environmental impacts

Another crucial parameter is that there must be maximum certainty that a production facility will be given environmental approval in accordance with the applicable environmental requirements, including the requirement concerning the performance of an overall assessment of the project's environmental impacts. Additionally, such environmental approval must exist within a time frame that is compatible with the target of the fixed link opening in 2020.

This parameter has two implications. Firstly, it must be possible to establish the production site in such a way that it does not result in impermissible environmental impacts, e.g. in relation to specially protected nature areas. Secondly, the requisite dataset must exist or the environmental approvals must already have been issued allowing the incorporation of the chosen location into the company's overall EIA report. In the event that the necessary environmental data or permissions do not exist, this would mean a significant time delay of up to two or three years, which would make it impossible to adhere to the target of the opening of the fixed link in 2020. Therefore, the company is placing a crucial emphasis on the fact that it is certain that the authority approvals will exist within the specified time framework.

### Time implications

Thirdly, a prerequisite for the work is that the target concerning the opening of the fixed link in 2020 can be adhered to. In order to adhere to this prerequisite, it is Femern A/S' opinion that it is necessary that any additional work in connection with incorporating the chosen production site within the project's overall environmental approval must not extend the planning phase by more than six months in total. Furthermore, it is considered that a delay of six months during the planning phase could be made up during the tender and construction phases, amongst other things as a result of the fact that the contractors themselves do not have to find suitable areas and obtain the environmental permissions for production sites, in addition to optimising the construction process.

As the inclusion of the production sites within the overall EIA report places increased demands on the application material that will take time to prepare, it has therefore been a significant parameter that the locations do not involve further time risks, including in connection with obtaining the necessary environmental approvals; cf. above.

### Minimisation of risks

A fourth significant factor in the assessment of the locations has been a desire to minimise the risks associated with the project. Therefore, the Commission's new guidelines mean that the responsibility for the choice of the production site has been transferred from the contractors to the company (developer). Therefore, it will be the company and not the contractors bearing the risk in the event that the chosen production site results in problems.

This means that locations with low risks, amongst other things based upon the following parameters, will be directly preferable:

- Technical risks (cf. above)
- Environmental and time risks (cf. above)
- Transport risks (transport distance and navigation conditions)
- Control risks
- Process risks

### **Overall assessment**

Femern A/S has analysed the information that the company has received from around 20 locations expressing an interest in making sites available for a production facility with a view to determining the most suitable location based upon the parameters above.

Among the possible locations, Femern A/S is of the clear opinion that Rødbyhavn is the most expedient location for the production facilities. This opinion is based upon the following:

- Rødbyhavn meets all of the technical requirements. Thus, it is possible to establish eight production lines in the area based upon industrial production, and the only requirement is to excavate a relatively short disembarkation channel.
- Femern A/S has all of the necessary environmental data to allow it to integrate the production site into the EIA report as the company itself has carried out a two-year environmental investigation programme in the area. This means that the 2020 target can be adhered to. Additionally, the environmental impacts of the entire project will be concentrated in one area instead of being spread over several locations.
- Rødbyhavn entails the fewest risks and provides the best opportunities for monitoring for the company. A location in the immediate vicinity of the planned route minimises the transport risks. Additionally, Rødbyhavn has the maximum possible level of certainty with regard to environmental data as Femern A/S itself has obtained this data. A location next to the planned route also means a smaller risk of appeal cases as there would only be a limited extension of the group of people and organisations affected by the project, and similarly it would provide the maximum possible scope for the authorities involved at both a local and national level to remain the same. During the construction phase itself, having a location on the planned route would provide Femern A/S with the best conditions for carrying out ongoing supervision and monitoring of production.

Using Rødbyhavn as a location would mean an increase in construction costs amounting to EUR 373 million in relation to the consolidated construction estimate from November 2010, which was based upon the fact that the contractors themselves would have chosen to establish production facilities in Poland. This additional cost is a direct consequence of the

EU Commission's new guidelines for the interpretation of the EIA Directive and the target of opening the fixed link in 2020. Additional expenses of this magnitude would generally occur for locations in Germany or Denmark as a result of higher wage and cost levels in relation to Poland. However, on the basis of the analyses carried out, it is the company's opinion that none of the proposed locations in Poland comply with the requirements regarding technical and environmental suitability. Therefore, it is not considered possible to carry out the production in Poland whilst simultaneously achieving an opening date in 2020.

On the basis of the above, it is considered that the location of the production site at Rødbyhavn is the most appropriate solution based upon an overall assessment.

It should be stressed that the choice of Rødbyhavn should not be understood to mean that none of the other proposed locations would be suitable as a production site. A number of other locations have submitted credible and well-prepared proposals for the establishment of a production site, which Femern A/S appreciates. However, as the company must take the responsibility for the location of the production site as a result of the new EU guidelines, the company has attached critical importance to choosing the location that best meets the company's requirements for technical suitability, reliability of compliance with the timetable, including in particular in relation to the environmental approval, and minimisation of risks. In the opinion of Femern A/S, this location is Rødbyhavn.

## **2. Recommendation**

It is recommended that the board approve Femern A/S' recommendation to the Danish Minister for Transport that he approve the company's nomination of Rødbyhavn as the production site for the tunnel elements for the planned Fehmarnbelt Fixed Link with the associated financial consequences.

*The board of Femern A/S approved the recommendation at the board meeting held on 25 May 2011.*