

European Offshore Wind Deployment Centre Environmental Statement

Chapter 26: Electromagnetic Interference



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26 ELECTROMAGNETIC INTERFERENCE

26.1 Introduction

- 1 This chapter considers the potential implications of the European Offshore Wind Deployment Centre (EOWDC) in relation to the potential for electromagnetic interference.
- 2 The following technical reports have been used when completing this chapter and can be found as:
 - Navigational Risk Assessment (Appendix 15.1)
- 3 Wind turbines can cause electromagnetic interference (EMI) by two means:
 - physical interference – caused by the wind turbine providing a second path between the transmitter and receiver of the signal causing “scattering” of the signals. This can lead to a phenomenon called “ghosting” on television screens
 - electrical interference – caused by electrical signals generated within the wind farm infrastructure, principally the wind turbine. Modern wind turbines are designed to minimise the emission of such interference
- 4 Wind farms have the potential to cause adverse effects on communication systems, which use electromagnetic waves as the transmission medium (for example, television, radio or microwave links). The nature of the interference depends on the size of the structure relative to the wavelength of the radiation. Provided careful attention is paid to siting, wind turbines should not cause any significant problems of electromagnetic interference.
- 5 In the unlikely event of the EOWDC causing television interference the developer would agree to rectify any problems associated with the project.

26.1.1 Methodology Consultation

- 6 In order to assess the potential impact of EMI by the proposed development consultations were undertaken with the following stakeholders:
 - Joint Radio Company (JRC) (8th July 2010 4th April)
 - Atkins Ltd (21st June 2010 and 4th April 2011)
 - OFCOM (15th June 2010 and 4th April 2011)
- 7 An on-line tool to estimate potential television interference provided by the BBC was also used as a source of information about the potential impact from the project on 16 June 2011.
- 8 In August 2010 the Scoping Report for the EOWDC project was sent out to the following stakeholders for comment:
 - British Telecom (Radio Network Protection Team)
 - Joint Radio Company (JRC)
 - Atkins Ltd
 - OFCOM

26.1.2 Data Information and Sources

- 9 The Office of Communications (OFCOM) holds a central register of all civil and radio communications operators in the UK and acts as a central point of contact for identifying specific consultees relevant to site.

26.2 Baseline Assessment

26.2.1 Television Reception

- 10 Television reception can be affected when viewers are within the shadow of a wind farm. This is a problem more closely associated with onshore wind farm developments where signals from the main masts could be influenced by the installation of wind turbines.
- 11 An on-line tool to estimate potential television interference provided by the BBC indicates that no households would be affected by the development of the EOWDC.

26.2.2 Microwave and Other Telecommunications

- 12 Contact was made with OFCOM regarding the proposal. Information on the site centre and the radius of the development was submitted.
- 13 OFCOM responded that there are currently no fixed link ends within or fixed paths that cross the site in respect of microwaves.
- 14 For scanning telemetry the information was passed to both the Joint Radio Company (JRC) and Atkins Ltd both of whom responded with no objection to the proposal.

26.2.3 Maritime Communication and Navigation

- 15 The Navigational Risk Assessment (NRA) (Appendix 15.1) carried out in 2011 highlighted that there are no anticipated impacts upon maritime communication and navigation devices as a result of electromagnetic interference associated with the development of the EOWDC.

26.3 Impact Assessment

26.3.1 Television Reception

- 16 The BBC assessment tool highlighted that there is no possible interference predicted for any households, the impact is therefore considered to be negligible.

26.3.2 Microwave and Other Telecommunications

- 16 None of the consultees mentioned in Section 26.1.1 raised objections to the proposal and no impacts were predicted. Therefore the impact is considered to be negligible.

26.3.3 Maritime Communication and Navigation

- 17 The NRA indicates that there are no anticipated impacts upon maritime communication and navigation, therefore possible impacts are considered to be negligible.

26.3.4 Mitigation and Monitoring

- 18 No specific mitigation of monitoring is envisaged. In the event of an impact the situation would be analysed and suitable mitigation measures would be taken so that there are no residual impacts as a result of this development.

26.4 Summary

- 20 There are not likely to be any detrimental effects from EMI as a result of the EOWDC proposal. If any problems are identified during construction, operation or decommissioning, it is likely that these could be resolved quickly and satisfactorily.