

# 15 Telecommunications

## Contents

15.1	Executive Summary	1
15.2	Introduction	1
15.3	Legislation, Policy and Guidelines	2
15.4	Consultation	2
15.5	Assessment Methodology	3
15.6	Baseline Conditions	3
15.7	Potential Effects	3
15.8	Cumulative Effects	3
15.9	Summary	3
15.10	References	5

This page is intentionally blank.

## 15 Telecommunications

### 15.1 Executive Summary

- 15.1.1 This Chapter considers the potential effect of the Proposed Development on telecommunications. The assessment takes account of the consultation with relevant consultees and the presence of telecommunication links. As the Proposed Development is not anticipated to have any effects on telecommunications infrastructure, no mitigation measures were deemed necessary. Assessment of effects to television receptors has been scoped out within the Environmental Impact Assessment (EAI) Scoping Report.
- 15.1.2 The telecommunications assessment, as informed by current guidelines and legislation, has been undertaken through consultation with the appropriate consultees, namely:
- Airwave Solutions;
  - Arqiva;
  - Atkins;
  - BT;
  - EE;
  - Joint Radio Company (JRC);
  - Spectrum Licensing; and
  - Vodafone.
- 15.1.3 No links were identified through the consultation process in the site.
- 15.1.4 No effects on telecommunications from the construction, operation or decommissioning of the Proposed Development were identified.
- 15.1.5 As the Proposed Development will not impact any telecommunication links, the Proposed Development will not have any cumulative effects on telecommunication links with other developments.

### 15.2 Introduction

- 15.2.1 This Chapter considers the potential effects of the Proposed Development on existing and planned telecommunications and television infrastructure, both within the site and in the wider area, during construction, operation, and decommissioning.
- 15.2.2 Wind turbines, like any other large structure, have the potential to interfere with electromagnetic signals, which are used in a variety of communications. Relevant infrastructure given consideration included telecommunication links, television reception and microwave links.
- 15.2.3 If sited within or near to the path between a transmitter and its intended receiver, a wind farm has the potential to degrade the signal performance. The two possible mechanisms for signal degradation for terrestrial transmission are physical blocking by the structure, or reflection from the structure sides. Physical blocking will create a 'shadow' zone behind the structure where there will be a reduction in signal levels. The reflection of signals from the tower and rotating blades of the wind turbines can cause complex fluctuations in signal reception. Interference can disrupt the image resulting in a 'ghost' or delayed image on screen.
- 15.2.4 In 2008, southern Scotland was fully switched over to from analogue to digital television (known as 'digital switchover'). Digital signals are considered to be less susceptible to disruption from reflections and do not suffer from ghosting. Digital transmitter powers increased to approximately

ten times their previous levels at digital switchover. At the same time, digital signals were added to the relay transmitter network. These improvements greatly increased the availability and robustness of digital terrestrial reception.

- 15.2.5 Assessment of effects to television reception has been scoped out within the EIA Scoping Report. This is because the strength of the digital signal in the area, and the inherently resilient nature of digital television broadcasting, mean that there is a low risk of interference with domestic television reception from a wind energy development at this location.
- 15.2.6 A valid objection (i.e. one in which the network operator has set out a technical case showing that there will be an adverse operational impact) is considered to be ‘significant’ for Environmental Impact Assessment (EIA) purposes and as such would require mitigation.

## 15.3 Legislation, Policy and Guidelines

- 15.3.1 The assessment has been informed by relevant legislation, policy and guidelines, details of which are noted below:
- Wireless Telegraphy Act (2006);
  - South Ayrshire Local Development Plan (Wind Energy policy);
  - Planning Advice Note: PAN 62 Radio Telecommunications (2001); and
  - Tall structures and their impacts on broadcast and other wireless services (Ofcom, 2009).
- 15.3.2 The potential impacts as a result of the Proposed Development have been assessed with reference to the above documents.

## 15.4 Consultation

- 15.4.1 Consultation was undertaken with relevant statutory and non-statutory stakeholders to identify any fixed wireless links or scanning telemetry links in the area, and a summary of their responses is set out in Table 15.1 below.
- 15.4.2 A search of Ofcom’s Spectrum Licencing portal also determined no fixed wireless links in the area. Consultation further confirmed this.
- 15.4.3 JRC, on behalf of the UK Fuel and Power Industry, assessed the potential of the Proposed Development to interfere with radio systems operated by electricity and gas utilities in support of their regulatory operational requirements.

**Table 15.1 - Consultee Responses**

Consultee	Summary of Consultation	Applicant Response
Airwave Solutions	No response has been received at the time of writing.	N/A
Arqiva (30/07/2021)	No objection.	No further action required.
Atkins (31/07/2021)	No objection.	No further action required.
BT (22/01/2021)	No objection.	No further action required.
EE (29/07/2021)	No objection – closest links are 7 km away.	No further action required.
JRC (15/01/2021)	No objection.	No further action required.

Consultee	Summary of Consultation	Applicant Response
Spectrum Licencing (Ofcom)	Spectrum Licencing no longer replies to consultation on telecommunications.	No further action required.
Vodafone (03/08/2021)	No objection.	No further action required.

## 15.5 Assessment Methodology

15.5.1 This section describes the methods by which the potential effect posed by the Proposed Development on the baseline was assessed.

15.5.2 Interference with mobile phone networks and other wireless data networks can occur through the interference of microwave and UHF band fixed links. These networks are operated by or on behalf of the mobile service providers, the utility companies, the emergency services and occasionally by small private networks.

15.5.3 The impact assessment has been conducted through consultation with the operators of these networks to identify potential impacts and residual impacts, and then go on to determine appropriate mitigation measures.

## 15.6 Baseline Conditions

15.6.1 The baseline was established through consultation as detailed in Section 15.4 and through review of the Ofcom freely available data (Ofcom 2020). This process determined that there are no telecommunication links close to the Proposed Development.

## 15.7 Potential Effects

15.7.1 As there are no telecommunication links close to the Proposed Development, no effects have been identified and no mitigation is required.

## 15.8 Cumulative Effects

15.8.1 As the Proposed Development will not impact any telecommunication links, the Proposed Development will not have any cumulative effects on telecommunication links with other developments.

## 15.9 Summary

15.9.1 This Chapter has considered the potential effects of the Proposed Development on existing and planned telecommunications infrastructure. It has not considered any effects on aviation radar as this has been covered separately in Chapter 14.

**Table 15-2 Summary of Effects**

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Construction, Operation and Decommissioning					
Effects on telecommunication	No effect	N/A	None Required	No Effect	N/A

**Table 15-3 Summary of Cumulative Effects**

Receptor	Effect	Cumulative Developments	Significance of Cumulative Effect	
			Significance	Magnitude
Effects on telecommunication	No effect	Other wind farm developments	No effect	N/A

## 15.10 References

Ofcom (2009) Tall structures and their impacts on broadcast and other wireless services. Available at: [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0026/63494/tall\\_structures.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0026/63494/tall_structures.pdf)

Scottish Government (2001) Planning Advice Note: PAN 62 Radio Telecommunications. Available at: <https://www.gov.scot/publications/pan-62-radio-telecommunications/>

South Ayrshire Council (2014) South Ayrshire Council Local Development Plan. Available at: [https://www.south-ayrshire.gov.uk/documents/localdevplan\\_final.pdf#page=47](https://www.south-ayrshire.gov.uk/documents/localdevplan_final.pdf#page=47)

UK Government (2006) Wireless Telegraphy Act. Available at: <https://www.legislation.gov.uk/ukpga/2006/36/schedule/8/part/1>