Chapter 12:
Telecommunications

12.1 Introduction

12.1.1 Overview

As noted in the Wind Energy Development Guidelines for Planning Authorities (2006), **w**ind turbines, like all electrical equipment, produce electromagnetic radiation, and this can interfere with broadcast communications. This chapter considers the potential impacts of the proposed development upon a range of communications infrastructure, including telecommunications networks, civil and military aviation, broadcast radio and television and fixed infrastructure such as telecommunication masts. As part of this assessment, GES Ltd carried out various consultations with all relevant statutory bodies (see **Chapter 1)**.

12.1.2 Methodology

12.1.2.1 Desk Based Research

Desk based research was undertaken to identify:

- Locations of known telecommunications facilities;
- Known telecommunications fixed links;
- Known television broadcast and re-broadcast facilities;
- Known civil aviation safeguarding areas;
- Known military aviation infrastructure and training areas;
- Known locations and routes of fixed infrastructure, such as broadband masts.

12.1.2.2 Consultations

During the design stage of the propose development, a series of telecommunication companies and statutory bodies were consulted regarding the proposed turbine locations and potential impacts on transmission signal paths and aeronautical infrastructure. This included the forwarding of proposed grid co-ordinates, dimensions and elevations of the proposed turbines to the relevant bodies. A summary of the consultation responses is included in **Table 12.1.** Where no response was received, it is assumed that there are no issues of concern in respect of the proposed development.

Irish Aviation Authority (IAA)	No response.
An Garda Síochána	No response.
Eircom/TETRA Ireland	Confirmed that the proposed development should not interfere with the Eircom microwave radio.
RTE	No response.
Department of Defence	No objection to this proposed development. Air Corps request that the following is applied: • Turbines delineating corners of the wind farm should be illuminated by high intensity obstacle lighting. • Obstruction lighting elsewhere in a wind farm will be of a pattern that will allow the hazard be identified and avoided by aircraft in flight. • Obstruction lights used should be incandescent or of a type visible to Night Vision Equipment. Obstruction lighting fitted to obstacles must emit light at the near Infra-red (IR) range of the electromagnetic spectrum specifically at or near 850nanometres (nm) of wavelength. Light intensity to be of similar value to that emailed in the visible spectrum of light.

Meteor, Vodafone, 3G, National Ambulance Service, and Vodafone	No response.

Table 12.1: Summary of Consultation Responses

12.2 Description of the Existing Environment

A combination of desktop research and a site visit was undertaken to determine the extent of telecommunication and other infrastructure in the environs of the subject site. This included an analysis of the online mapping provided by Comreg. No telecommunications infrastructure likely to be impacted by the proposed development was identified. There is a micro-light flight centre located in Aughnacross, which is 0.8km from the proposed substation and 1.46km from Turbine 4.

12.3 Description of Likely Impacts

12.3.1 Construction Phase

There will be no sources of electromagnetic interference of sufficient strength emitted during the construction phase to impact on telecommunications infrastructure and, therefore, there is no likely impact.

12.3.2 Operation Phase

Radio waves and microwaves are used for a wide variety of telecommunication purposes. The rotating blades of wind turbines can potentially scatter electromagnetic signals causing interference. It is possible that wind turbines can also impact line-of-sight signals. UHF- and VHF-type signals such as the radio services operated by RTÉ can occasionally be affected by turbines. However, with the switchover to a digital television, the likelihood of any impact is negligible.

Having consulted with the telecommunication service providers and statutory bodies, and with reference to the unconstrained nature of the subject site, it is not anticipated that there will be any likely impacts on telecommunications resulting from the proposed development.

12.4 Mitigation & Monitoring Measures

12.4.1 Construction Phase

No mitigation required.

12.4.2 Operational Phase

The developer shall continue monitor the impact of the proposed development on telecommunications. In the unlikely event that any interference arises, this can be overcome by the installation of signal amplifiers, active deflectors or relay transmitters.

All electrical components, equipment, apparatus and systems are required by Irish and European law to comply with the EMC Directive 89/336/EEC. This will ensure that the levels of electromagnetic emissions from these devices will be well below those specified in the ICNIRP 1998 Guidelines and in the EU Council Recommendation 1999/519/EC.

The developer will keep all operators and statutory bodies informed of any changes to the layout, should these occur following conditions of consent, immaterial design/dimension changes or micro-siting. As is standard practice, the developer will consult with the IAA to ensure compliance with all requirements. The developer will also adhere to the requirements of the Department of Defence.

The developer to sign a protocol with RTÉ NL and will assume responsibility for any remedial measures which may be required as a result of any impact on RTÉ's network.