Table 5.3.4-3

Potential Frequencies Affected by Wind Energy Facilities

Freq Range	Description	Primary Uses a/	Interference Potential b/	Area Affected c/	Comment
3 Hz–30 Hz	Extremely Low Frequency	Military, Pipeline Inspection	0		Wavelength > turbine height
30 Hz–300 Hz	Super Low Frequency	Military	1		Wavelength > turbine height
300 Hz–3 KHz	Ultra Low Frequency	Communications in mines, Earthquake research	1		Wavelength > turbine height
3 KHz–30 KHz	Very Low Frequency	Military; old navigation beacons	1		Wavelength > turbine height
30 KHz–300 KHz	Low Frequency	Aircraft beacons, navigation (LORAN), information & weather	1		Wavelength > turbine height
300 KHz–3 MHz	Medium Frequency	Navigation Safety; AM Broadcast Band	2 (mitigation probably not necessary)	Radius of 800 meters	Time varying signals, AGC should compensate
3 MHz–30 MHz	High Frequency	Short wave Broadcast	2 (mitigation probably not necessary)	Radius of 800 meters	Time varying signals, AGC should compensate
30 MHz–300 MHz	Very High Frequency	TV, FM Broadcast, Land Mobile, VOR, Aircraft, Public Safety	3 (mitigation possible)	Radius of 900 meters	Some impact to VHF digital TV broadcast
300 MHZ-3 GHz	Ultra High Frequency	Broadcast TV, Cellular, Public Safety, Land Mobile, Microwave	3 (mitigation possible)	Radius of 800 meters	Some impact to UHF digital TV broadcast
3 GHz-30 GHz	Super High Frequency	Wireless LANs, Satellite, Radar, uplink/downlinks & terrestrial high-speed "backhauls".	2 (mitigation probably not necessary) d/	Radius of 1,000 meters	Some impact to downlinks; LANs not protected
30 GHz-300 Ghz	Extremely High Frequency	Radio Astronomy	1		Wavelength much smaller than turbine height

a/ This is not an inclusive list, but identifies the high-use services that are most sensitive to interference.
b/ 0 to 1 = negligible, 2 = minor, 3 = moderate, 4 = significant, 5 = severe. Note: please supply definitions and examples of the desired categories. The provided levels of impact have been used by us for 25 years, and some study would be required to set up a proper mapping.
c/ For reference, the wind turbines are spaced approximately 629 meters apart.
d/ Subject to review by the FAA/DoD Liaison Long Range Radar Joint Program Office (JPO).