

RESOLUTION 612 (REV.WRC-12)

Use of the radiolocation service between 3 and 50 MHz to support oceanographic radar operations

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that there is increasing interest, on a global basis, in the operation of oceanographic radars for measurement of coastal sea surface conditions to support environmental, oceanographic, meteorological, climatological, maritime and disaster mitigation operations;
- b) that oceanographic radars are also known in parts of the world as HF ocean radars, HF wave height sensing radars or HF surface wave radars;
- c) that oceanographic radars operate through the use of ground-waves intended to propagate over the sea;
- d) that oceanographic radar technology has applications in global maritime domain awareness by allowing the long-range sensing of surface vessels, which provides a benefit to the global safety and security of shipping and ports;
- e) that operation of oceanographic radars provides benefits to society through environmental protection, disaster preparedness, public health protection, improved meteorological operations, increased coastal and maritime safety and enhancement of national economies;
- f) that oceanographic radars have been operated on an experimental basis around the world, providing an understanding of spectrum needs and spectrum sharing considerations, as well as an understanding of the benefits these systems provide;
- g) that performance and data requirements dictate the regions of spectrum that can be used by oceanographic radar systems for ocean observations;
- h) that below approximately 30 MHz, unintended skywave propagation from oceanographic radar may occur when appropriate propagation conditions exist,

recognizing

- a) that oceanographic radars have been operated under provision No. 4.4 since the 1970s by several administrations;
- b) that developers of the systems in *recognizing a)* have implemented techniques to make the most efficient use of the spectrum and mitigate interference to other radio services;

c) that protection of stations of existing services from interference caused by oceanographic radars could be ensured if the interfering signal at the receiving antenna location, assuming rural and quiet rural man-made and natural noise characteristics as defined in Recommendation ITU-R P.372-10, does not result in an *I/N* ratio of more than -6 dB, and if this value was used to calculate the minimum separation distances for coordination between an oceanographic radar and a potentially affected country;

d) that for the purpose of protecting existing services from harmful interference, the impact of oceanographic radars via ground-wave propagation can be checked by Report ITU-R M.2234, based on Recommendation ITU-R P.368-9,

resolves

1 that, when oceanographic radars are brought into use after 17 February 2012 and notified to the Bureau, the notification shall be in accordance with No. **11.2** of the Radio Regulations and shall contain the station identification (call sign);

2 that the peak e.i.r.p. of an oceanographic radar shall not exceed 25 dBW;

3 that each oceanographic radar station shall transmit a station identification (call sign) on the assigned frequency, in international Morse code at manual speed, at the end of each data acquisition cycle, but at an interval of no more than 20 minutes;

4 that oceanographic radars should, where applicable, use techniques that allow multiples of such radars to operate on the same frequency, reducing to a minimum the spectral occupancy of a regional or global deployment of radars;

5 that oceanographic radars should use directional antennas, where applicable and as required, to facilitate sharing, thereby reducing the e.i.r.p. in the direction of the transmit antenna backlobe;

6 that the separation distances between an oceanographic radar and the border of other countries shall be greater than the distances specified in the following table, unless prior explicit agreements from affected administrations are obtained:

Frequency (MHz)	Land path (km)		Sea or mixed path (km)	
	Rural	Quiet rural	Rural	Quiet rural
5 (± 1 MHz)	120	170	790	920
9 (± 1 MHz)	100	130	590	670
13 (± 1 MHz)	100	110	480	520
16 (± 1 MHz)	80	100	390	450
25 (± 3 MHz)	80	100	280	320
42 (± 3 MHz)	80	100	200	230