

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
OCEAN SIGNAL LTD.)	WT Docket No. 10-160
)	
Request for Waiver to Allow Certification and Use)	
of a Dual Band Marine Radar Target Enhancer)	

ORDER

Adopted: December 29, 2010

Released: December 30, 2010

By the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau:

1. *Introduction.* This *Order* grants a request for waiver to permit the certification and use of maritime equipment that is not authorized by Part 80 of the Commission's Rules. On June 21, 2010, Ocean Signal Ltd. (Ocean Signal), on behalf of Aquamate Products Ltd., filed a request for waiver of Section 80.375(d) of the Commission's Rules¹ to permit equipment certification and use of its dual band, S-band (2.9-3.1 GHz) and X-band (9.3-9.5 GHz), Radar Target Enhancer (RTE).² For reasons set forth below, we grant Ocean Signal's request for waiver.

2. *Background.* RTEs are used on small vessels to increase their detection and visibility to radar by receiving a radar signal from a passing vessel, amplifying the signal, and re-transmitting a stronger return signal. Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) requires ships of less than 150 tons, if practicable, to have "a radar reflector, or other means, to enable detection by ships navigating by radar at both 9 and 3 GHz,"³ but Section 80.375(d), which governs ship and shore radar and transponder frequencies above 2400 MHz, does not provide for the use of RTEs. Ocean Signal therefore seeks a waiver of Section 80.375(d). It states that its RTE will advance marine navigation safety by enhancing radar detection and visibility of small vessels.⁴

3. Performance standards for radar reflectors have been issued by the International Maritime Organization (IMO) in Resolution MSC.164(78),⁵ the International Organization for Standardization (ISO) in ISO 8729-2,⁶ and the International Telecommunications Union (ITU) in ITU-R M.1176.⁷ Except for the ISO standard, these standards are recognized in Chapter V of the SOLAS Convention carriage and

¹ 47 C.F.R. § 80.375(d).

² Request for Waiver (filed June 21, 2010) (Waiver Request). On August 9, 2010, we sought comment on Ocean Signal's waiver request. *See* Wireless Telecommunications Bureau Seeks Comment on Request by Ocean Signal Ltd. for Waiver to Allow Certification and Use of a Dual Band Marine Radar Target Enhancer, *Public Notice*, 25 FCC Rcd 10696 (WTB MD 2010). No comments were received.

³ *See* Consolidated Text to the International Convention for the Safety of Life at Sea (SOLAS), 2009, Chpt. V, Regulation 19.2.1.7.

⁴ *See* Waiver Request at 1.

⁵ IMO Resolution MSC.164(78), "Revised performance standards for Radar Reflectors," adopted May 17, 2004.

⁶ ISO 8729-2, "Ship and marine technology – Marine radar reflectors – Part 2: Active type" (May 2009).

⁷ ITU-R M.1176, "Technical parameters of radar target enhancers" (1995).

performance standard regulations.⁸

4. Ocean Signal states that its RTE meets these standards, with one exception. ITU-R M.1176 requires a minimum gain of 50 dB for both S-band and X-band RTEs. Ocean Signal argues, however, that this constitutes a discrepancy between ITU-R M.1176 and Resolution MSC.164(78), because requiring 50 dB gain for S-band RTEs results in an antenna that is both too large to be deployed on smaller vessels, and reflects the radar signal a significantly longer distance than required by Resolution MSC.164(78).⁹

5. *Discussion.* Section 1.925(b)(3) of the Commission's Rules provides that we may grant a waiver if it is shown that (a) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and grant of the requested waiver would be in the public interest; or (b) in light of unique or unusual circumstances, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.¹⁰ We conclude that the waiver of the Commission's Rules requested by Ocean Signal is warranted under the circumstances presented. Specifically, we conclude that the underlying purpose of the subject Commission rule would not be served by application to the instant case, and grant of the requested waiver would be in the public interest. RTEs provide small vessels increased detection and visibility to radar received from a passing vessel. Use of RTEs will serve the underlying purpose of Section 80.375, which is to authorize operation of ship and shore radar stations, and will serve the public interest by enhancing maritime safety.

6. Finally, we agree with Ocean Signal that its RTE should not be required to meet the all of the technical standards in ITU-R M.1176, at least with respect to non-SOLAS vessels. We believe that requiring a minimum gain of 50 dB for the S-band would render the device unsuitable for its intended use by necessitating an antenna that is too large to be practical for small, non-SOLAS, vessels. Instead, Ocean Signal's RTE shall be required to meet the S-band technical standards in IMO Resolution MSC 164(87) in lieu of the minimum gain for the S-band required by the ITU standard for non-SOLAS vessels.¹¹ The device must meet all other applicable IMO, ISO, and ITU requirements.

7. All applications for equipment authorization pursuant to this waiver must be submitted to the FCC Laboratory. A copy of this *Order* shall be submitted with the equipment authorization application.

8. Accordingly, IT IS ORDERED, pursuant to Sections 4(i) and 303(i) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(i), and Section 1.925 of the Commission's Rules, 47 C.F.R. § 1.925, that the Request for Waiver of Section 80.375(d) of the Commission's Rules, 47 C.F.R. § 80.375(d), filed by Ocean Signal Ltd. on June 21, 2010, IS GRANTED to the extent specified herein.

⁸ See Consolidated Text to the International Convention for the Safety of Life at Sea (SOLAS), 2009, Chpt. V, Regulations 18 and 19.

⁹ See Waiver Request at 2. Ocean Signal calculates that the minimum antenna size would be seventy-nine square meters.

¹⁰ 47 C.F.R. § 1.925(b)(3); see also *WAIT Radio v FCC*, 418 F. 2d 1153, 1159 (D.C. Cir. 1969).

¹¹ The determination of whether this equipment complies with SOLAS carriage requirements will have to be made by the United States Coast Guard.

9. This action is taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Scot Stone
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