

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

In the Matter of)
)
ROCKWELL COLLINS, INC.)
)
Request for Waiver Concerning Certification of)
Aviation Transceivers Capable of Transmitting)
Outside the 108-137 MHz Civil Aviation Band and)
Waiver of Section 87.173(b) of the Commission's)
Rules Governing Assignable Carrier Frequencies in)
the Aviation Services)

ORDER

Adopted: February 3, 2003

Released: February 4, 2003

By the Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. Under consideration is a request for waiver filed by Rockwell Collins, Inc. (Rockwell Collins) on November 15, 2002.¹ Rockwell Collins seeks waiver of Sections 2.106 and 87.173 of the Commission's Rules² in order to obtain equipment certification for its VHF aviation transceiver to extend the upper limit of the transceiver's transmit range to 150.8 MHz. Given that this frequency range extension falls above the 136.975 MHz upper limit of the VHF aviation band (civil aviation band) as specified in the Commission's Rules,³ a waiver is needed to obtain certification for VHF aviation transceivers with such an extended range. Additionally, Rockwell Collins seeks waiver of Section 87.173(b) of the Commission's Rules⁴ to permit type certification of VHF aircraft transceiver capable of transmitting on both the 25 kHz spaced channels currently authorized pursuant to Section 87.173(b) of the Commission's Rules and on the 8.33 kHz spaced channels that are used in certain countries in Europe and in the United Kingdom. Such transceivers are known as dual spacing transceivers. For the reasons discussed herein, we grant the requested waiver regarding operation of the Rockwell Collins transceiver with extended frequency range as well as 25 kHz and 8.33 kHz channel spacing, subject to the resolution

¹ Letter dated November 15, 2002 from Linda C. Sadler, Director, Governmental and Regulatory Affairs, Rockwell Collins, Inc., to D'wana R. Terry, Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau (*Rockwell Letter*).

² 47 C.F.R. §§ 2.106, 87.173.

³ The civil aviation band extends from 108 MHz to 136.975 MHz. The frequencies from 108 MHz to 117.95 are used for land-based navigation aids and aircraft may not transmit on these frequencies. Thus, the Commission's rules provide for aviation transceiver transmit capability only over the range 118 MHz to 136.975 MHz. See 47 C.F.R. §§ 87.173(b), 87.475(b)(4), (5).

⁴ 47 C.F.R. § 87.173(b).

of a pending *Notice of Proposed Rule Making* that proposes to amend our rules to permit the type certification of transceivers with a range up to 150.8 MHz and the type certification of dual spacing transceivers.⁵ We note, however, that this *Order* does not authorize aircraft to transmit on 8.33 kHz spaced channels within airspace of the United States, its territories or the Commonwealth of Puerto Rico, but is limited to permitting type certification of specified transceivers capable of transmitting on both 25 kHz spaced channels in the United States and on the 8.33 kHz spaced Aeronautical Mobile Service (AMS) channels used in certain other countries.

II. BACKGROUND

2. Section 87.39 of the Commission's Rules requires that (1) United States-registered aircraft employ certified radios; and (2) to be certified, aircraft radios must meet the technical requirements of Subpart D of Part 87 of the Commission's Rules.⁶ Section 87.173(b) in Subpart D contains a list of assignable carrier frequencies or frequency bands and includes carrier frequencies in the civil aviation band.⁷ Rockwell Collins requests that certification be granted for transceivers with the capability to transmit in both the civil aviation band and in the following bands that fall immediately above the civil aviation band:⁸

Frequency Band	United States Allocations
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138-144 MHz	Government fixed and mobile. ⁹
148-149.9 MHz	Non-government: Mobile Satellite (earth to space). Government: fixed, mobile and mobile satellite (earth to space).
150.05-150.8 MHz	Government fixed and mobile. ¹⁰

⁵ See Review of Part 87 of the Commission's Rules Concerning the Aviation Radio Service, *Notice of Proposed Rule Making*, WT Docket No. 01-289, 16 FCC Rcd 19005, 19016 ¶ 24, 19017 ¶ 29 (2001) (*Part 87 NPRM*).

⁶ 47 C.F.R. § 87.39. See also 47 C.F.R. § 87.145.

⁷ See 47 C.F.R. § 87.173(b). The United States assignments correspond to those recognized internationally by the International Civil Aviation Organization (ICAO). See International Standards and Recommended Practices, Aeronautical Telecommunications, Annex 10 to the Convention on International Civil Aviation, Table 4-1, International Civil Aviation Organization, Montreal, 1997 (ISRP).

⁸ See 47 C.F.R. § 2.106. Unlike previous requests, Rockwell Collins does not seek certification for the 137-138 MHz, 144-148 MHz, 149.9-150.05 MHz, or 150.8-152 MHz bands. *Rockwell Letter* at 3. Rockwell notes that modern technology allows the transceivers to be programmed to not transmit in these bands. *Id.*

⁹ In the 138-144 MHz band, fixed and mobile services are limited primarily to operations by the military services. See 47 C.F.R. § 2.106 n.G30. The international table of frequency allocations lists aeronautical mobile operations as a permissible use in the frequency band 138-144 MHz in International Telecommunications Union (ITU) Region 1. ITU Region 1 encompasses, generally, Europe, Asia and Africa. See 47 C.F.R. § 2.104.

¹⁰ In the 150.05-150.8 MHz band, fixed and mobile services are limited primarily to operations by the military services. See 47 C.F.R. § 2.106 n.G30.

In support of its request, Rockwell Collins submits that there are air traffic control communications conducted by military radio facilities in the 138-144 MHz and 150.05-150.8 MHz government bands and in the 148-149.9 MHz band which is shared by government and non-government users. Rockwell Collins notes that included among these aeronautical communications, in addition to those of the military, are communications with aircraft of the Civil Reserve Air Fleet that, in emergency conditions, serve a military transport role.¹¹ Rockwell Collins further notes that civil aircraft that have the occasion to use military airfields, *e.g.*, in connection with the transport of "VIP" passengers such as heads of state, also engage in aeronautical communications in the subject frequency bands.¹²

3. In March of 1997, the International Civil Aviation Organization (ICAO), an international body operating under the auspices of the United Nations, amended its International Standards and Recommended Practices to incorporate a channel plan specifying 8.33 kHz channel spacings in the AMS.¹³ The 8.33 kHz channel plan was adopted to alleviate the shortage of VHF Air Traffic Control (ATC) channels experienced in western Europe and in the United Kingdom.¹⁴ Seven western European countries and the United Kingdom implemented the 8.33 kHz channel plan in 1999.¹⁵ Accordingly, aircraft operating in the airspace of these countries must have the capability of transmitting and receiving on the 8.33 kHz spaced channels.¹⁶

4. The list of assignable carrier frequencies or frequency bands in Subpart D of Part 87 includes carrier frequencies in the VHF aircraft band used for ATC communications (namely, 117.975 MHz to 136.975 MHz).¹⁷ The listed frequencies are based on 25 kHz spacing. Currently, there is no provision in the Commission's Rules for operating on 8.33 kHz spaced channels as envisioned by the ICAO channel plan. Accordingly, type certification of dual spacing transceivers may not be obtained absent a waiver of Section 87.173(b) of the Commission's Rules.

III. DISCUSSION

¹¹ Such aircraft fly in both civil and military airspace and under both civil and military jurisdictions. *See Rockwell Letter* at 3 (citing USAF Fact Sheet, Civil Reserve Air Fleet, http://www.af.mil/news/factsheets/Civil_Reserve_Air_Fleet.html, May 1999).

¹² *Rockwell Letter* at 2; *see also Part 87 NPRM*, 16 FCC Rcd at 19017 ¶ 28.

¹³ *See ISRP*, Annex 10 to the Convention on Civil Aviation, Vol. V, Aeronautical Radio Frequency Spectrum Utilization, Amendment No. 72, International Civil Aviation Organization, Montreal, 1997. When the ICAO adopts an International Standard and Recommended Practice, it is binding on the contracting countries. *See Amendment of Part 87 of the Commission's Rules to Establish Technical Standards and Licensing Procedures for Aircraft Earth Stations, Report and Order*, PR Docket No. 90-315, 7 FCC Rcd 5895, 5896 n.12 (1992). However, contracting countries are not required to implement 8.33 kHz spacing if their current channel spacing standards provide an adequate number of frequencies. *ISRP*, Annex 10 to the Convention on Civil Aviation, Vol. V, Aeronautical Radio Frequency Spectrum Utilization, Amendment No. 72, International Civil Aviation Organization, Montreal, 1997, at 6, para. 4.1.2.1 (note).

¹⁴ *See Plan for the 8.33 kHz Channel Spacing Implementation in Europe* (8.33 kHz Spacing Plan), Edition 2.0, European Civil Aviation Conference, Dec. 2, 1996 at 2.

¹⁵ The implementing countries are Austria, Belgium, France, Germany, Luxembourg, Netherlands, Switzerland and the United Kingdom. *Id.*

¹⁶ *See Part 87 NPRM*, 16 FCC Rcd at 19016 ¶ 24.

¹⁷ The list of frequencies is contained in the table in Section 87.173(b) of our Rules. *See* 47 C.F.R. § 87.173(b).

5. Section 1.925 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.¹⁸ We find that the waiver requested by Rockwell Collins is warranted under the circumstances presented. Specifically, we conclude that the underlying purpose of the subject rules would not be served by application to the instant case and grant of the requested waiver would be in the public interest. We note, as an initial matter, that we have granted similar waivers regarding aviation transceivers with an extended frequency range¹⁹ and dual spacing transceivers.²⁰

6. With regard to aviation transceivers operating on extended frequency range and transmitting on VHF military frequencies, we note that Section 87.187(a) of the Commission's Rules²¹ permits aircraft stations to use frequencies assigned to government aeronautical stations. We believe that Rockwell Collins has established that the public interest would be served by grant of a waiver of Section 87.173 of the Rules²² to permit certifications of Rockwell Collins aircraft transceivers capable of operating on government frequencies in addition to the standard VHF civil aviation frequencies specified in Section 87.173. We believe that the requested waiver could enhance air safety by allowing civil aircraft to communicate with military air traffic control personnel when using military airfields. For example, in the case of the Civil Reserve Air Fleet, the requested waiver could contribute to national security when civil aircraft are employed to meet military airlift requirements. Thus, we conclude that Rockwell Collins has sufficiently demonstrated that grant of the waiver for certification of extended frequency range transceiver is warranted.

7. With regard to dual spacing transceivers, as we have noted previously, two industry standard setting organizations, RTCA, Inc. (RTCA) and Aeronautical Radio, Inc. (ARINC), have approved United States VHF transceiver standards that include 8.33 kHz spacing.²³ Moreover, the Federal Aviation Administration (FAA) has issued Technical Standard Orders (TSO) based on these industry standards.²⁴ As we noted elsewhere, aircraft must have the capability of communicating reliably

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

¹⁹ *See Rockwell Collins, Inc., Order*, 14 FCC Rcd 3340 (WTB PSPWD 1999).

²⁰ *See Wulfsberg Electronics Division, Order*, 15 FCC Rcd 10992 (WTB PSPWD 2000); Thomson-CSF Communications, *Order*, 15 FCC Rcd 10048 (WTB PSPWD 2000) (*Thomson Order*); Thomson-CSF Communications, *Order*, 14 FCC Rcd 3255 (WTB PSPWD 1988) (*Garmin Order*); Honeywell, Inc. Commercial Flight Systems Group, *Order*, 13 FCC Rcd 16785 (WTB PSPWD 1998); Rockwell Collins, Inc., *Order*, 13 FCC Rcd 2954 (WTB PSPWD 1998) (*Rockwell Order*).

²¹ 47 C.F.R. § 87.187(a).

²² 47 C.F.R. § 87.173.

²³ *See, e.g., Garmin Order*, 14 FCC Rcd at 3255 ¶ 2 (citing *Minimum Performance Standards for Airborne Communications Equipment Operating Within the Frequency Range 117.975 - 137.00 MHz*, RTCA DO-186(a); ARINC Characteristics 566A, 716 and 750).

²⁴ *See FAA TSO-C37d, VHF Radio Communications Transmitting Equipment Operating Within the Radio Frequency Range 117.975 to 137.000 Megahertz*, (9/23/92); and *FAA TSO-C38d/C128, VHF Radio Communications Receiving Equipment Operating Within the Radio Frequency Range 117.975 to 137.000 Megahertz*. (Sept. 23, 1992).

with ground stations as directed, and on the frequencies specified, by air traffic controllers.²⁵ Further, we believe that this capability could be impaired if United States-registered aircraft were unable to communicate effectively with ATC facilities in certain European countries on 8.33 kHz spaced channels.²⁶ Accordingly, in the interest of air safety and operational efficiency, we have granted previous requests to allow type acceptance (now called type certification) of similar dual spacing transceivers. We believe the same factors that warranted grant of those waivers are present in the instant waiver requests submitted by Rockwell Collins.²⁷

8. Thus, we conclude that Rockwell Collins has shown good cause for waiver of Section 87.173(b) of the Commission's Rules to permit type certification of its transceivers. Therefore, we will grant the waiver requests, conditioned on the resolution of the *Notice of Proposed Rule Making* in INT Docket No. 01-289.

IV. ORDERING CLAUSES

9. Accordingly, IT IS ORDERED, pursuant to the authority of 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 Sections 2.106 and 87.173 of the Commission's Rules filed by Rockwell Collins, Inc. on November 15, 2002, IS GRANTED to the extent necessary to permit type certification of Rockwell Collins, Inc.'s aviation transceiver, FCC Identification Number AJL822-1872, subject to the resolution of the *Notice of Proposed Rule Making* in WT Docket No. 01-289.

10. 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

D'wana R. Terry,
Chief, Public Safety and Private Wireless Division
Wireless Telecommunications Bureau

²⁵ See, e.g., *Thomson Order*, 15 FCC Rcd at 10049 ¶ 4 (citing *Rockwell Order*, 13 FCC Rcd at 2956 ¶ 6).

²⁶ *Id.*

²⁷ See *Rockwell Collins Letter*.