

March 14, 2002

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington DC, 20554

Re: WT Docket No. 01-289  
Ex Parte Notice

Dear Ms. Salas,

On March 11, 2002, Rockwell Collins met with Mr. Jeffrey Tobias, Mr. Ghassan Khalek, Mr. John Schauble, Mr. Barry Ohlson, and via teleconference, Ms. Kimberly Kleppinger. We discussed the pending Commission's rule concerning the Aviation Radio Service. Attached is an outline of our discussion. This outline was provided to the meeting participants.

The following was discussed:

A. Rockwell Collins supports the following issues discussed in the Notice of Proposed Rulemaking:

1. Permitting certification of dual spacing transceivers without needing a waiver.
2. Permitting certification of extended range equipment without needing a waiver.
3. Adding J2D as an acceptable data emission type for enroute HF communications.
4. Allowing any emission type as long as the transmitter meets the other applicable technical specifications.

B) Rockwell Collins also discussed the following issues in which we support the goal of the Commission, but not how the Commission wants to achieve its goal.

1. Aeronautical Mobile Satellite (Route) Service

- Rockwell Collins suggested several technical changes to the proposed rules which are based upon RTCA document DO-210D and DO-210D, Change 1.

We also discussed paragraph 34 in the NPRM requesting comments on the FCC's proposal regarding emissions types for possible inclusion under Paragraph 26. Rockwell Collins supports the FCC accommodating all emission types as long as the relevant technical specifications are met (87.131 et seq).

2. Expanding the Authorization of AMS(R)S: Rockwell Collins believes the Commission should provide all bands in the AMS(R)S service with the same protections.
- 3 Equipment Certification issues: Rockwell Collins believes the current system of allowing the FAA to simultaneously review an equipment certification application shortens the time for applicants to receive certification and should be continued.

Pursuant to Section 1.1206 of the Commission's Rules, 47 C.F.R. 1.1206, an original and a copy of this letter have been submitted for inclusion in the public record. If you have any questions, please feel free to contact me at 703-516-8213.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Cramer". The signature is written in a cursive style with a large initial "J".

Joseph Cramer  
Rockwell Collins, Inc.

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# Changes to Part 87 of the Commission's Rules

March 11, 2002

Joe Cramer

**Rockwell  
Collins**

# Rockwell Collins

- **Rockwell Collins is a major manufacturer and integrator of avionics and Global Positioning System (GPS) equipment and systems for civilian and military markets. Rockwell Collins manufactures a complete line of civilian and military aeronautical radio communications, navigation, and surveillance equipment, including Instrument Landing System (ILS) receivers, L-Band Distance Measuring Equipment (DME), Traffic Alert and Collision Avoidance units, Air Traffic Control Radar Transponders, L-Band aeronautical mobile satellite communications equipment, C-Band Radio Altimeters, Microwave Landing System (MLS) receivers and weather radars.**

## Rockwell Collins Supports the Commission

### Equipment Certification Issues:

- **Accommodation of 8.33 kHz Channel Spacing Transmitters.**  
Rockwell Collins supports the Commission's proposal. However, should the Commission assume VDL Mode 3 will be the final waveform? The Commission should permit all waveforms as long as the transmitter meet the other applicable technical specifications. 87.131 et seq.
- **Certification of Equipment for the Civil Reserve Airfleet.**

### Adding Additional Emission Types:

- **Rockwell Collins supports the Commission's proposal to add J2D as an acceptable data emission type for enroute HF communications.**
- **Rockwell Collins also support the Commission's proposal to allow any emission type if the transmitters meet the other applicable technical specifications.**

## **Rockwell Collins Supports the Commission's Goal, but Offers Alternatives**

### **Aeronautical Mobile Satellite (Route) Service Issues**

- **Maximum Power:** -The reference point for measurement should remain at the input to the antenna subsystem. Measurements at this location will include the effects of the diplexer filter. Currently, it is impossible to achieve the spectrum characteristics proposed for 87.139 at the output of the high power amplifier (HPA).
- **Footnote 8.** Changing note 8 in 87.131 will provide more consistency between RTCA DO-210D and FCC rules.

### **Other Changes:**

- **In the range 1610.6 to 1613.8 MHz, 80 dBW/MHz should be “-80 dBW/MHz”** because this limit references a particular power level (dBW). DO-210D, Change 1, Section 2.2.4.2.5 does not express values as attenuation, but as dB referenced to the carrier, dB referenced to an absolute power level, or as power density. DO-210D therefore states its values with a “-“. Part 87 describes the table entry as “Attenuation” with respect to the carrier. Although this allows for positive values (a positive attenuation is equivalent to a negative gain), unfortunately, this approach is less clear when specifying absolute power. For example, dBW = dB referenced to 1 Watt. One could interpret 80dBW as being 80 dB attenuation from 1 Watt, but that is not standard engineering practice.
- **In the range 1660 to 1670 MHz, 49.5 dB/20 kHz should be “-49.5 dBW/20 kHz”** because this limit also references a particular power level (dBW). We also believe “W” may have mistakenly been left out of the table.
- **A new note should be inserted for frequency bands 1610.6 to 1613.8, 1626.5 to 1660 and 1660 to 1670.** This footnote should reflect Note 5 of DO-210D Change 1, which states: “This level is not applicable for Intermodulation products.” Without a specific exemption for Intermodulation Products, Section 87.139(i)(1) would require those same products to be down at least 60 dB.

- **A new note should be inserted for frequency bands 1626.5 to 1660 and 1660 to 1660.5. This footnote should reflect Note 6 of DO-210D, Change 1 which states: “The upper limit for the excess power for any narrow band spurious emission (excluding Intermodulation products within a 30 kHz measurement bandwidth shall be 10 dB above the power limit in this table.” The intent of this note in DO-210D, Change 1 was to establish a limit of –60dBc for narrow-band discrete spurious emissions in the transmit band while establishing a tighter limit of –70 dBc for emissions due to wide band noise. During the investigations leading to the adoption of DO-210D, Change 1, these limits were found to be the best achievable with current design technology.**
  
- **Expanding the Authorization of AMS(R)S: Rockwell Collins supports the authorization of the 1610-1626.5 and 5000-5150 MHz AMS(R)S bands under Part 87, if priority and real time preemptive access mechanisms are provided.**
  
- **Certification of Equipment Requiring An FAA Showing of Compatibility with the National Airspace System: Rockwell Collins agrees with the principle of streamlining the coordination between the Commission and the FAA. However, the Commission’s proposal will increase the time it takes to certify equipment.**

#### **Questions Regarding NPRM and Part 87:**

- **Under the Commission’s proposal, will all AMS(R)S bands not be able to receive priority and real time preemptive access protection?**
- **87.139. Is it possible to make this section more easily readable?**