

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Review of Part 87 of the Commission's Rules	)	WT Docket No. 01-289
Concerning the Aviation Radio Service	)	
	)	
	)	

**COMMENTS OF THE NATIONAL TELECOMMUNICATIONS  
AND INFORMATION ADMINISTRATION**

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## **EXECUTIVE SUMMARY**

The National Telecommunications and Information Administration (NTIA) supports the Federal Communications Commission (Commission) proceeding to update their rules governing aviation. The Commission's proposals clarify certain parts of the rules and will modify the existing rules to accommodate the changing technologies being used by aviation today and promote development and use of additional new technologies in the future. NTIA, on behalf of the Federal Aviation Administration (FAA), provides the following comments on specific rules in the Further Notice of Proposed Rulemaking.

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AND INFORMATION ADMINISTRATION**

The National Telecommunications and Information Administration (NTIA), an Executive Branch agency within the Department of Commerce, is the President's principal adviser on domestic and international telecommunications policy, including policies relating to the Nation's economic and technological advancement in telecommunications. Accordingly, NTIA makes recommendations regarding telecommunications policies and presents Executive Branch views on telecommunications matters to the Congress, the Federal Communications Commission (Commission), and the public. NTIA, through the Office of Spectrum Management, is also responsible for managing the Federal Government's use of the radio frequency spectrum. NTIA respectfully submits the following comments in response to the Commission's Further Notice of Proposed Rulemaking in the above-captioned proceeding.<sup>1</sup>

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<sup>1</sup> *Review of Part 87 of the Commission's Rules for Concerning the Aviation Radio Service*, Report and Order and Further Notice of Proposed Rulemaking (FNRPM), WT Docket No. 01-289, FCC 03-238, 18 F.C.C. Rcd. 21432 (2003).

## INTRODUCTION

In this FNPRM, the Commission reviews and proposes updating certain sections of Parts 2, 80 and 87 of its Rules. In response to the FNPRM, the Federal Aviation Administration (FAA) provided its views to NTIA on ways to enhance the effectiveness of the Commission's changes and proposed some additional ones regarding identification of the "frequency advisory committee" referred to in the current regulations and the FAA's ground control requirements. Taking into consideration the FAA's views, NTIA offers the following comments on the FNRPM.

### **I. THE COMMISSION SHOULD ADD NEW RULES TO PARTS 2 AND 87 TO ACCOMMODATE THE USE OF THE 978 MHz FREQUENCY BY THE UNIVERSAL ACCESS TRANSCEIVER (UAT).**

The Commission seeks comment on whether to add new rules to accommodate the use of the 978 MHz frequency by the Universal Access Transceiver (UAT), a data link technology that has been developed to provide Automatic Dependent Surveillance.<sup>2</sup> Specifically, the Commission asks commenters to consider whether there is a need to make any corresponding changes to the Section 2.106 Table of Frequency Allocations.<sup>3</sup>

NTIA concludes that there is no need for a change to Section 2.106 Table of Frequency Allocations. UAT operations are authorized under the existing aids to navigation. However, NTIA believes that Part 87 needs to make a clear distinction between the bandwidth used to measure spurious emissions (100 kHz) and the occupied bandwidth (bandwidth containing 99% of transmitter power). NTIA recommends the following changes to section 87.139 of the Commission's Rules, 47 C.F.R. § 87.139, to make that distinction clear.

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<sup>2</sup> FNPRM at ¶ 77.

<sup>3</sup> *Id.*

**§ 87.139 Emission limitations.**

\* \* \* \* \*

(1) For Universal Access Transceiver transmitters, the average emissions measured in a 100 kHz bandwidth must be attenuated below the maximum emission level by at least:

Frequency (MHz)	Attenuation (dB)
+/- 0.5	0
+/- 1.0	18
+/- 2.25	50
+/- 3.25	60

The mask shall be defined by drawing straight lines through the above points on semi-log paper. ~~semi paper.~~

(2) Universal Access Transceiver transmitters with an output power of 5 Watts or more must limit their emissions by at least  $43 + 10 \log (P)$  dB on any frequency removed from the assigned frequency by more than 250% of the occupied bandwidth. ~~Occupied bandwidth is defined as 99% of the signal power.~~ Those emissions shall be measured with a bandwidth of 100 kHz. P in the above equation is the average transmitter power measured within the occupied bandwidth in Watts.

(3) Universal Access Transceiver transmitters with less than 5 Watts of output power must limit their emissions by at least 40 dB relative to the carrier peak on any frequency removed from the assigned frequency by more than 250% of the occupied bandwidth. ~~Occupied bandwidth is defined as 99% of the signal power.~~ Those emissions shall be measured with a bandwidth of 100 kHz.

In the Frequency Table contained in section 87.173(b) of the Commission's Rules, 47 C.F.R. § 97.173(b), the "class of station" for the frequency 978.000 MHz should include aeronautical fixed (FA) to accommodate the UAT ground stations. Using the FA and aeronautical mobile (MA) class of stations would be consistent with the NTIA's authorization of this frequency for UATs.

NTIA supports the Commission's proposed addition of a new paragraph (f) to Section 87.345 of its Rules, 47 C.F.R. § 87.345, dealing with authorization of

transmission by aeronautical utility mobile stations for UAT service. NTIA, however, urges the Commission to also add the following new paragraph to this section:

(g) Transmissions by aeronautical utility mobile stations for standardized aeronautical systems supporting automatic dependent surveillance-broadcast are authorized.

**II. THE COMMISSION SHOULD ENSURE THAT ANY ALLOCATION FOR AMS(R)S, INCLUDE REGULATORY PROVISIONS FOR PRIORITY AND PREEMPTION FOR AMS(R)S COMMUNICATIONS OVER ALL OTHER COMMUNICATIONS IN THE BAND.**

The Commission seeks comment on various proposals to liberalize the Part 87 technical rules.<sup>4</sup> Specifically the Commission seeks comment on the proposal by Rockwell Collins and Inmarsat to amend the technical rules to permit any emission type the licensee chooses, or to eliminate all requirements as to specific data rates and modulation types. Rockwell also seeks bandwidth limits to accommodate high data rate services such as Swift64, Inmarsat's new 64 kbps service. The Commission asks if elimination of the specified requirement is appropriate only for the very high frequency (VHF) aeronautical mobile satellite (route) service (AMS(R)S) band, or whether it should be extended to additional spectrum in the VHF aeronautical band, or perhaps to the whole band.<sup>5</sup>

NTIA believes that any allocation for AMS(R)S must include regulatory provisions for priority and preemption for AMS(R)S communications over all other communications in the band. This is crucial to protect safety-of-life communications from potential life threatening delays caused by a lack of an available channel. Additionally, any new AMS(R)S system needs to be internationally standardized with

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<sup>4</sup> *Id.* at ¶¶ 78-79.

<sup>5</sup> *Id.* at ¶ 78.

International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPs) before it is implemented.

### **III. THE COMMISSION SHOULD NOT PERMIT CDMA EMISSIONS IN THE VHF AMS(R)S BAND.**

The Commission also seeks comment on Boeing's proposal to amend its rules to accommodate code division multiple access (CDMA) emissions in the VHF AMS(R)S band.<sup>6</sup> Due to the extreme congestion of the AM(R)S channels in this band, and the FAA plans to implement a time division multiple access-based terrestrial system, NTIA cannot support the proposal to allow CDMA emissions in this band.

The only VHF allocation currently for AMS(R)S is RR 5.198, which allocates AMS(R)S on a secondary basis to the band 117.975-136 MHz. That footnote appears in the ITU Table of Allocations, and in the United States Table of Allocations for Government (NTIA revision January 2004) and non-Government (FCC revision April 13, 2004). NTIA recommends the deletion of RR 5.198 from the U.S. Table of Allocations.<sup>7</sup>

### **IV. THE COMMISSION SHOULD NOT AMEND THE PART 87 RULES TO ENABLE USE OF NGSO NETWORKS FOR THE PROVISION OF AMS(R)S AT THIS TIME.**

Based on a proposal by Boeing, the Commission seeks comment on whether to updates its rules to enable use of non-geostationary satellite orbit (NGSO) networks for the provision of AMS(R)S.<sup>8</sup> The Commission specifically asks commenters to consider whether it would be premature to do so before RTCA and ICAO finalize their standards.<sup>9</sup>

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<sup>6</sup> *Id.* at ¶ 79.

<sup>7</sup> NTIA will propose this change to the International Radio Regulations in the WRC-07 preparation process.

<sup>8</sup> FNPRM at ¶ 80.

<sup>9</sup> *Id.*

NTIA believes that any use of AMS(R)S would employ ICAO SARPS. Incorporation of rules for NGSO AMS(R)S prior to SARPS adoption would be premature, and might result in provisions inconsistent with provisions of the SARPS adopted at a later date. Priority and preemption of AMS(R)S over all other mobile satellite service (MSS) messages must be incorporated into the rules for NGSO as well. For these reasons, NTIA does not support amending Part 87 to authorize NGSO networks for AMS(R)S at this time.

**V. THE COMMISSION SHOULD NOT BROADEN THE AMS(R)S RULES BEYOND THE INMARSAT SYSTEM AT THIS TIME.**

In response to proposals from Boeing and ARINC/ATA, the Commission seeks comment on whether it should amend its rules to take into account the operating parameters of non-Inmarsat systems. The Commission also seeks comment on Boeing's alternative proposal to amend its rules to specify that the existing technical requirements apply only to aeronautical earth stations operating with the Inmarsat system.<sup>10</sup>

NTIA believes that the Commission should refrain from amending its rules in this regard until ICAO SARPS and RTCA Inc. standards have been adopted. Since SARPS are not available for any other AMS(R)S system and it is uncertain that such SARPS will be accepted, NTIA does not support broadening the AMS(R)S rules beyond Inmarsat at this time.

**VI. THE COMMISSION SHOULD NOT INCLUDE THE BANDS 1610-1626.5 MHz AND 5000-5150 MHz FOR AMS(R)S IN THE PART 87 RULES.**

The Commission requests comments on whether additional technical requirements for AMS(R)S if the Commission ultimately authorizes AMS(R)S in the

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<sup>10</sup> *Id.* at ¶ 81.

1610-1626.5 MHz and 5000-5150 MHz bands under Part 87.<sup>11</sup> While NTIA would not oppose authorizing AMS(R)S in these bands under Part 87, it does believe that specific rules, consistent with any ICAO SARPS for those systems in those bands, would be needed. Because no SARPS exists for AMS(R)S in either band, NTIA does not support the inclusion of these bands into the FCC Part 87 rules at this time.

#### **VII. THE COMMISSION SHOULD NOT PERMIT AMS(R)S IN THE 2 GHz BAND.**

In response to a Boeing proposal that the Commission codify its policy of permitting AMS(R)S in any MSS band, specifically the 2 GHz band, in addition to the 1610-1626.5 MHz and 5000-5150 MHz bands, the Commission seeks comment on whether it should adopt technical rules under Part 87 to govern AMS(R)S in the 2 GHz band. NTIA's views on adoption of technical rules for AMS(R)S in the 2 GHz band are the same as for the 1610-1626.5 and 5000-5150 MHz bands. While NTIA would not oppose authorizing AMS(R)S in the 2 GHz band under Part 87, it does believe that specific rules, consistent with any ICAO SARPS for those systems in this band, would be needed. Because no SARPS exists for AMS(R)S for the 2 GHz band, and implementation of AMS(R)S needs to be in spectrum with world-wide allocation, NTIA does not support the inclusion of this band in the Part 87 rules at this time.

#### **VIII. NTIA CONCURS WITH THE PROPOSAL TO REMOVE THE RADIONAVIGATION ALLOCATION IN THE Ku-BAND.**

In response to a proposal from Boeing, the Commission proposes to remove the allocation for radionavigation in the 14000-14200MHz band (Ku Band) from the Table of

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<sup>11</sup> *Id.* at ¶ 82.

Frequency Allocations and the Part 87 Rules.<sup>12</sup> NTIA concurs with the Commission's proposal to remove this allocation from the Ku Band.

**IX. THE COMMISSION SHOULD CONTINUE TO SUPPORT THE FAA PROPOSAL TO STREAMLINE HF PROVISIONS TO RELY ON APPENDIX 27 FOR AM(R)S FREQUENCIES.**

Consistent with the FAA's previous proposal on this issue, the Commission proposes to amend the frequency table in section 87.173(b) of its Rules, 47 C.F.R. § 87.173(b), to replace the existing frequency listings in the HF AM(R)S band with entries for specific band segments and to delete the table of international HF frequencies in section 87.263(d) of its Rules, 47 C.F.R. § 87.263(d), replacing it with a note referring to Appendix 27 of ITU Radio Regulations.<sup>13</sup> NTIA strongly supports the Commission's conclusion that adopting the FAA proposal would further harmonization of its Rules with international standards and otherwise would be in the public interest.

**X. THE COMMISSION SHOULD ALLOW FAA USE OF 118-121.4, 123.6-128.8 AND 132.025-135.975 MHz FOR AIR TRAFFIC CONTROL.**

Consistent with the FAA's request that the Commission amend section 87.421 of its Rules, 47 C.F.R. § 87.421, to make certain frequency bands available for ground control communications, the Commission proposes to permit the FAA to use the 118-121.4 MHz, 123.6-128.8 MHz, and 132.025-135.975 MHz available for air traffic control (ATC) communications, including ground control communications. NTIA strongly supports this proposal which will provide the operational flexibility needed to relieve congestion in the VHF air traffic control channels.

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<sup>12</sup> *Id.* at ¶ 85.

<sup>13</sup> *Id.* at ¶ 86.

**XI. THE COMMISSION SHOULD ADOPT SPECIFIC PROVISIONS WHEN ALLOWING EMERGENCY WATCHES, EMERGENCY LOCATOR TRANSMITTERS (ELTs), PERSONAL LOCATOR BEACONS (PLBs) AND HOMING-IN DEVICES ON 121.5 MHz.**

The Commission also seeks comments on whether to amend its Part 87 Rules to permit certification of the Breitling Emergency watch and similar devices without the need of a waiver of the regulations governing emergency locator transmitter (ELT) technical characteristics.<sup>14</sup> NTIA has no objection to an amendment of the Commission’s Rules, however, to protect emergency communications and to prevent false alarms, any rules allowing the use of personal locator beacons (PLBs) or emergency ELT watches should contain the following provision:

This device may be operated only in an aviation emergency in a search-and-rescue situation. The manufacturer must keep records of all purchases, and provide these records to the FAA and other Federal Government agencies upon request. In order to keep false alarms to an absolute minimum this device must be designed for single use only, the transmitter power is to be limited to no more than 25 milliwatts, and the transmitter signal is to include a unique identifier (Morse code P).

“Single use” should be defined to mean that once a device is activated, it must be returned to the manufacturer for maintenance before it can be activated again.

**XII. THE COMMISSION SHOULD AMEND SECTION 87.107 OF ITS RULES TO ESTABLISH A NEW STATION IDENTIFICATION OF AIRCRAFT OPERATED BY MAINTENANCE PERSONNEL.**

Based on an earlier FAA request and subsequent approval of a waiver of Section 87.107(a) of the Commission’s Rules, 47 C.F.R. § 87.107(a), to permit use of a different

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<sup>14</sup> *Id.* at ¶ 89.

station identification format by aircraft that are operated by maintenance personnel moving the aircraft from one airport location to another, the Commission proposes to amend its Rules to codify the terms of this waiver.<sup>15</sup> The proposed rule change would establish a new station identification format for aircraft being moved by maintenance personnel from one location in an airport to another location in that airport consisting of the name of the company owning or operating the aircraft, followed by the word “Maintenance” and additional alphanumeric characters of the licensee’s choosing.<sup>16</sup> NTIA strongly supports the adoption of this proposal because it meets the FAA’s goal of reducing a problem that threatens airport safety by significantly decreasing possible misunderstandings during aircraft movement of this type.

**XIII. THE COMMISSION SHOULD ELIMINATE LICENSING OF AIRCRAFT STATIONS ON ULTRALIGHT AIRCRAFT.**

The Commission seeks comment on its proposal to eliminate the requirement in section 87.107(a)(2) of the its Rules, 47 C.F.R. § 87.107(a)(2) that FCC control numbers be assigned to ultralight aircraft for station identification purposes.<sup>17</sup> NTIA agrees with the Commission that alternative means of identification are available for such aircraft, and thus, supports its proposal to eliminate the current requirements of this section.

**XIV. THE COMMISSION SHOULD NOT ADOPT CHANGES TO THE SECURITY CONTROL OF AIR TRAFFIC AND AIR NAVIGATION AIDS (SCATANA) AT THIS TIME.**

The Commission invites comment on whether changes to SCATANA, the Support Plan, or section 87.395 of its Rules, 47 C.F.R. §87.395, may be warranted.<sup>18</sup>

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<sup>15</sup> *Id.* at ¶ 90.

<sup>16</sup> *Id.* at App.B, B-4.

<sup>17</sup> *Id.* at ¶ 91.

<sup>18</sup> *Id.* at ¶ 92.

NTIA notes that at this time, the FAA and the Department of Defense are in discussion on proposed revisions to the SCATANA plan. Since an agreement has not been reached, it would be premature for the Commission to amend its Rules at this time. Once agreement is reached on this important national security issue, the appropriate federal agencies will petitioned the Commission for any changes deemed necessary.

**XV. THE COMMISSION SHOULD UPDATE SECTION 87.305 OF ITS RULES ON FREQUENCY COORDINATION.**

While not addressed in the FNPRM, NTIA recommends the changes below be made to section 87.305 of the Commission’s Rules, 47 C.F.R. § 87.305, to clarify the identity of the “frequency advisory committee” referenced in the text. NTIA recommends that the Commission provide updated contact information for the Aerospace & Flight Test Radio Coordinating Council (AFTRCC).

(a)(1) Each application for a new station license, renewal or modification of an existing license concerning flight test frequencies, except as provided in paragraph (b) of this section, must be accompanied by a statement from the Aerospace & Flight Test Radio Coordinating Council (AFTRCC). ~~frequency advisory committee.~~

~~(2) The frequency advisory committee must be organized to represent all persons who are eligible for non-Government radio flight test stations. A statement of organization service area and composition of the committee must be submitted to the Commission for approval. The functions of any advisory committee are purely advisory to the applicant and the Commission, and its recommendations are not binding upon either the applicant or the Commission.~~

**XVI. THE COMMISSION SHOULD ADOPT MODIFICATIONS TO SUBPART O OF PART 87 OF ITS RULES TO ACCOMMODATE THE FAA’S GROUND CONTROL REQUIREMENTS.**

NTIA also proposes the changes below to Subpart O (Airport Control Tower Station) of Part 87 of the Commission’s Rules to alleviate the congestion in the 121.600-121.925 MHz band and to accommodate all of the FAA’s ground control requirements.

Specifically, NTIA proposes to amend sections 87.419 and 87.421 of the Commission's Rules, 47 C.F.R. §§ 87.419, 87.421, to read as follows:

**§ 87.419 Supplemental eligibility.**

(a) Only one control tower or RCO will be licensed at an airport.

(b) Each application for an RCO must be accompanied by a written statement from the appropriate FAA Regional Office approving the requested RCO operation.

**§ 87.421 Frequencies.**

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(b) Frequencies in the bands 200.0– 285.0 and 325.0–405.0 kHz will normally be assigned only to control towers and RCOs authorized to operate on at least one VHF frequency. ~~The Commission may assign frequencies in these bands to entities that do not provide VHS service in cases where granting such an application, unless a showing has been made that elimination of VHF service will not adversely affect life and property in the air.~~

(c) Frequencies in the bands 118.000–121.400 MHz, 121.600–121.925 MHz, 123.600–128.800 MHz, and 132.025–135.975 MHz are available to control towers and RCOs for communications with ground vehicles and aircraft on the ground. Channel spacing is 25 kHz.

(d) The antenna heights for control towers and RCOs shall be restricted to the minimum necessary to achieve the required coverage. Channel spacing is 25 kHz.

(e) 121.500 MHz: emergency and distress only.

## CONCLUSION

NTIA urges the Commission to amend and adopt the modifications to the Commission's Rules consistent with NTIA comments. These recommendations developed in conjunction with the FAA will enhance aviation safety will facilitate the deployment of new technologies, encourage innovation in the aviation and avionics equipment industries, and maximize spectrum efficiency while protecting critical aviation safety operations.

Respectfully submitted,

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