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

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In the Matter of)
)
Request for Waiver to Allow Aeronautical Utility) WT Docket No. 09-128
Mobile Stations to Use 1090 MHz for Runway)
Vehicle Identification and Collision Avoidance)

ORDER

Adopted: February 12, 2010

Released: February 17, 2010

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

1. *Introduction.* This *Order* grants a request for an interim waiver to allow certain airports to operate vehicle "squitters"¹ -- aeronautical utility mobile stations used for runway vehicle identification and collision avoidance. The National Telecommunications and Information Administration (NTIA) seeks a waiver of Parts 2 and 87 of the Commission's Rules to permit use of the frequency 1090 MHz for runway vehicle identification and collision avoidance,² pending the outcome of a rulemaking proceeding on this issue.³ For the reasons set forth below, we grant the waiver request to the extent indicated below.

2. *Background.* Air traffic controllers currently utilize airport surface detection equipment (ASDE-X) to manage the movement of aircraft on the airport surface, but other vehicles that routinely operate on the runway movement area, such as snowplows and maintenance vehicles, are not currently monitored in the same manner, and therefore are not as quickly identified by air traffic control (ATC). To address growing concerns about the potential for airplane and service vehicle collisions on airport runways, the Federal Aviation Administration (FAA) seeks to implement the use of ASDE-X to manage the movement of both aircraft and service vehicles in the runway movement area, and supports implementation of the equipment at airports with pressing needs to improve runway safety before the rulemaking proceeding ends.⁴ Consequently, NTIA requests an interim waiver to permit the use of

¹ "Squitter" refers to random output pulses from a transponder caused by ambient noise or by an intentional random triggering system, but not by the interrogation pulses.

² See Letter dated May 8, 2009 from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA to James D. Schlichting, Acting Chief, Wireless Telecommunications Bureau (Request). Specifically, NTIA requests waiver of Sections 87.131 (power and emissions), 87.133(a)(7) (frequency stability), 87.137(a) (types of emissions), 87.173(b) (frequencies), 87.345 (aeronautical utility mobile station scope of service), 87.349 (aeronautical utility mobile station frequencies), and 2.901-2.1093 (equipment authorization process).

³ See Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking by the National Telecommunications and Information Administration to Allow Aeronautical Utility Mobile Stations to Use 1090 MHz For Runway Vehicle Identification and Collision Avoidance, *Public Notice*, RM-11503, 23 FCC Rcd 16611 (WTB 2008). The petition for rulemaking remains pending.

⁴ See Request at 1. NTIA stated in its rulemaking petition that use of frequency 1090 MHz to identify vehicles transiting within the runway movement area would expedite the development and deployment of vehicle identification capabilities because aircraft are already equipped to transmit on 1090 MHz, so ATC facilities already are equipped to receive the signals. Frequency 1090 MHz is currently used for, among other things, air-to-ground communications in the Air Traffic Control Radar Beacon System, a system of ground-based transmitters that (continued....)

frequency 1090 MHz by aeronautical utility mobile stations. It proposes certain operational and technical limits on such operations.⁵ In response to the public notice seeking comment on the waiver request, Boeing Company (Boeing), Sensis Corporation, and Airports Council International-North America (ACI-NA) filed supporting comments.⁶

3. *Discussion.* 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.⁷ We believe that grant of the requested waiver would further the underlying purpose of the Part 87 rules, which is to promote aviation safety.⁸ We also conclude that grant of the requested waiver would be in the public interest, because it would improve the safety of the flying public and airline and airport employees by reducing the risk of aircraft colliding with ground vehicles. Consequently, we conclude that grant of a waiver of the Part 87 rules to allow use of the frequency 1090 MHz by vehicle squitters at certain airports is warranted.

4. The waiver is subject to the following operational and technical conditions:

· Licenses will be issued only to airport authorities or operators, or entities approved by the FAA. Only airports that are in the vicinity of, or are scheduled to receive, ASDE-X multilateration systems or automatic dependent surveillance broadcast (ADS-B) equipment will be eligible.⁹ Applicants must coordinate applications with the FAA, and obtain a Non-Government Temporary Coordination Number prior to filing with the Commission. In addition, the Commission shall coordinate applications with NTIA through the Interdepartment Radio Advisory Committee process.

· The waiver is limited to aeronautical utility mobile stations operated within the runway movement area.¹⁰ To the extent practicable, transmitters shall be turned off when vehicles are

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interrogate airborne transponders for secondary air traffic control surveillance; and air-to-air communications in the Traffic Alert and Collision Avoidance Systems (TCAS), an airborne warning system designed to avert mid-air collisions.

⁵ See Request at 2-3.

⁶ See Wireless Telecommunications Bureau Seeks Comment on Request for Waiver by the National Telecommunications and Information Administration to Allow Aeronautical Utility Mobile Stations to Use 1090 MHz for Runway Vehicle Identification and Collision Avoidance, *Public Notice*, WT Docket No. 09-128, 24 FCC Rcd 9173 (WTB 2009). No reply comments were filed.

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

⁸ See *Aviation Data Systems (Aust) Pty Ltd.*, *Order*, 22 FCC Rcd 1603, 1606 ¶ 10 (WTB MD 2007); *Garmin AT, Inc.*, *Order*, 19 FCC Rcd 11382, 11384 ¶ 6 (WTB PSCID 2004).

⁹ A list of thirty-nine airports that have or are scheduled to receive ASDE-X equipment is attached to the Request, but the Request also extends to any other airports that subsequently implement ADSE-X while the rulemaking proceeding is pending. See Letter dated Apr. 9, 2009 from Oscar Alvarez, Director, Spectrum Engineering Services, FAA to Edward Davison, Chairman, Interdepartment Radio Advisory Committee (attached to Request).

¹⁰ The runway movement area consists of the runways, taxiways, and other areas utilized for taxiing, takeoff, and landing of aircraft, exclusive of loading ramp and parking areas. 47 C.F.R. § 87.345.

outside the runway movement area.¹¹ Each license shall be limited to a maximum of two hundred aeronautical mobility stations.¹²

- The authorized emission on frequency 1090 MHz shall be M1D, and the -20 dB bandwidth shall not exceed fourteen megahertz. The emission designator shall be 14M00M1D.
- The maximum transmit power shall not be greater than twenty watts, and the frequency stability requirement shall be one thousand parts per million.¹³
- The message transmission rates shall be as follows¹⁴:

ADS-B Message	Rate When Moving	Rate When Stationary
Surface Position Message (Types 5, 6, 7, 8)	Every 0.4 to 0.6 seconds	Every 4.8 to 5.2 seconds
Aircraft Operational Status (Type 31)	Every 4.8 to 5.2 seconds	
Aircraft Identification and Type (Type 2)	Every 4.8 to 5.2 seconds	Every 9.8 to 10.2 seconds

5. NTIA also requests a waiver of the Commission's Part 2 equipment authorization procedures,¹⁵ pending the resolution of the rulemaking petition.¹⁶ The purpose of the Part 2 equipment authorization requirements is to reduce the potential for harmful interference to authorized radio communications by restricting the dissemination of devices that do not comply with the Commission's

¹¹ Boeing requests a requirement that transmitters be turned off when the vehicles are outside the runway movement area in order to limit unnecessary congestion on the frequency, which Boeing and other aircraft and aerospace manufacturers use heavily to test collision avoidance safety systems. *See* Boeing comments at 2-4. Boeing is also concerned that adding additional users to 1090 MHz could cause NTIA to oppose applications for radionavigation land test and experimental licenses necessary to install and test new TCAS and ADS-B systems. *See id.* at 4. While we do not control NTIA's processes, we note that nothing in the Request suggests such opposition.

¹² ACI-NA argues that the number of units should not be limited, because two hundred may be insufficient for larger airports. *See* ACI-NA comments at 2-3. Given concerns regarding congestion on frequency 1090 MHz, we believe that the limit suggested by NTIA is appropriate.

¹³ ACI-NA is concerned that this frequency stability requirement, proposed by NTIA, is stricter than needed, and would increase equipment costs. *See* ACI-NA Comments at 2-3. We conclude that this requirement, which matches the applicable RTCA (formerly Radio Technical Commission for Aeronautics) minimum operational performance standard (MOPS) and the European Organisation for Civil Aviation Equipment (EUROCAE) Standard for this equipment, is appropriate. *See* RTCA DO-181C; EUROCAE Standards ED-102, ED-73A.

¹⁴ These message transmission rates conform to the RTCA MOPS and the EUROCAE Standard for this equipment. *See* RTCA DO-260A; EUROCAE Standard ED-102.

¹⁵ 47 C.F.R. §§ 2.901-2.1093. Equipment authorization is generally required for transmitters at Part 87 stations. *See* 47 C.F.R. §§ 87.145, 87.147.

¹⁶ *See* Request at 2.

technical rules.¹⁷ NTIA does not explain why a waiver of the equipment authorization requirements is needed, and we do not believe that requiring equipment authorization will unduly delay the implementation of 1090 MHz vehicle squitters pending the outcome of the rulemaking proceeding. We conclude that a waiver of the Commission's Part 2 equipment authorization procedures is not warranted.

6. As noted, operation of aeronautical utility mobile stations on frequency 1090 MHz will require a separate Commission authorization from the Wireless Telecommunications Bureau. Applicants must specify the number of units and the proposed area of operation (*i.e.*, the airport at which the stations will operate). The station class shall be MOU (aeronautical utility mobile). Applications must reference this *Order* by the DA number set forth above. No operation is permitted prior to license grant, and no applications will be granted prior to equipment authorization.

7. *Conclusion.* We conclude that NTIA has shown good cause for waiver of the Commission's Part 87 Rules to permit licensing of aeronautical utility mobile stations on frequency 1090 MHz. The operation of ASDE-X equipment offers unique benefits for airport safety and justifies its operation for this band, for which it is allocated.¹⁸ We agree with commenters that ASDE-X equipment may reduce the risk of aircraft colliding with ground vehicles that operate on the runway movement area. Therefore, we waive the relevant Part 87 rules to the extent set forth above, conditioned on the outcome of the pending rulemaking proceeding.¹⁹

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 waiver request filed by the National Telecommunications and Information Administration on May 18, 2009, IS GRANTED ON THE CONDITIONS SET FORTH ABOVE, and CONDITIONED on compliance with any rules adopted as a result of the pending petition for rulemaking RM-11503.

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



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¹⁷ See Amendment of Part 2 of the Rules Concerning the Importation of Radio Frequency Devices Capable of Causing Harmful Interference, *Order on Reconsideration*, GEN Docket No. 88-349, 7 FCC Rcd 4960, 4960 ¶ 2 (1992).

¹⁸ The frequency band 960-1215 MHz is designated for use of airborne electronic aids to navigation and directly associated land stations. See 47 C.F.R. §§ 87.187(n), 87.475(b)(6).

¹⁹ That is, licensees ultimately will be subject to the rules adopted in the pending rulemaking proceeding, but will be permitted to operate pursuant to this waiver until such rules take effect.