

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

In the Matter of	)	
	)	
Amendment of the Commission’s Rules to	)	WT Docket No. 19-140
Promote Aviation Safety	)	
	)	
WiMAX Forum Petition to Adopt Service Rules	)	RM-11793
for the Aeronautical Mobile Airport	)	
Communications System (AeroMACS)	)	
	)	
Petition of Sierra Nevada Corporation for	)	RM-11799
Amendment of the Commission’s Rules to Allow	)	
for Enhanced Flight Vision System Radar under	)	
Part 87	)	
	)	
Petition of Aviation Spectrum Resources, Inc. for	)	RM-11818
Amendment of Sections 87.173(b) and 87.263(a)	)	
of the FCC’s Rules to Allow Use of the Lower	)	
136 MHz Band by Aeronautical Enroute Stations	)	
	)	
Petition of Airports Council International-North	)	RM-11832
America Regarding Aeronautical Utility Mobile	)	
Stations	)	
	)	

**COMMENTS OF THE AIR LINE PILOTS ASSOCIATION, INT’L**

The Air Line Pilots Association, International (ALPA), which represents the safety interests of over 62,000 professional pilots flying for 35 airlines in the US and Canada, hereby files this statement in support of the changes described in the Notice of Proposed Rule Making for 47 CFR Parts 2 and 87, “Promoting Aviation Safety”<sup>1</sup> with additional comments on several parts of the Proposed Rule.

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<sup>1</sup> Federal Register, Vol. 84, No. 127, p.31542 published on July 2, 2019.

## **1. Enhanced Flight Vision Systems**

With regard to Section A.1, “Enhanced Flight Vision Systems” (EFVS)<sup>2</sup>, ALPA supports the assignment of the 92-95.5 GHz band for millimeter wave radar systems for EFVS products, as proposed in the NPRM. As the proposed rule notes, these systems supplement the pilot’s natural vision by the generation of imagery derived from sensors that can penetrate fog, precipitation, smoke, haze, or other obscurations to visibility and at night. These allow the pilot to have an additional visual-like reference to surrounding terrain, obstacles, buildings, and the airport environment, which greatly enhances the safety of approach, landing, takeoff, and similar procedures. By allowing development of additional sensor technologies for EFVS, ALPA believes that the Sierra Nevada petition is in the public interest and has the potential to greatly enhance aviation safety.

ALPA notes the comments to the NPRM filed by Moog Inc. regarding operations of Foreign Object Debris (FOD) radars in this band<sup>3</sup>; ALPA believes that FOD presents a real and significant hazard to aviation during taxi, takeoff, and landing operations. Since both applications provide safety enhancements to airplane operations, ALPA recommends that the FOD detection community and the millimeter wave radar EFVS community work together to enable co-existence of both FOD detection radars and EFVS equipment in this band, either technically or by operational mitigations. However, if such co-existence is infeasible, it is the opinion of ALPA that EFVS operations should have precedence over FOD detection activities.

## **2. Air Traffic Control and Aeronautical Operational Control Communications in the 136-137 MHz Band**

With regard to Section A.5, “Air Traffic Control and Aeronautical Operational Control Communications in the 136-137 MHz Band”, ALPA is in favor of the petition filed by ASRI, Inc.<sup>4</sup> and

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<sup>2</sup> See *Petition of Sierra Nevada Corporation for Amendment of the Commission’s Rules to Allow for Enhanced Flight Vision System Radar under Part 87* (RM-11799)

<sup>3</sup> See <https://www.fcc.gov/ecfs/filing/105290442130539> filed by Moog Inc. on 5/29/2019

<sup>4</sup> See *Petition of Aviation Spectrum Resource, Inc. for Amendment of Sections 87.173(b) and 87.253(a) of the FCC’s Rules to Allow Use of the Lower 136 MHz Band by Aeronautical Enroute Stations* (RM-11818)

urges the Commission to move promptly to revise these rules. ALPA notes that the current Federal Aviation Administration (FAA) deployment of Controller-Pilot Data Link Communications (CPDLC) is currently using the upper portion of the 136-137 MHz band; we support expanding its use to the entire band as additional capacity is needed within the next year to support the full deployment of CPDLC capability in the United States. ALPA sees CPDLC as a significant improvement in safety as it allows for error-free transmission of aircraft route amendments that eliminate read-back/hear-back and typographical errors which could lead to Gross Navigational Errors.

The CPDLC system is based on existing international industry standards (i.e., VHF Digital Link Mode 2 [VDLM2]) and is the only planned CPDLC system that FAA intends for domestic Air Traffic Control (ATC) purposes. No alternatives are currently being considered. With FAA involvement via contracted performance requirements and direct engagement with service providers, the changes to rules as petitioned by ASRI provide the best balance between FAA oversight and industry innovation. ALPA further recommends that FCC not overprescribe or duplicate FAA or RTCA requirements in the FCC regulations; this will have the real-world effect of needing to make regulatory changes in order to make any needed technical changes as the CPDLC system is further developed in the future.

ALPA endorses the transmission of both Airline Operational Control and ATC communications on VDLM2 networks that support data communications, as the system has been designed to incorporate message prioritization and preemption<sup>5</sup>. In addition, we note that FAA and industry have agreed to the specific frequency assignments in this band, and both monitor the performance of the CPDLC in operations and make proactive changes to accommodate message traffic growth and changes to the CPDLC system. Finally, as an international standard, VDLM2 is also

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<sup>5</sup> See *ARINC Standard 619*.

planned for service or in service in Europe, Canada, and elsewhere around the world, which eliminates the need for airlines to install multiple data radio systems in their aircraft.

### **3. Aeronautical Mobile Airport Communications Systems**

With regard to Section B.1, “Aeronautical Mobile Airport Communications Systems” (AeroMACS)<sup>6</sup>, ALPA notes that the aviation industry has been increasing aircraft and pilot Electronic Flight Bags (EFBs) connection with data networks both in-flight and while on the airport surface. This includes transmission of safety-of-flight information such as flight dispatch releases, weather information, and Notice to Airmen messages. The AeroMACS system shows promise as a potential broadband channel to provide similar connectivity to aircraft while at the airport, and ALPA therefore is in favor of supporting its continued development. Since the 5000-5030 and 5091-5150 MHz bands are protected aeronautical spectrum, ALPA further encourages the FCC to give priority to aviation safety communications applications.

ALPA notes that the existing US model of aviation VHF data communications management has worked well. Specifically, there is a single national licensee of the subject VHF spectrum (i.e. Aviation Spectrum Resources, Inc.) that manages ground station frequency assignments according to sound frequency management engineering principles on a non-discriminatory basis and is governed the end users of the system (the aircraft operators). This has encouraged the adoption of internationally standardized equipment, simplified procedures, and avoided fragmented local and regional networks requiring more complex logon and handoff procedures. ALPA suggests that a similar model for AeroMACS management would provide similar benefits to aviation users.

We also note that Aeronautical Mobile Telemetry (AMT) is also a user of the 5091-5150 MHz band; this service is valuable in the development and certification of civil air transport aircraft.

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<sup>6</sup> See *WiMAX Forum Petition to Adopt Service Rules for the Aeronautical Mobile Airport Communications System (AeroMACS)* (RM-11793)

Therefore, ALPA urges the AeroMACS and AMT communities to cooperate with each other in the exchange of information about planned deployments to avoid interference. This cooperation is something that may be facilitated by the single national licensee model mentioned above.

Finally, we note that many technical rules from the International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPS) and RTCA Minimum Operational Performance Specifications are proposed in the Part 87 amendments; ALPA again suggests that duplicating these rules in regulatory language will inhibit the industry's ability to make changes as the AeroMACS system matures, and therefore recommends that these specifications be incorporated by reference.

#### **4. Vehicle Squitters**

In section B.2, “Vehicle Squitters”, a petition by the Airports Council International – North America (ACI-NA)<sup>7</sup> has been made to allow certain ground vehicles to participate in Automatic Dependent Surveillance – Broadcast (ADS-B) on both 1090 and 978 MHz. ALPA is in favor of this limited use by ground vehicles, as ADS-B information can be received by both ATC and aircraft systems, which provides better situational awareness to both Air Traffic Controllers and pilots about vehicles operating in the proximity of runways and taxiways. As the commission is aware, the 1090 MHz frequency is experiencing increased congestion around the world, including in parts of the US (e.g. Los Angeles Basin, Northeast Corridor). Allowing 978 MHz as an alternate frequency for ground vehicles may help alleviate concerns about ground vehicles increasing congestion by transmitting on 1090 MHz. Nevertheless, ALPA does not object to limited use of 1090 MHz by ground vehicles provided such use does not cause functional degradation due to frequency congestion of ATC Secondary Surveillance Radars, Aircraft Collision Avoidance Systems (including Traffic Alert and Collision Avoidance Systems [TCAS]), and airborne ADS-B equipment.

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<sup>7</sup> See *Petition of Airports Council International – North America Regarding Aeronautical Utility Mobile Stations* (RM-11832).

## 5. Conclusion

In summary, ALPA is in favor of adopting the amendments to Part 87 contained in the Notice of Proposed Rulemaking. As noted in our detailed comments above, we believe that adopting these rules are in the public interest and will enhance aviation safety and efficiency. While we did not comment on all subsections of the NPRM, we have no objection to the proposals made in those subsections.

If clarification of any of our comments are necessary, please contact Randy Kenagy at [cas@alpa.org](mailto:cas@alpa.org) or 1.800.424.2470.

Respectfully submitted,



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