

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

Unmanned Aircraft Systems (“UAS”) )	RM-11798
Command and Control in the )	
5030-5091 MHz Band )	

**REPLY COMMENT OF AEROVIRONMENT, INC.**

AeroVironment, Inc., (“AeroVironment”) submits this reply comment to support the Petition for Rulemaking (“Petition”) filed by the Aerospace Industries Association (“AIA”). AIA asks the Commission to adopt licensing and service rules in the 5030-5091 MHz band for Control and Non-Payload Communications (“CNPC”) links for command and control (“C2”) operations to enable continued development and safe implementation of Unmanned Aircraft Systems (“UAS”) in the National Airspace System (NAS). AeroVironment urges the Commission to move forward and adopt a Notice of Proposed Rulemaking (NRPM) addressing the Petition.

AeroVironment, headquartered in Monrovia, California, is the largest supplier of small, unmanned aircraft systems (UAS) to the Department of Defense and several allied nations. AeroVironment’s UAS and analytic technologies provide high level reliability and safety in the most demanding environments. Efficiently collecting and delivering high-resolution analytics via a UAS are critical values embraced by public and commercial sectors. AeroVironment provides government agencies and industry vital information reflecting enhanced quality and reduced costs.

Eight parties responded to the Commission's *Public Notice*<sup>1</sup> seeking comment. Six parties support the Petition. The Boeing Company, Radio Technical Commission for Aeronautics (RTCA) Special Committee 228, Raytheon Company, Lockheed Martin Corporation, Integrity Communications Solutions and Efante Group urge the Commission to move forward to commence a rulemaking addressing the Petition.

Two parties dissented, the Small UAV Coalition and CTIA. The Small UAV Coalition challenges whether the 5030-5091 MHz band is the most appropriate candidate for UAS communications as it encompasses only 61 MHz of bandwidth. It questions the clarity of the role for the Petition's proposed frequency assignment manager and whether the 5030-5091 MHz band should be limited to safety-of-life communications. It inquires whether the 5030-5091 MHz band should be the only band available for UAS safety-of-life or CNPC communication.

CTIA pleads for broader flexibility to accommodate the wide variety of UAS operations under development. CTIA opposes limiting 5030-5091 MHz to CNPC links for C2 operations. It objects to integrating UAS rules into the Commission's Part 87 Aviation Services rule section. Instead, it suggests some combination of Parts 24, 27, 30 and 90 of the Commission's rules be integrated into the UAS rules. It urges the Commission to examine its role and that of the FAA. CTIA states that the standards developed by the RTCA Special Committee 228, an FAA Advisory Committee, are extremely narrow and do not recognize differences between manned and unmanned aviation. CTIA opposes the Petition's Pilot in Command (PIC) licensing structure as too burdensome. Pursuing the cause of flexibility, CTIA and the Small Unmanned Aircraft Coalition plea for delay.

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<sup>1</sup> Consumer and Government Affairs Bureau, Reference Information Center, Petitions for Rulemakings Filed, Report 3089 (April 26, 2018, *Petition to Adopt Service Rules for Unmanned Aircraft Systems Command and Control in the 5030-5091 MHz Band of the Aerospace Industries Association*, RM-11798 (Filed Feb. 8, 2018)).

AeroVironment supports emphatically AIA's Petition. Boeing, Lockheed Martin, Raytheon, Integrity Communications Solutions and Efante Group present the better view. It was the Commission at the 2012 World Radiocommunications Conference (WRC) that successfully advocated allocating the 5030-5091 MHz band to the Aeronautical Mobile (Route) Service ("AM(R) S") to support radio line-of-sight control links for UAS.<sup>2</sup> FAA's expertise and critical role is maintained throughout the Petition. RTCA standards work provides a solid technical foundation.<sup>3</sup> The frequency management administrator precept is a realistic approach to a complex and critical responsibility to maximize simultaneous UAS flights, while minimizing risks UAS pose to the public and one another. Releasing a Notice of Proposed Rulemaking will indicate meaningful intention to provide regulatory certainty essential to investment in the UAS industry. It also ensures the safe integration of approved, certified equipment into the NAS.<sup>4</sup>

Within the rulemaking process, opposition to, or alternatives for, committing 5030-5091 MHz to safety or regularity of flight can be debated in detail. Objections or variations to the balance struck in the Petition can be presented. The RTCA Special Committee 228 work flowed from extensive documentation and debate, its objective was presenting standards inviting scrutiny. The Petition was formulated around the expertise and authority of the Commission and FAA, and other agencies, including NTIA. The very particulars CTIA and the Small UAV Coalition put forward in opposing the Petition indicate the breadth of detail presented and the capability to move forward, not delay. The positions presented are well framed for the public and expert agencies to examine and comment upon, and for the Commission to make decisions.

AeroVironment urges the Commission to initiate a proceeding to establish comprehensive license and service rules for Control and Non-Payload Communications links in

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<sup>2</sup> Comments of The Boeing Company (May 29, 2018), at page 3.

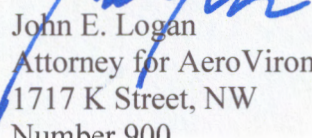
<sup>3</sup> Comments of Raytheon Company (May 29, 2018) at page 2.

<sup>4</sup> Comments of Lockheed Martin Corporation (May 29, 2018) at 1-2.

the 5030-5091 MHz band for command and control operations supporting Unmanned Aircraft Systems. A US regulatory framework is vital to investment and deployment in the UAS sector. US leadership in UAS innovation, production and deployment depends on completing this work.

Respectfully submitted,

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