



**DEFENSE CONTRACT MANAGEMENT AGENCY**  
AIRCRAFT OPERATIONS  
8000 JEFFERSON DAVIS HWY, BUILDING 54, TOWER G  
RICHMOND, VIRGINIA 23297

DCMA-AO

October 9, 2019

MEMORANDUM FOR RECORD

SUBJECT: ADS-B OFF CLARIFICATION FOR CONTRACTOR OPERATIONS

Reference DCMA HQ-AO emails (attached with supplemental attachments) and follow-on discussions with the DoD Policy Board on Federal Aviation (PBFA), October 8, 2019, the FAA has clarified their national authorization “to allow the DoD to operate non-ADS-B Out equipped aircraft owned and operated by DoD in airspace where ADS-B Out is required” to include contractor operations. Specifically, new production aircraft are considered DoD-contracted aircraft in a public aircraft status. Therefore, the ADS-B Out national authorization applies to all DoD aircraft and new production (pre-accepted) aircraft, including FMS contract aircraft.

For any further questions regarding this matter, please contact my policy branch at [john.p.heib.civ@mail.mil](mailto:john.p.heib.civ@mail.mil) or [michael.a.fludovich2.civ@mail.mil](mailto:michael.a.fludovich2.civ@mail.mil).

BATCHELOR.RYA Digitally signed by  
BATCHELOR.RYAN.G.111599120  
N.G.1115991201 Date: 2019.10.09 10:25:36 -04'00'

Ryan G. Batchelor  
CAPT, USN  
Director, Aircraft Operations

Attachment:

AO Coordination with FAA on Non ADS-B Out Equipped Aircraft (dtd October 8, 2019) with supplemental attachments

cc: DCMAE-AO  
DCMAC-AO  
DCMAW-AO  
DCMAS-MHT  
DCMAI-HTA  
Douglas Pierce, AIR-09F1/5  
Gary Hogg, AFMC/A3V  
Greg Fawcett, HQ AMC

**From:** [Heaton, Matthew M CIV USAF AF-A3 \(USA\)](#)  
**To:** [Fludovich, Michael A Jr CIV DCMA HQ \(US\)](#); [jeremy.h.stowers@faa.gov](mailto:jeremy.h.stowers@faa.gov)  
**Cc:** [Heron, David M \(Dave\) CIV USAF AF-A3 \(US\)](#); [R.E.Schmidt@faa.gov](mailto:R.E.Schmidt@faa.gov); [Furleigh, Daniel C \(Dan\) Col USAF AF-A3 \(USA\)](#); [Heib, John P CIV DCMA HQ \(USA\)](#); [Moore, Charles E Jr CIV DCMA HQ \(USA\)](#); [Lincoln, Aaron B CIV DCMA HQ \(USA\)](#); [Riley, David S CIV DCMA \(USA\)](#); [Verrett, Mario O \(Super Mario\) Lt Col USAF AF-A3 \(USA\)](#); [Chan, Rozena Maj USAF \(USA\)](#); [Militello, Anthony L \(Tony\) CIV USAF AF-A3 \(USA\)](#)  
**Subject:** RE: ADS-B scenario prior to delivery to DoD/FMS customer  
**Date:** Tuesday, October 8, 2019 8:20:02 AM

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All,

After double checking with the FAA regarding the authorizations for the scenario described below. The authorization(s) EXTEND TO all aircraft being procured by the U.S. DoD or thru FMS including Foreign State aircraft going thru Depot Maintenance etc. This includes aircraft that are equipped and those that are not while still going thru the acceptance portion prior to delivery to the DoD/FMS customer.

V/r  
Mr. Matthew M. Heaton, DAF, GS-14  
Senior Program Analyst, Military/Civil Aviation Integration  
HQ AF/A3OJX  
112 Luke Ave, Suite 340  
Building 5683  
Joint Base Anacostia-Bolling, DC 20032  
Phone Number: 202-404-8292 (DSN 754)

-----Original Message-----

From: Fludovich, Michael A Jr CIV DCMA HQ (US) <[michael.a.fludovich2.civ@mail.mil](mailto:michael.a.fludovich2.civ@mail.mil)>  
Sent: Monday, October 7, 2019 3:31 PM  
To: Stowers, Jeremy H (FAA) <[jeremy.h.stowers@faa.gov](mailto:jeremy.h.stowers@faa.gov)>; Heaton, Matthew M CIV USAF AF-A3 (USA) <[matthew.m.heaton.civ@mail.mil](mailto:matthew.m.heaton.civ@mail.mil)>  
Cc: Heron, David M (Dave) CIV USAF AF-A3 (US) <[david.m.hearon.civ@mail.mil](mailto:david.m.hearon.civ@mail.mil)>; Schmidt, R E (FAA) <[R.E.Schmidt@faa.gov](mailto:R.E.Schmidt@faa.gov)>; Furleigh, Daniel C (Dan) Col USAF AF-A3 (USA) <[daniel.c.furleigh.mil@mail.mil](mailto:daniel.c.furleigh.mil@mail.mil)>; Heib, John P CIV DCMA HQ (USA) <[john.p.heib.civ@mail.mil](mailto:john.p.heib.civ@mail.mil)>; Moore, Charles E Jr CIV DCMA HQ (USA) <[charles.e.moore126.civ@mail.mil](mailto:charles.e.moore126.civ@mail.mil)>; Lincoln, Aaron B CIV DCMA HQ (USA) <[aaron.b.lincoln.civ@mail.mil](mailto:aaron.b.lincoln.civ@mail.mil)>; Riley, David S CIV DCMA (USA) <[david.s.riley.civ@mail.mil](mailto:david.s.riley.civ@mail.mil)>  
Subject: RE: ADS-B

Jeremy,

Thank you.

Mr. Heaton,

Do you have time tomorrow for a quick phone call on this subject? Please send me a good time and number and I'll make sure I'm available.

v/r,  
Fludy

Michael 'Fludy' Fludovich  
Policy and Training Program Manager  
DCMA-AO  
(o) 804.279.4318

(c) 904.708.9356  
michael.a.fludovich2.civ@mail.mil

-----Original Message-----

From: Stowers, Jeremy H (FAA) <jeremy.h.stowers@faa.gov>  
Sent: Monday, October 7, 2019 3:17 PM  
To: Fludovich, Michael A Jr CIV DCMA HQ (US) <michael.a.fludovich2.civ@mail.mil>; Heaton, Matthew M CIV USAF AF-A3 (USA) <matthew.m.heaton.civ@mail.mil>  
Cc: Heron, David M (Dave) CIV USAF AF-A3 (US) <david.m.heron.civ@mail.mil>; Schmidt, R E (FAA) <R.E.Schmidt@faa.gov>; Furleigh, Daniel C (Dan) Col USAF AF-A3 (USA) <daniel.c.furleigh.mil@mail.mil>  
Subject: [Non-DoD Source] RE: ADS-B

Mr. Fludovich,

As mentioned, I recommend that you contact the DoD Policy Board on Federal Aviation (PBFA) for this matter. It might be beneficial to have DoD PBFA assist and at least have awareness of the issue. Mr. Matthew Heaton should be able to assist you with your concerns. I have looked back through my correspondence and could not locate the counsel's stance in written form. It appears that the information passed was from a verbal conversation with the FAA legal team.

Heater,

Good morning. Quick summary. Bell Helicopters reached out a couple of months ago asking if the DoD non-equipped authorization applied to their operations in Amarillo, TX where they are manufacturing AH-1 and V-22s. They weren't sure that the non-equipped authorization applied to them. They called me and asked about the applicability. The discussion led to me having to ask the FAA legal team on the applicability. The FAA legal team assessed that since it was a commercial company using their company aircrew and the military hadn't yet signed for the aircraft, that the authorization didn't apply since the aircraft was not in a public status. Does the aircraft fly under an experimental certificate when Bell is operating the aircraft and, if so, is it actually in a public status?

We found a solution for the Amarillo issue, but I believe this might impact similar manufacturers across DoD acquisition lines.

v/r,

JS

JEREMY H. STOWERS, Maj, USAF  
Executive Director, USAF/FAA Airspace Management Airspace Policy Group, AJV-P210 HQ FAA, Washington DC  
202.267.2943  
jeremy.h.stowers@faa.gov

-----Original Message-----

From: Fludovich, Michael A Jr CIV DCMA HQ (US) <michael.a.fludovich2.civ@mail.mil>  
Sent: Wednesday, October 2, 2019 10:01 AM  
To: Stowers, Jeremy H (FAA) <jeremy.h.stowers@faa.gov>  
Cc: Moore, Charles E Jr CIV DCMA HQ (USA) <charles.e.moore126.civ@mail.mil>; Heib, John P CIV DCMA HQ (USA) <john.p.heib.civ@mail.mil>; Hogg, Gary W CIV USAF AFMC A3 (USA) <gary.hogg@us.af.mil>; Fawcett, Gregory A (Greg) CIV USARMY USAMC (USA) <gregory.a.fawcett6.civ@mail.mil>; Pearce, Douglas L CIV USN NAVAIRWARCENACDIV MD (USA) <douglas.pearce@navy.mil>  
Subject: ADS-B

Mr. Stowers,

I work for the Defense Contract Management Agency in Aircraft Operations policy. We have a field office conducting acceptance test flights at a Bell Textron facility in TX that has brought a potential ADS-B issue to my attention. He provided you as a POC. Do you have a number and best time for me to call and discuss this with you? I think I read this differently than the office asking the question, but want to talk to an FAA representative to verify my interpretation. Once verified, I can ensure the interpretation gets communicated throughout our CONUS locations.

v/r,  
Fludy

Michael 'Fludy' Fludovich  
Policy and Training Program Manager  
DCMA-AO  
(o) 804.279.4318  
(c) 904.708.9356  
michael.a.fludovich2.civ@mail.mil

**From:** [Heaton, Matthew M CIV USAF AF-A3 \(USA\)](#)  
**To:** [jeremy.h.stowers@faa.gov](mailto:jeremy.h.stowers@faa.gov)  
**Cc:** [Fludovich, Michael A Jr CIV DCMA HQ \(US\)](#); [Heron, David M \(Dave\) CIV USAF AF-A3 \(US\)](#); [R.E.Schmidt@faa.gov](mailto:R.E.Schmidt@faa.gov); [Furleigh, Daniel C \(Dan\) Col USAF AF-A3 \(USA\)](#)  
**Subject:** RE: ADS-B  
**Date:** Monday, October 7, 2019 3:32:51 PM  
**Attachments:** [3. SECAF and FAA Signed ADS-B Out Equipage Accommodation MOA.pdf](#)  
[2. DoD ADS-B Out Off Authorization \(Releasable to all\) 9-16-2019.pdf](#)  
[1. DOD Letter of Authorization for Non ADS-B Out Equipped Aircraft July 2019.pdf](#)

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Jeremy,

DoD aircraft including aircraft being built/modified for DoD, Foreign Military Sales as well Depot mods of foreign partner nations, qualify under the authorization(s). I would find it highly troubling that an OEM of a DoD/FMS made aircraft would have to integrate and install ADS-B Out equipment into aircraft just to remove it prior to being delivered to DoD or the partner nation. Additionally, we have airframes that NEVER plan on having ADS-B Out installed.

As a recap:

1. The U.S. Department of Defense (DoD) has worked with the Federal Aviation Administration (FAA) for relief from the requirement(s) of Automatic Dependent Surveillance Broadcast-Out (ADS-B Out) as of 1 Jan 2020, under 14 CFR Part 91.225.
2. DoD aircraft (including Foreign/State/Contracted aircraft working with the DoD) **ARE ACCOMMODATED** under two (2) separate FAA authorizations depending upon the circumstances.
  - a. **Accommodation #1** - DoD aircraft (including Foreign/State/Contracted aircraft working with the DoD) **NOT ADS-B Out Equipped** (see attachment 1)

- OR -

- b. **Accommodation #2** - DoD aircraft (including Foreign/State/Contracted aircraft working with the DoD) that are **ADS-B Out Equipped but NOT Broadcasting** due to OPSEC and mission related concerns (see attachment 2)
3. These authorizations/accommodations are the result of the Secretary of the Air Force (SECAF) and the FAA signed ADS-B Out Equipage Accommodation Memorandum of Agreement (MOA) (see attachment 3).

V/r

-Heater

Mr. Matthew M. Heaton, DAF, GS-14  
Senior Program Analyst, Military/Civil Aviation Integration  
HQ AF/A3OJX  
112 Luke Ave, Suite 340

Building 5683  
Joint Base Anacostia-Bolling, DC 20032  
Phone Number: 202-404-8292 (DSN 754)

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Cc: Heron, David M (Dave) CIV USAF AF-A3 (US) <david.m.hearon.civ@mail.mil>;  
Schmidt, R E (FAA) <R.E.Schmidt@faa.gov>; Furleigh, Daniel C (Dan) Col USAF AF-A3  
(USA) <daniel.c.furleigh.mil@mail.mil>  
Subject: [Non-DoD Source] RE: ADS-B

Mr. Fludovich,

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We found a solution for the Amarillo issue, but I believe this might impact similar manufacturers across DoD acquisition lines.

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JEREMY H. STOWERS, Maj, USAF  
Executive Director, USAF/FAA Airspace Management Airspace Policy Group, AJV-P210  
HQ FAA, Washington DC  
202.267.2943  
[jeremy.h.stowers@faa.gov](mailto:jeremy.h.stowers@faa.gov)

-----Original Message-----

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Cc: Moore, Charles E Jr CIV DCMA HQ (USA) <[charles.e.moore126.civ@mail.mil](mailto:charles.e.moore126.civ@mail.mil)>; Heib, John P CIV DCMA HQ (USA) <[john.p.heib.civ@mail.mil](mailto:john.p.heib.civ@mail.mil)>; Hogg, Gary W CIV USAF AFMC A3 (USA) <[gary.hogg@us.af.mil](mailto:gary.hogg@us.af.mil)>; Fawcett, Gregory A (Greg) CIV USARMY USAMC (USA) <[gregory.a.fawcett6.civ@mail.mil](mailto:gregory.a.fawcett6.civ@mail.mil)>; Pearce, Douglas L CIV USN NAVAIRWARCENACDIV MD (USA) <[douglas.pearce@navy.mil](mailto:douglas.pearce@navy.mil)>  
Subject: ADS-B

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v/r,  
Fludy

Michael 'Fludy' Fludovich  
Policy and Training Program Manager  
DCMA-AO  
(o) 804.279.4318  
(c) 904.708.9356  
[michael.a.fludovich2.civ@mail.mil](mailto:michael.a.fludovich2.civ@mail.mil)



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

**NON-SENSITIVE VERSION OF ORIGINAL DOCUMENT**

**SEP 16 2019**

Office of the Secretary of Defense  
DoD Policy Board on Federal Aviation (PBFA)  
1430 Air Force Pentagon  
Washington, SC 20330

Dear Mr. Schatz:

This letter is in response to the Department of Defense's (DoD) request to share a copy of its ADS-B Out Off authorization, which the FAA issued DoD on September 16, 2019, with foreign States. Pursuant to the authorization, DoD is prohibited from sharing its authorization with foreign States. This letter contains a non-sensitive version of the contents of that authorization and may be shared by DoD with foreign State conducting operations in U.S. airspace pursuant to an agreement or arrangement with DoD, as necessary.

FAA issued an authorization under Title 14 of the Code of Federal Regulations (14 CFR) § 91.225(f)(1) permitting DoD to operate aircraft equipped with Automatic Dependent Surveillance – Broadcast (ADS-B) Out without transmitting the ADS-B Out signal (ADS-B Out Off). See Interim Final Rule 84 FR 34281, July 18, 2019. The letter of authorization covers aircraft when performing a sensitive government mission for national defense, homeland security, intelligence or law enforcement purposes and transmitting would compromise the operational security of the mission or pose a safety risk.

The authorization applies only to aircraft owned and operated by DoD; DoD-contracted aircraft that have been given public aircraft status by DoD when conducting operations on behalf of DoD; civil aircraft when operating on behalf of DoD; and foreign State aircraft conducting operations in U.S. airspace, pursuant to an agreement or arrangement with DoD.

The authorization also contains the following Conditions and Limitations:

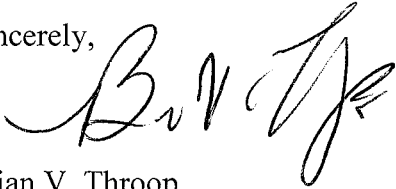
1. The operator is conducting a sensitive government mission for national defense, homeland security, intelligence, or law enforcement purposes and transmitting would compromise the operational security of the mission or pose a safety risk. Sensitive government missions should involve one of the broad mission sets identified by DoD in its request:
  - National Defense/Security
  - Defense Support to Civil Agencies



2. The operator's Operational Security (OPSEC) determination is made consistent with its policies and procedures governing sensitive missions. FAA understands that the operator has the sole responsibility to determine which missions it considers sensitive. As noted in the preamble to the final rule that established § 91.225(f)(1), this authorization is not intended to support routine operations. See Interim Final Rule 84 FR 34281, July 18, 2019. FAA considers a routine operation to be one that has not been designated as a sensitive government mission by DoD. Any mission that DoD has designated as a sensitive government mission falls within the express language of § 91.225(f)(1) and this authorization.
3. Any aircraft operating under this authorization is equipped in a manner that allows it to be interrogated by and respond to interrogations from FAA cooperative surveillance when ADS-B Out equipment is turned off. Therefore, the operator must equip each aircraft authorized for ADS-B Out Off operations with an additional Air Traffic Control Radar Beacon System (ATCRBS)/Mode 3A/C or Mode S transponder (dual equipage), or, a multi-mode transponder that allows enabling/turning on Mode 3A/C or Mode S transmissions at the same time that ADS-B Out transmissions are disabled/turned off. DoD assumes all responsibility for ensuring foreign State aircraft conducting operations in U.S. airspace, pursuant to an agreement or arrangement with DoD, fully meet this requirement.
4. This authorization for ADS-B Out Off operations is limited to ADS-B Out equipped aircraft. Nothing in this FAA authorization provides relief, regulatory or otherwise, from the requirements in § 91.225 to equip.
5. All flights will be operated within U.S. controlled airspace, inclusive of U.S. controlled oceanic airspace.
6. An aircraft shall not operate under this authorization in the event that a specific aircraft conducting a mission in the agency mission set pursuant to a FAA authorization for ADS-B Out Off does not transmit a viable ATCRBS/Mode 3A/C or Mode S transponder signal, which then presents a cooperative surveillance target to FAA Air Traffic Control (ATC). If the subject aircraft is unable to squawk the ATC assigned beacon code on ATCRBS/Mode 3A/C or Mode S, that aircraft must immediately resume ADS-B Out transmissions or risk being handled as a suspicious aircraft by ATC. DoD aircraft are not permitted to conduct transponder off operations under this authorization.
7. Individual aircrews shall not contact ATC facility personnel or FAA System Operations Security directly to request authorization for ADS-B Out Off operations. Individual aircrews must coordinate with their own agency to determine if a particular mission falls within the broad mission sets authorized for that agency. In the event that a sensitive mission set needs to be added to this ADS-B Out Off authorization, that agency's Headquarters representative must make all such requests through FAA's System Operations Security Office at FAA Headquarters.

The authorization was effective upon signature, September 16, 2019, and terminates on December 31, 2024, unless superseded, rescinded, or extended.

Sincerely,

A handwritten signature in black ink, appearing to read "B. V. Throop". The signature is written in a cursive style with a large, stylized initial "B".

Brian V. Throop  
Director, Air Traffic Organization System Operations Security



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

800 Independence Ave., S.W.  
Washington, D.C. 20591

Mr. Rowayne A. Schatz,  
Executive Director  
DoD Policy Board on Federal Aviation (PBFA)  
Attn: Col Daniel C. Furleigh  
1480 Air Force Pentagon, Room 4D755 (HAF/A3OJ)  
Washington, DC 20330

Dear Mr. Schatz,

This letter is in response to the Department of Defense's (DoD) request for an authorization under Title 14 of the Code of Federal Regulations (14 CFR) § 91.225(g) to operate aircraft not equipped with Automatic Dependent Surveillance – Broadcast (ADS-B) Out in airspace areas where ADS-B Out is required, after January 1, 2020. The DoD has requested a national letter of authorization covering all of its operations involving non-equipped aircraft in airspace areas where ADS-B Out is required. This document (1) authorizes non-ADS-B Out equipped aircraft owned and operated by DoD to operate in airspace areas where ADS-B is required, as defined in §§ 91.225 (a), (b), and (d), and (2) fulfills the procedural requirements in § 91.225(g)(2) allowing for a deviation.

Section 91.225 requires the use of ADS-B Out in aircraft operating in certain airspace after January 1, 2020. As such, after January 1, 2020, all aircraft operating in airspace where ADS-B Out is required must comply with the equipage and use requirement identified in §§ 91.225(a), (b), and (d), unless otherwise authorized. Section 91.225(g) allows persons to request air traffic control (ATC) authorization to operate in airspace where ADS-B Out is required while operating aircraft that do not meet the ADS-B Out requirements.

The DoD submitted this request because it may not equip all of its aircraft operating in airspace where ADS-B Out is required by January 1, 2020. The DoD explained that the delays in equipage are the result of available resources, related avionics upgrade schedules, budget plans, aircraft lifecycles, and Operational Security (OPSEC) concerns. Due to the nature of DoD operations, a request for authorization for each DoD operation is not feasible as it would hinder its responsiveness to events and undermine its role in preserving national security and ensuring military readiness. The FAA finds that, given the scope and nature of DoD operations in the National Airspace System (NAS), it is prudent for FAA to grant a national authorization, and

military readiness. The FAA finds that, given the scope and nature of DoD operations in the National Airspace System (NAS), it is prudent for FAA to grant a national authorization, and that this authorization would not degrade the safety of the NAS as ATC will continue to surveil DoD aircraft pursuant to § 91.215.

This authorization will satisfy the requirements of § 91.225(g) as it relates solely to a deviation for non-equipped aircraft and will fulfill DoD's obligation to seek authorization from each ATC facility having jurisdiction over the concerned airspace at least 1 hour in advance of any operation. The dissemination of the authorization within the FAA satisfies the need to notify each ATC facility with jurisdiction over the ADS-B Out airspace in which DoD aircraft will operate. Issuing this authorization is consistent with FAA's efforts to accommodate DoD's national security and defense mission requirements after the ADS-B Out rule goes into effect.

This authorization applies only to: aircraft owned and operated by DoD; DoD-contracted aircraft that have been given public aircraft status by DoD when conducting operations on behalf of DoD; civil aircraft when operating on behalf of DoD; and foreign State aircraft conducting operations in U.S. airspace, pursuant to an agreement or arrangement with DoD.<sup>1</sup> This authorization does not relieve foreign State aircraft from following current State Department requirements for operations to/from or transiting the U.S.

In consideration of the foregoing, I am granting DoD a national authorization to operate non-ADS-B Out equipped aircraft owned and operated by DoD in airspace where ADS-B Out is required. This national authorization satisfies the requirements of §§ 91.225(a), (b), (d), and (g)(2) without degrading the safety of the NAS and ensuring DoD's ability to fulfill its national security mission.

This authorization is effective immediately and terminates on December 31, 2024, unless superseded, rescinded, or extended.

If you need further assistance, please contact my staff at (202) 267-2943.

Sincerely,



Maurice Hoffman  
Director, Airspace Services  
Mission Support Services

---

<sup>1</sup> This authorization does not relieve those DoD-contracted and civil operators from the requirement to equip pursuant to § 91.227 with ADS-B-Out if they operating in ADS-B airspace while conducting operations not on behalf of DoD.

MEMORANDUM OF AGREEMENT  
BETWEEN THE  
DEPARTMENT OF DEFENSE  
AND THE  
FEDERAL AVIATION ADMINISTRATION  
DOCUMENTING DEPARTMENT OF DEFENSE AUTOMATIC DEPENDENT  
SURVEILLANCE - BROADCAST OUT EQUIPAGE & ACCOMMODATIONS

This is a Memorandum of Agreement (MOA) between the Federal Aviation Administration (FAA) and the Department of Defense (DoD) establishing necessary collaboration in order to equip DoD aircraft and to accommodate DoD aircraft in their national security and defense mission requirements after the Automatic Dependent Surveillance Broadcast - Out (ADS-B Out) Rule goes into effect. When referred to collectively, the FAA and DoD are referred to as the "Parties."

Accommodation refers to FAA authorization of DoD aircraft that do not conform to 14 CFR §§ 91.225 or 91.227. Accommodation may or may not involve rulemaking procedures to address DoD operations.

1. BACKGROUND: Executive Order 13479 provides that it is the policy of the United States to establish and maintain a national air transportation system that meets the present and future civil aviation, homeland security, economic, environmental protection, and national defense needs of the United States, including through effective implementation of the Next Generation Air Transportation System (NextGen).<sup>1</sup> Executive Order 13479 also provides that the Secretary of Defense shall assist the Secretary of Transportation by collaborating, as appropriate, and verifying that the NextGen meets U.S. national defense needs, consistent with the policies and plans established under applicable Presidential guidance.

In May 2010, the FAA published the "ADS-B Out" final rule that mandates equipage with ADS-B Out avionics for all aircraft operating in Classes A, B, and C airspace, as well as certain other specified classes of airspace, within the National Airspace System (NAS) beginning January 1, 2020.<sup>2</sup> Section 91.227 defines ADS-B Out as a function of an aircraft's onboard avionics that periodically broadcasts that aircraft's state vector (3-dimensional position and 3-dimensional velocity) and other information required by the rule. Additionally, the rule mandates that all aircraft equipped with ADS-B Out must

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<sup>1</sup> Executive Order 13479, "Transformation of the National Air Transportation System," November 18, 2008.

<sup>2</sup> ADS-B Out Performance Requirements to Support Air Traffic Control Service, 75 FR 30160; 28 May 2010.

broadcast ADS-B Out messages regardless of the airspace in which they operate.<sup>3</sup> During the notice of proposed rulemaking comment period, DoD submitted official comments addressing the safety, efficiency, security, and affordability of the proposal.<sup>4</sup> No special accommodations were included in the final rule text that specifically addressed military aircraft not equipped with ADS-B Out. In the preamble to the final rule, however, the FAA stated that it would collaborate with DoD to develop memoranda of agreement to accommodate national defense mission requirements while supporting the needs of all other NAS users.<sup>5</sup>

To ensure that the national air transportation system meets U.S. national defense needs, the FAA will partner with DoD to seek to minimize or, where possible, eliminate negative impact on DoD operations due to lack of ADS-B Out equipage while ensuring safety.<sup>6</sup> Similarly, in order to support the needs of all other NAS users, DoD will seek to equip its fleet according to 14 CFR §§ 91.225 and 91.227 consistent with available resources, related avionics upgrade schedules, budget plans and aircraft lifecycles, where practicable. This MOA documents FAA commitment during the timeframe of the agreement to accommodate DoD aircraft which will not be equipped by 1 January 2020 (including those aircraft which may never be equipped due to Operational Security (OPSEC) risks or due to imminent retirement) and those which will be equipped but which may not continuously transmit ADS-B data. The FAA will review and assess the methods of accommodation provided under the terms of this agreement to address the changing operational environment and ensure the continuing safety of the NAS. Parties note that accommodation of DOD aircraft that are not equipped with ADS-B Out or not transmitting ADS-B Out after January 1, 2025, may take a different form and therefore will require further discussions.

The FAA and DoD fully recognize that security and cybersecurity are rapidly growing and maturing challenges that affect aviation as U.S. critical infrastructure. Assessment, identification, and mitigation of cyber risks within the aviation ecosystem will be performed in partnership with the aviation stakeholder community, including operators, manufacturers, airport authorities, and other actors associated with any aspect of the interconnected infrastructure that comprises the aviation ecosystem. Many activities are underway through various forums outside the scope of this MOA.

In some cases, the cost, budget, and depot schedule constraints make it prohibitive for DoD to equip all DoD aircraft by the compliance date. Notwithstanding these potential constraints, DoD will seek to align ADS-B Out equipage with other program upgrades (e.g., Identification Friend or Foe – Mode 5 and Military Code (M-Code) receivers) in order to reduce overall costs. However, in some cases, DoD cannot delay other scheduled program upgrades, some of which affect full ADS-B Out equipage by the compliance date. Additionally, there are instances where DoD airframes are scheduled to

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<sup>3</sup> 14 CFR §91.225 (f).

<sup>4</sup> [www.regulations.gov](http://www.regulations.gov), Docket No. FAA-2007-29305-0154.

<sup>5</sup> 75 FR 30160, 30169 (May 28, 2010).

<sup>6</sup> This includes foreign State aircraft supporting DoD contributions, training, exercises, security treaties, and agreements.

be retired soon after the compliance date, which would narrow the benefit window considerably and may not be best value to the public. Accordingly, both Parties recognize that accommodations to the rule will be necessary for non-equipped aircraft.

DoD has a mature equipage plan in place for its mobility/transport fleets and has begun equipping in advance of the rule compliance date. However, many other aircraft types (e.g., tactical aircraft) in the DoD fleet will be late to equip. Additionally, because both Parties recognize that, due to OPSEC risks to DoD activities by equipping certain DoD aircraft with ADS-B Out, these certain aircraft may not be equipped with ADS-B Out in accordance with the rule. It is also DoD's intent to exclude certain aircraft, appropriately equipped with ADS-B Out, from transmitting ADS-B data continuously. The Parties are therefore working to identify solutions for accommodation. As an example, the Parties may address ADS-B Out requirements by amending current exemptions granted to DoD to operate "transponder-off," under regulatory relief, in designated airspace areas.

The FAA's 2012 Joint Resources Council baseline of the ADS-B Program contains a strategy for removal of secondary surveillance radar (SSR) and the sustainment of an ADS-B Out backup strategy. The detailed plan for SSR removal is under development and will be finalized in the 2018-2019 timeframe. The FAA recognizes DoD as a partner in providing NAS surveillance services and agrees to coordinate with DoD to seek opportunities to align investments to maintain an operational network of SSRs to ensure continuity of services that are essential to long-term U.S. national security and defense, and the U.S. economy in order to provide best value to the public.

The Chief Operating Officer of the FAA's Air Traffic Organization and the Executive Director of DoD's Policy Board on Federal Aviation (DoD PBFA) established formal ADS-B Out workgroups to address FAA-DoD integration on the topics of ground infrastructure, avionics, and security. Through these workgroups, DoD received ADS-B Out data feeds for separation services at ten DoD facilities. The FAA baselined this provision into the ADS-B program and will continue to provide this capability, at no charge to DoD, until 2025. Additionally, the FAA established a conduit, through the NAS Defense Program, to provide ADS-B Out data to DoD, at no cost, for situational awareness and training needs.

The FAA is committed to working with DoD to assess opportunities to reduce costs by aligning multiple planned avionics upgrades, to identify innovative solutions to reduce equipage costs, and to align radar sustainment and removal plans with the DoD fleet equipage plan.

2. AUTHORITIES: The FAA enters into this MOA pursuant to the authority of Title 49, U.S. Code (U.S.C.) Section 106 (l) and (m). DoD enters into this MOA pursuant to statutory authority appearing in 10 U.S.C. §§ 113 and 133; Section 208 of P.L. 112-95; DoD Directive 5030.19; and DoD Instruction 4000.19.

3. PURPOSE: This MOA establishes responsibilities between the Parties that address DoD national security and defense mission requirements within the NAS after December 31, 2019, in view of the requirements for ADS-B Out in accordance with 14 CFR §§

91.225 and 91.227. This MOA also acts as a governing framework for creation of or modification to existing agreements between the FAA and DoD regarding NAS operations, to the extent necessary to address ADS-B Out accommodations. The execution of this MOA does not remove the need for regulatory relief from these requirements when necessary.

#### 4. RESPONSIBILITIES OF THE PARTIES:

4.1 This MOA documents FAA commitment to accommodate DoD aircraft which will not be equipped by 1 January 2020. FAA will:

4.1.1 Coordinate with DoD on all activities necessary under DoD responsibilities as listed in paragraphs 4.2.2 – 4.2.7.

4.1.2 Provide a holistic and uniform NAS-wide approach for mixed-equipped DoD operations and accommodation in the post-2020 environment via national procedural guidance to ensure that necessary procedures and phraseology for use by personnel providing air traffic control services are in place to accommodate DoD aircraft that are not broadcasting ADS-B Out (either equipped or non-equipped).

***Deliverable: The FAA will publish, by December 2018, its National Procedural Guidance for its approach to accommodation of DoD needs – (Air Traffic Procedures [AJV-8], System Operations Security [AJR-2])***

4.1.3 Establish or modify existing FAA-DoD agreements as necessary regarding NAS operations to implement 4.1.2.

***Deliverable: The FAA will provide guidance for the planned update of agreements by August 2019 – (Air Traffic Procedures [AJV-8], System Operations Security [AJR-2], Air Traffic Services [AJT-2])***

4.1.4 Coordinate SSR divestiture plans through the DoD Policy Board on Federal Aviation (PBFA) to identify solutions that ensure the accommodation of DoD aircraft that will not be equipped with ADS-B Out, and the DoD aircraft that will be equipped with ADS-B Out, but may not transmit ADS-B data.

***Deliverable: Consistent with the coordination identified above, the FAA will provide a proposed radar divestiture plan, updated on a semi-annual basis (Air Traffic Systems [AJM-2])***

4.1.5 Continue to collaborate with DoD to identify OPSEC risks and to pursue options for DoD aircraft to maintain OPSEC by identifying and implementing options to provide relief from the requirement that all ADS-B-Out-equipped DoD aircraft operate at all times transmitting ADS-B data.



***Deliverable: The FAA will identify to DoD its preferred option in this regard along with its proposed approach for DoD accommodation by June 2018 – (Airspace Services [AJV-1], System Operations Security [AJR-2])***

4.1.6 Continue to collaborate with DoD in order to accelerate ADS-B Out equipage by assisting DoD to assess ADS-B Out equipage alternatives or find more cost-effective solutions (e.g., examination of alternatives that are not integrated with existing avionics on DoD aircraft). This would also include some ADS-B Out equipped DoD aircraft that may not meet required performance standards in all cases or at all times.

4.1.7 Ensure that facilities that control traffic from either DoD airfields or civil airfields with a DoD presence coordinate with DoD organizations to ensure that negative effects on local departure, enroute, and arrival procedures are safely minimized or, where possible, eliminated in order for the accommodation of DoD aircraft that are not broadcasting ADS-B Out (either equipped or non-equipped).

4.1.8 Ensure foreign State aircraft that are conducting operations in U.S. airspace, pursuant to an agreement or arrangement with DoD, are afforded the same ADS-B accommodation afforded DoD, consistent with the provisions outlined in this MOA.<sup>7</sup>

4.1.9 Provide DoD with guidance supporting the development of aircrew procedures for DoD aircraft that are not broadcasting ADS-B Out (either equipped or non-equipped), including, but not limited to operational elements listed in paragraphs 4.2.3.1 – 4.2.3.4.

***Deliverable: The FAA will publish its National Procedural Guidance for its approach to accommodation of DoD needs by December 2018 – (Air Traffic Procedures [AJV-8], System Operations Security [AJR-2])***

4.1.10 For those activities performed as FAA responsibilities, the FAA is responsible for all costs of its personnel, including pay and benefits, support, and travel, as well as for the supervision and management of its personnel.

4.2. DoD acknowledges the ADS-B Out requirements set forth in §§ 91.225 and 91.227. DoD will:

4.2.1 Coordinate with the FAA on all activities necessary pursuant to FAA responsibilities as listed in paragraphs 4.1.2 – 4.1.10.

4.2.2 Consistent with the accommodation described in paragraph 4.1, equip DoD aircraft with ADS-B Out, at the earliest dates practicable:

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<sup>7</sup> This does not relieve foreign State aircraft from following current State Department requirements for operations to/from or transiting the United States (i.e., applying and obtaining Diplomatic Flight Clearance (DFC)).

4.2.2.1 Provide a list of airframes that DoD will not equip with ADS-B Out due to imminent retirement or mission requirements that do not align with the broadcast nature of ADS-B Out (e.g., when there are OPSEC risks);

4.2.2.2 Provide the FAA with annual updates, including any adjustments to equipage schedules;

4.2.2.3 Provide timelines for those aircraft, the equipage of which may extend beyond originally projected dates (adjustments and impacts will be assessed via currently chartered FAA/DoD ADS-B Out technical workgroups); and

4.2.2.4 Identify and assess in conjunction with the FAA alternatives to find more cost-effective solutions and conduct activities necessary for implementation.<sup>8</sup>

***Deliverable: DoD will deliver to the FAA an annual update to the equipage schedule***

4.2.3 Ensure that aircrews are trained and proper procedures exist for DoD aircraft that are not broadcasting ADS-B Out (either equipped or non-equipped), including, but not limited to:

4.2.3.1 Limitations to operations;

4.2.3.2 Pre-flight planning;

4.2.3.3 Flight plan filing; and

4.2.3.4 Notifications to ATC facilities.

***Deliverable: DoD will develop aircrew training by August 2019***

4.2.4 Coordinate with the FAA during SSR removal planning on potential opportunities for sustainment of targeted radars. Opportunities could include coordinated use of DoD radar feeds by FAA facilities to support ATC operations, as necessary, and development of associated outage coordination procedures. Identify to the FAA the radar feeds that DoD uses for ATC, Range Control, and North American Aerospace Defense Command (NORAD) surveillance/identification purposes, as well as the civil airports where DoD aircraft require ATC surveillance sufficient to support IFR operations. Assess if DoD facilities require ADS-B Out data feeds to support civil aircraft that are ADS-B Out equipped.

***Deliverable: DoD will (1) identify to the FAA all radar feeds used by DoD and (2) identify to the FAA civil airports where DoD aircraft conduct IFR operations by June 2018***

4.2.5 Continue to work with the FAA to identify OPSEC risks for DoD ADS-B-Out-equipped aircraft and correlate those risks to additional actions that may be necessary to mitigate OPSEC risks associated with ADS-B-Out-equipage.

4.2.6 Work with the FAA and the Department of State to ensure that personnel operating foreign State aircraft in U.S. airspace, under an agreement or arrangement with

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<sup>8</sup> 49 U.S.C. § 44505 - Systems, procedures, facilities, and devices.

DoD, are informed of equipment and performance requirements in §91.225 and §91.227 and are appropriately trained to operate according to the provisions outlined in this MOA.

4.2.7 For those activities performed as DoD responsibilities, DoD is responsible for all costs of its personnel, including pay and benefits, support, and travel, as well as for the supervision and management of its personnel.

## 5. GENERAL PROVISIONS:

5.1 DoD will comply with the requirements of the DoD Information Security Program, (see DoD Instruction 5200.01), and the FAA will comply with the requirements of the FAA Information Security and Privacy Program & Policy, FAA Order 1370.121. The Parties will obtain the appropriate security reviews prior to the release of information to the public. Releases to the public may include, but are not limited to, news releases and public reports. All reports, work papers, background papers, graphic designs, and desktop publishing files generated by and for this effort will be considered property of the U.S. Government. DoD will comply with the requirements of the DoD Records Management Program, (see DoD Instruction 5015.02), and the FAA will comply with the requirements of the FAA Records Management Program, FAA Order 1350.14B.

5.2 POINTS OF CONTACT: The following points of contact (POCs) will be used by the Parties to communicate in the implementation of this MOA. Each Party may change its point of contact upon reasonable notice to the other Party.

### 5.2.1 For the FAA—

5.2.1.1 Teri Bristol, Chief Operating Office, Air Traffic Organization,  
AJO-0 (202-267-1240)

5.2.1.2 David Gray, Program Manager, Surveillance and Broadcast  
Services, AJM-232 (202-267-0513)

### 5.2.2 For DoD—

5.2.2.1 Rowayne Schatz, SES, Department of the Air Force Executive  
Director, DoD Policy Board on Federal Aviation, AF/AA3,  
Associate DCS, Operations (703-697-9783)

5.2.2.2 Allan Storm, Deputy, Civil-Military Integration Division,  
AF/A3OJ, NextGen Lead Service Office (703-695-2986)

5.3 CORRESPONDENCE: All correspondence to be sent and notices to be given pursuant to this MOA will be addressed, if to the FAA, to—

5.3.1 FAA National Headquarters  
600 Independence Ave SW  
Wilbur Wright Bldg (FOB10B)  
AJM-232

Washington, DC 20597  
(Mail Stop) 3W21EN

and, if to DoD to—

5.3.2 Headquarters Air Force  
1480 Air Force Pentagon  
AF/A3OJ – Room 4D755  
Washington DC 20330-1480

or as may from time to time otherwise be directed by the Parties.

5.4 REVIEW OF MOA: This MOA will be reviewed upon request by either Party to facilitate coordination on any necessary modifications.

5.5 MODIFICATION OF MOA: This MOA may only be modified by the written agreement of the Parties, duly signed by their authorized representatives. No oral statement by any person will be interpreted as modifying or otherwise affecting the terms of this MOA.

5.6 DISPUTES: Any disputes relating to this MOA will, subject to any applicable law, Executive Order, Directive, or Instruction, be resolved by consultation between the Parties.

5.7 TERMINATION OF AGREEMENT: This MOA may be terminated by either Party by giving at least 30 days written notice to the other Party. The MOA may also be terminated at any time upon the mutual written consent of the Parties.

5.8 TRANSFERABILITY: This MOA is not transferable except with the written consent of the Parties.

5.9 APPLICABILITY. This MOA applies only to aircraft owned and operated by DoD<sup>9</sup>, or DoD-contracted operations that have been given public aircraft status by DoD, and civil aircraft operating on behalf of DoD which require accommodation for national security and defense mission requirements.

5.10 ENTIRE AGREEMENT: It is expressly understood and agreed that this MOA embodies the entire agreement between the Parties regarding the accommodation of DoD aircraft in their national security and defense mission requirements with regard to the ADS-B Out requirements.

5.11 EFFECTIVE DATE: This MOA takes effect beginning on the day after the day the last Party signs.

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<sup>9</sup> This includes foreign State aircraft supporting DoD contributions, training, exercises, security treaties, and agreements.

5.12 EXPIRATION DATE: This MOA expires on January 1, 2025, unless terminated earlier in accordance with paragraph 5.7 above.

6. FINANCIAL DETAILS:

6.1 AVAILABILITY OF FUNDS: This MOA does not require either Party to fund efforts by the other or in any fashion document the obligation of funds by or between the Parties. Any obligation of funds in support of this MOA by DoD will be accomplished by a separate agreement pursuant to this overarching MOA and will meet all legal and regulatory requirements for use and transfer of funds.

AGREED.

FOR

THE FEDERAL AVIATION  
ADMINISTRATION



\_\_\_\_\_  
Administrator  
Federal Aviation Administration

DATE: JUL 26 2018

FOR

THE DEPARTMENT OF  
DEFENSE



\_\_\_\_\_  
Secretary of the Air Force

DATE: 17 July 2018