



Advanced Aviation Advisory Committee Public eBook

**Public eBook
August 23, 2023 AAAC Meeting
FAA Headquarters
and Virtual**



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

Public eBook Table of Contents

	Page
1) Meeting Logistics	3
2) Invited FAA/DOT Attendees	4
3) Meeting Agenda	5
4) AAAC Membership Roster	6
5) Master Slide Deck	8
6) FAA Responses Report to AAAC Task Group #14 Recommendations: Beyond Visual Line of Sight (BVLOS) Aviation Rulemaking Committee (ARC) Opportunities	44
7) FAA Responses Report to AAAC Task Group #15 Recommendations: Drone Community Engagement Lessons Learned/Best Practices	56
8) AAAC Charter	59
9) Fact Sheet: Advisory Committee Member Roles and Responsibilities	63
10) Biography: Katie Thomson, Deputy Administrator, FAA	64
11) Biography: Houston Mills, Vice President, Flight Operations and Safety, UPS	65
12) Biography: Jeffrey Vincent, Executive Director, UAS Integration Office, FAA	66
13) Meeting Minutes – April 26, 2023 Meeting	67
14) Public Comments Submitted After Last Committee Meeting	75



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

AAAC Meeting Logistics

- We ask that everyone remain muted during the presentations. After each briefing, there will be an opportunity for the AAAC members to engage in discussion and ask questions.
- Because of the large size of the group we ask that you first raise your hand using the Zoom command on your dashboard. An FAA moderator will be monitoring the dashboard and call on you to begin speaking.
- This AAAC meeting is being livestreamed and recorded. It will be made available for future viewing on the FAA's YouTube channel.
- To access the livestream links, go to either of these websites:
<https://www.facebook.com/FAA> or <https://www.youtube.com/FAAnews>



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

FAA Designated Federal Officer, Presenters, and Speakers

Name	Title	Org.
1. Katie Thomson	Deputy Administrator and Designated Federal Officer	FAA
2. Jeffrey Vincent	Executive Director, UAS Integration Office	FAA
3. Rebecca Cointin	Deputy Executive Director National Engagement & Regional Administration	FAA
4. Joe Morra	Office of Safety Standards Leadership Team, Flight Standards Service	FAA
5. Bonnie Gagliardo	UAS Aircraft Policy Team, Mission Support Services	FAA
6. Gary Kolb	UAS Stakeholder & Committee Officer, UAS Integration Office	FAA

FAA/DOT Observers and Stakeholders

Name	Title	Org.
1. Hillary Heintz	Acting Deputy Chief of Staff	FAA
2. Shannetta Griffin	Associate Administrator, Airports	FAA
3. Tonya Coultas	Acting Associate Administrator, Security & Hazardous Materials Safety	FAA
4. Jodi Baker	Deputy Associate Administrator, Aviation Safety	FAA
5. Franklin McIntosh	Deputy Chief Operating Officer, Operations, Air Traffic	FAA
6. Jessica Sypniewski	Deputy Assistant Administrator, NextGen	FAA
7. Tracy Edwards	Acting Deputy Executive Director, UAS Integration Office	FAA
8. Ebonni Wright	Acting Senior Advisor, UAS Integration Office	FAA



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting • FAA Headquarters, Washington DC

Public Meeting Agenda

Time: 1:00 pm – 4:30 pm Eastern Time

Location: FAA Headquarters, Bessie Coleman Room

	Start	Stop	
1.	1:00 p.m.	1:05 p.m.	FAA – Greetings & Logistics
2.	1:05 p.m.	1:10 p.m.	FAA – Read Official Statement of the Designated Federal Officer
3.	1:10 p.m.	1:15 p.m.	FAA – Review of Agenda and Approval of Previous Meeting Minutes
4.	1:15 p.m.	1:25 p.m.	DFO/Chair – Opening Remarks
5.	1:25 p.m.	1:55 p.m.	FAA – Response to Task Group #14: BVLOS ARC Opportunities Recommendations
6.	1:55 p.m.	2:25 p.m.	FAA – Response to Task Group #15: Community Engagement Lessons Learned Recommendations
7.	2:25 p.m.	2:45 p.m.	BREAK
8.	2:45 p.m.	3:15 p.m.	FAA – Waivers and Exemptions Information Briefing
9.	3:15 p.m.	3:45 p.m.	FAA – New Committee Taskings
10.	3:45 p.m.	4:20 p.m.	Chair – New Business/Future Agenda Topics
11.	4:20 p.m.	4:25 p.m.	FAA – Closing Remarks/Final Thoughts
12.	4:25 p.m.	4:30 p.m.	Chair – Closing Remarks/Final Thoughts
13.	4:30 p.m.	4:30 p.m.	Chair – Adjourn

Questions/Comments: Contact Gary Kolb, UAS Stakeholder & Committee Officer (gary.kolb@faa.gov or 202-267-4441).



Advanced Aviation Advisory Committee

AAAC Membership

Members
Designated Federal Officer – Katie Thomson , Deputy Administrator, Federal Aviation Administration
Chair - Houston Mills , Vice President, Flight Operations and Safety, United Parcel Service (UPS)
Jaz Banga , Co-Founder and Chief Executive Officer, Airspace Systems, Inc.
Edward Bolen , Chief Executive Officer, National Business Aviation Association
Bob Brock , Director of Aviation and UAS, Kansas Department of Transportation
Adam Bry , Co-founder and Chief Executive Officer, Skydio
Dr. Catherine Cahill , Director, Alaska Center for Unmanned Aircraft Systems Integration (ACUASI)
David Carbon , Vice President, General Manager, Amazon Prime Air
Kevin Cox , Chief Executive Officer, Ferrovial Vertiports
Capt Joseph DePete , President and Chief Executive Officer, Aerospace Industry Solutions
Karthik Duraisamy , Professor of Aerospace Engineering, University of Michigan & Founder and Chief Scientist, Geminus.AI
Amit Ganjoo , Founder and Chief Executive Officer, ANRA Technologies
Todd Graetz , Director, UAS Program and Machine Vision Systems, BNSF Railway
David Greene , Bureau of Aeronautics Director, Wisconsin Department of Transportation
James Grimsley , Executive Director, Advanced Technology Initiatives - Choctaw Nation of Oklahoma
Brad Hayden , Founder and Chief Executive Officer, Robotic Skies
Dr. Paul Hsu , Founder and Chair, HSU Educational Foundation
Andrew LeBovidge , Executive Vice President, National Air Traffic Controllers Association (NATCA)
Michael Leo , Captain, New York City Fire Department
Lee Moak , Founder & Chief Executive Officer, Intrepid
Okeoma Moronu , Head of Aviation Regulatory and Legal Affairs, Zipline
Vic Moss , Owner, Moss Photography
Matt Parker , President, Precision Integrated Programs
Christian Ramsey , President, uAvionix Corporation



Advanced Aviation Advisory Committee

Members
Robie Samanta Roy , Managing Director, Cerberus Capital Management
Dr. Jaiwon Shin , Chief Executive Officer, Supernal
David Silver , Senior Vice President Strategy, Belcan; Aerospace Industries Association (AIA) Representative
Michael Sinnett , Vice President Product Development and Strategy, Boeing Commercial Airplanes
Kenji Sugahara , Chief Executive Officer and President, Drone Service Providers Alliance
Melissa Tomkiel , President and General Counsel, Blade Air Mobility
Brandon Torres Declet , Chief Executive Officer, Unusual Machines
James Viola , Chief Executive Officer, Helicopter Association International
Molly Wilkinson , Vice President, Regulatory Affairs, American Airlines
Yolanka Wulff , Executive Director, Community Air Mobility Initiative
Brian Wynne , President and Chief Executive Officer, Association for Unmanned Vehicle Systems International



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Advanced Aviation Advisory Committee

August 23, 2023

August 23, 2023

Housekeeping

- Meeting is being livestreamed on the FAA's YouTube channel.
- Meeting is also being recorded and will be made available for future viewing.
- Please remain muted during the presentations.
- After each briefing, there will be an opportunity for the members to engage in discussion and ask questions.
- Please raise your hand using the Zoom command on your dashboard and an FAA moderator will call on you to speak.
- FAA team is monitoring the livestream, if you have any problems during the meeting, please reach out in the comments.



August 23, 2023



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Official Statement

PUBLIC MEETING ANNOUNCEMENT

Read by: Committee Management
Officer Gary Kolb

Advanced Aviation Advisory
Committee

August 23, 2023

In accordance with the Federal Advisory Committee Act, this Advisory Committee meeting is OPEN TO THE PUBLIC. Notice of the meeting was published in the Federal Register on:

August 8, 2023

Members of the public may address the committee with PRIOR APPROVAL of the Chair. This should be arranged in advance.

Only appointed members of the Advisory Committee may vote on any matter brought to a vote by the Chair.

The public may present written material to the Advanced Aviation Advisory Committee at any time.

August 23, 2023

Agenda

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August 23, 2023

Opening Remarks from Designated Federal Officer

Katie Thomson

FAA Deputy Administrator

Designated Federal Officer

FAA Advanced Aviation Advisory Committee



Federal Aviation
Administration

August 23, 2023

Opening Remarks from AAAC Chair

Houston Mills

Chair

FAA Advanced Aviation Advisory Committee



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FAA Responses to AAAC Task Group #14 Recommendations

Jeffrey Vincent
Executive Director
UAS Integration Office
August 23, 2023

August 23, 2023

FAA Response to AAAC Task Group 14 Recommendations

- Nov 2022 AAAC stood up TG 14
- Recommend how FAA can accelerate BVLOS implementation to bridge the gap between BVLOS ARC and Rule
 - ROE - stay within ARC scope and don't rewrite their recommendations
- Apr 26 2023 TG 14 report – six recommendations:
 - **Develop checklist for 107.31 and/or 107.33 waiver applications**
 - **Streamlined/expedited Part 91.113 waiver process to ensure *acceptable* safety levels**
 - **Clarify how to meet 14 CFR 11 requirement that safety *not be adversely impacted***
 - **DAA systems should be evaluated as a component of an overall safety case**
 - **Streamline NEPA environmental review process for drone operations and use CATEx for permissions**
 - **Clarify Acceptable/Targeted Level of Risk Categorization and Applicability**



August 23, 2023

FAA Response to AAAC Task Group 14 Recommendations

- FAA appreciates AAAC members' time, effort and expertise to develop these thoughtful recommendations
- Our collective success depends on deepening our collaborative relationships with industry
- We seek to balance public needs for solutions, industry's drive for innovation and FAA regulatory mandates
- BVLOS rulemaking is all-hands-on-deck and progressing on an accelerated pace; target - NPRM Aug 2024
- To speed BVLOS integration FAA is evaluating public comment on 5 recent Federal Register Notices:
 - 1 on BVLOS policy topics stemming from the BVLOS ARC recommendations
 - 4 petitions for exemptions to conduct BVLOS operations
- Comments on the BVLOS policy will inform the exemption petitions as well as BVLOS rulemaking:
 - DAA performance standards, declaration of compliance and strategic deconfliction services
 - Appropriate well-clear boundaries
 - Shielded operations
 - UTM service approvals and tactical detect and avoid between UA



August 23, 2023

FAA Response to AAAC Task Group 14 Recommendations

- We appreciate the challenges industry experiences to get BVLOS regulatory approval
 - Industry needs clarity and consistency
 - Each waiver request and exemption petition is unique
 - Processes and general requirements are provided on the FAA website
- It can be frustrating navigating the path to “yes” for waivers and exemptions
 - SME’s from many AVS offices and other FAA lines of business collaborate to assess each request
 - Waiver and exemption consideration processes are different
 - Like you, we are learning as we go in a relatively new industry; safety is always the focus
- We are working hard to make it better
 - Streamline the review process and improve coordination within the agency
 - Committed to enhance responsiveness
- Tangible successes
 - Evaluating 4 BVLOS exemption petitions; expect decisions soon that may help with future petitions
 - Updated waiver guidance on the FAA website



August 23, 2023

FAA Response to Recommendation 1

- AAAC recommended: **FAA develop checklist derivative of 107.31 and/or 107.33 waiver applications and recommended specific checklist provisions**

FAA response

- Checklists over-simplify a very complex process
- FAA must consider many operational parameters that contribute to safety risk for each unique operation
- FAA evaluates each safety case and proposed risk mitigations systematically to determine risk tolerance
- FAA provides extensive on-line guidance to help operators develop waiver requests
 - Waiver Safety Explanation Guidance (WSEG)
 - Waiver preparation instructions
 - UAS Support Center Assistance
- Additional mitigation guidance proposed by AAAC is in full FAA response report



August 23, 2023

FAA Response to Recommendation 2

AAAC recommended: **FAA create a streamlined/expedited Part 91.113 waiver process to ensure *acceptable* safety levels met**

FAA response

- Waivers to 91.113 consider collision risk to crewed aircraft; must ensure acceptable levels of safety
- Waivers are reviewed individually by subject matter experts in ATO taking into account the unique parameters of each operation
- Streamlining or expediting this process could introduce additional risk for crewed aircraft operations
- FAA provides extensive on-line guidance to help operators develop waiver requests (previous slide)
- 91-113 waivers all follow a similar process for review and approval dictated by complexity of the request
- ATO provides specific guidance for 91.113 waivers on FAA website [Instructions for the Certificate of Waiver or Authorization | Federal Aviation Administration \(faa.gov\)](#)



August 23, 2023

FAA Response to Recommendation 3

AAAC recommended: **FAA clarify how to meet 14 CFR 11 requirement that safety not be *adversely impacted for exemption***

FAA response

- Best way to assess if safety is adversely impacted is to consider each petition in context of the relief requested
- As with waivers, each petition for exemption is unique
- FAA cannot recommend specific language on petitions for exemption
- Future petitioners should review and study published exemptions that may be applicable to their case



August 23, 2023

FAA Response to Recommendation 4

AAAC recommended: **FAA evaluate DAA systems as a component of an overall safety case that incorporates strategic and tactical mitigations proposed by the proponents**

FAA response

- DAA systems are just one of many mitigations that may be needed for safe BVLOS operations
 - We'll look at all strategic and tactical mitigations proposed in each waiver and exemption request
 - Our overarching concern will always be the safety of other crewed aircraft and drones that share airspace
- Current work on 4 exemptions will result in a common set of Conditions and Limitations (C&L) for similar operations
- We expect these will lead to additional future exemption petitions which will
 - Expand BVLOS operations before a rule is published
 - Increase the set of common C&Ls going forward



August 23, 2023

FAA Response to Recommendation 5

AAAC recommended: **Identify NEPA environmental review streamlining measures to facilitate reviews of drone operations and use of categorical exclusion (CATEX) process for permissions**

FAA response

- FAA has detailed policies and procedures in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* to guide our NEPA compliance processes
- The FAA Order 1050.1F **Desk Reference** provides general explanatory guidance for environmental impact analysis; we are working on drone specific guidance to publish on the FAA website
- Current CATEXs that cover agricultural operations, technology testing and others are included in paragraph 5-6 of the order
- All major federal actions are evaluated against the scope of existing CATEXs; otherwise we prepare an environmental assessment (EA)
- FAA coordinates with other federal, state, and local resource agencies and Tribal governments as appropriate according to procedures in FAA Order 1050.1F *Desk Reference*
- We are currently preparing a programmatic EA for Part 135 package delivery operations in a particular state



August 23, 2023

FAA Response to Recommendation 6

AAAC recommended: **Clarify Acceptable/Targeted Level of Risk Categorization and Applicability**

FAA response

- FAA follows FAA Order 8040.6 when assessing the safety risk of UAS related operations, waivers and exemptions
 - A revision that updates Severity, Likelihood, and Risk matrix is expected to be published shortly
- We have considered “Target Level of Safety” for drones but determined it is inconsistent with our approach to safety performance metrics
- We have developed and publically shared a standard scenario for obstruction shielding; others may be forthcoming
- 4 exemptions currently being reviewed, if approved, would include monitoring plans that require reporting safety performance metrics leading to a better understanding of appropriate safety risk levels

August 23, 2023

Questions?



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FAA Responses to the AAAC Task Group #15 Recommendations

Rebecca Cointin
Deputy Executive Director
National Engagement and Regional Administration
August 23, 2023

August 23, 2023

Request to Task Group 15 and Approach

Tasking:

- Make recommendations on lessons learned and best practices related to drone and advanced aviation community engagement methods
- Identify specific aviation operating sectors and their related community engagement methods

What TG15 did:

- Created a recipe for operators to build an outreach plan to enable those operators to create a plan that can be tailored to their specific operations
- Identified key stakeholders and methods of communicating with the stakeholders that may benefit from communication from the Federal Aviation Administration
- Outlined some sample use cases, industry specific recommendations, to demonstrate the variety of stakeholders to consider.

August 23, 2023

Summary of Task Group 15 Report

The Report:

- Identifies and discusses several best practices and tips for approaching outreach and messaging
- Provides suggestions on building an outreach plan
- Describes and lists out stakeholders to consider
- Provides suggestion on best practices to reach out to stakeholder, including the general public
- Provides use-cases and industry-specific recommendations

August 23, 2023

Task Group 15 Recommendations

- **Hosting the Report:** The subgroup concluded the FAA would be the most appropriate site to host this information with other industry partners having a copy or version of it on their websites too.
- **Availability and Publishing:** This report should be publicly available to accommodate both entry level and experienced operators to enhance their community outreach initiatives. This report should be advertised by the FAA and operators through social media posts and email notifications on a bi-annual basis.
- **Updating Best Practices:** Finally, Task Group 15 recommends that these best practices be updated on a regular basis as technology and societal perspectives change.
- **Conduct Outreach:** Multiple recommendations focused on six-month updates to: insurance companies, unions, permitting/authorizing agencies, production companies, location scouts, pilots , the public, airport operators and law enforcement.

August 23, 2023

FAA Response to AAAC Task Group 15 Recommendations

- The FAA appreciates the content included in the report from Task Group (TG) 15 regarding recommendations on lessons learned and best practices related to drone and advanced aviation community engagement methods, best practices, and stakeholder engagement.
- The FAA welcomes the AAAC's acknowledgement that community engagement is a shared responsibility with the operators being in a unique position to lead this effort for UAS and AAM.
- The FAA believes that engagement with the general public should be in parallel or concurrent with other stakeholders, including public agencies. This is captured and outlined in the FAA's AAM Implementation Plan, "However, for this emerging industry to reach its fullest potential, it must gain the support of the general public. The FAA encourages communities to get involved now in these early phases, and to stay engaged." Furthermore, engagement with the General Public may help to facilitate discussions with public agencies, which are themselves comprised of members of the general public.
- The report is largely targeted at commercial operators, but the FAA suggests a minor modification to simply cite "operators" as they could be commercial, governmental, or private operators. All of these groups could benefit from the recommendations put forth by TG 15.

August 23, 2023

Hosting the Report and Availability and Publishing

- FAA will support the distribution of the task group's report. FAA is currently considering options for doing this, including posting it on the FAA's community engagement website.
- FAA will consider the appropriate way to involve social media when publishing the report.

August 23, 2023

Updating Best Practices and Conduct Outreach

- FAA will continue its outreach efforts to stakeholders. FAA will consider the suggestions of the task group regarding reaching out to individual groups of stakeholders to provide periodical updates.
- FAA will explore options to collaborate with the task group on gaining feedback from operators implementing these best practices and developing subsequent versions of the best practice report.

August 23, 2023

Questions?

August 23, 2023

Break



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Waivers and Exemptions Information Brief

Joe Morra, AVS and Bonnie Gagliardo, ATO
August 23, 2023

August 23, 2023

Questions?



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Present New AAAC Taskings

Jeffrey Vincent
Executive Director
FAA UAS Integration Office
August 23, 2023

August 23, 2023

Tasking #16

Innovation and Infrastructure Investments

FAA Tasking: AAAC to make recommendations of areas of opportunities for innovative infrastructure investments, to support aviation new entrants and other transportation and land based autonomous technologies.

These recommendations will support FAA's strategic planning and implementation of new entrants in a autonomous multi-model environment.

Timeline: AAAC recommendations presented to the FAA at the next AAAC meeting tentatively scheduled for February 2024.

August 23, 2023

Tasking #17

Consensus Standards

FAA Tasking: AAAC to make recommendations on prioritizing the development of and harmonization around consensus standards from an industry perspective.

These recommendations will support FAA's new entrants certification processes.

Timeline: AAAC recommendations presented to the FAA at the next AAAC meeting tentatively scheduled for February 2024.

August 23, 2023

Questions?

August 23, 2023

New Business/Future Agenda Items

Houston Mills

Chair

FAA Advanced Aviation Advisory Committee



Federal Aviation
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August 23, 2023



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Closing Remarks

Katie Thomson

FAA Deputy Administrator

Designated Federal Officer

FAA Advanced Aviation Advisory Committee

August 23, 2023

Closing Remarks

Houston Mills

Chair

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August 23, 2023



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Adjourn

Houston Mills

Chair

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Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

REPORT TO ADVANCED AVIATION ADVISORY COMMITTEE (AAAC):

FAA Response to AAAC Task Group #14 Beyond Visual Line of Sight (BVLOS) Aviation Rulemaking Committee (ARC) Opportunities

FAA Report

August 23, 2023



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

AAAC TASKING: Develop Recommendations on expediting the implementation of beyond visual line of sight (BVLOS) operations of drones, referencing the recommendations that were provided by the Unmanned Aircraft Systems (UAS) BVLOS Aviation Rulemaking Committee (BVLOS ARC) to the FAA in their final report in March 2022

AAAC member David Carbon of Amazon Prime Air was tasked with standing up what came to be known as Task Group 14 (TG14) to provide FAA with recommendations on how to accelerate the implementation of BVLOS as an interim measure in advance of when any BVLOS rules are enacted. This activity is particularly important in light of the critical need for a BVLOS pathway to drone operations, especially given the fact that the BVLOS rule will likely not be published for public comment until 2024 and put into effect in 2025 at the earliest.

AAAC OPPORTUNITY: Examine BVLOS ARC recommendations and identify opportunities where industry can assist and accelerate implementation of BVLOS regulatory actions. AAAC Task Group 14 focused on the following concepts of operations:

The BVLOS ARC's objectives were to make recommendations to the FAA for performance-based regulatory requirements to normalize safe, scalable, economically viable, and environmentally advantageous UAS BVLOS operations that are not under positive air traffic control (ATC) in low altitude airspace, generally under 500 feet above ground level (AGL). The ARC's recommendations were limited to the following concepts of operation, which are referenced from the BVLOS ARC charter:

- Long-line linear infrastructure inspections
- Industrial aerial data gathering
- Small package delivery
- Precision agriculture operations, including crop spraying

AAAC FINDING: Nearly all commercial drone operators seeking regulatory approval for BVLOS face unclear and inconsistent requirements to demonstrate sufficient airworthiness for intended use cases and a don't understand how to navigate the FAA permissions path. TG14 pointed to the following specific challenges industry applicants face:

- Regulatory framework today measures all participants equally, when in fact participants have varying levels of capabilities
- Ambiguity in decision making authority; FAA Office of Primary Responsibility relies on inputs from multiple lines of business which have de facto "veto" power
- Internal coordination and review process paths are opaque. Applicants often get asked the same questions from multiple lines of business. Responses to those questions from the agency can vary and contradict each other, which delays progress.
- Critical steps in the approval process are not time-bound. Applicants cannot make key business decisions when timelines are indefinite.
- Changes in policy are not effectively communicated (e.g. BVLOS Operations Issue Paper process required for early applicants with no perceived benefit).
- Current gaps in FAA policy include documented noise data collection guidance, specific language in agency National Environmental Protection Act (NEPA) Orders and Implementation Guidance related to drones.



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

- The need for identification of drone-specific actions where a Categorical Exclusion (CE) may be prepared instead of an Environmental Assessment (EA) for use cases such as low volume commercial operations, infrastructure inspections, and sites within a defined industrial site.
- The lack of documented NEPA procedures and guidance has created an inefficient process and ambiguity for operators. Schedule clarity is essential to operators, yet there is no commitment to timelines as the FAA is still determining internally how to approach project-by-project reviews.

AAAC RECOMMENDATIONS:

On February 26, 2023, Task Group 14 delivered the following recommendations in a report to the FAA.

Recommendation #1: Develop checklist derivative of 107.31 and/or 107.33 waiver applications (based on existing waiver special provisions, not for BVLOS carriage of property for compensation or hire) to include:

1. Geofencing (when using a Geofence-enabled drone) and predetermined RTH routes
2. Pilot in Command (PIC) / Officer in Command (OIC) must identify obstacles, operational boundaries
3. Responsible person must ensure make/model/maintenance log of aircraft and licensing/qualification information for PIC/OICs are maintained and provided where necessary in application
4. Confirmation of DAA capability before flight
5. Accepted training, qualification, and operational guidance plan for VOs used as a means to monitor airspace and surrounding operations in support of BVLOS permissions.
6. Create pre-draft exemption language to avoid duplication of exemption review and issuance process

Recommendation #2: Create a streamlined/expedited Part 91.113 waiver process to ensure acceptable safety levels met:

- Leverage already approved waiver applications with focus on process path rather than specifics of the waivers (although they will be informative).
- Develop guidance materials for applicants.
- Obtain inputs from FAA on how they normalized waiver process- derivative of how they normalized the Part 107 waiver process.
- Document and disseminate guidance from already approved Operational BVLOS Issues Papers.

Recommendation #3: Clarify how to meet 14 CFR 11 requirement that safety not be adversely impacted or is equal to rule seeking exemption against, specifically:

- Clarify safety criteria & requirements in support of BVLOS operations
- Develop guidance template for applicants with focus on qualitative approach to operational mitigations (although quantitative analysis can be incorporated).
- Leverage "SORA-like" process that quantifies ground/air risk as means to demonstrate safety case is met for low/medium risk BVLOS operations (e.g. SORA/SAIL)
- Alignment with international framework and current approvals (e.g. 14CFR Part 107/Part 91)
- Promote/support use of pre-defined risk assessment (PDRA) process



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

Recommendation #4: Evaluate DAA systems as a component of an overall safety case that incorporates strategic and tactical mitigations proposed by the proponent

- Acceptance of the safety case for current process waivers, exemptions and other authorizing instruments should be based upon the proponent demonstrating that the combination of proposed mitigations meets a target level of safety. The target level of safety should be no more restrictive than the accepted fatality rates of general aviation.
- FAA should recognize that a range of variables contribute to “adequate separation,” such as closure/divergence rates and geometries, size/wingspan, and avoidance performance and are not adequately defined by a single minimum distance. The term “adequate separation” should be adopted as a performance benchmark for separation in DAA system evaluations, replacing the legacy terms “well clear” and “near midair collision.” This recommendation is adoptable without rulemaking through the current practice of issuing CoAs for alternate means of compliance with 14 CFR 91.113
- The FAA should encourage and accept the extensive use of modeling and simulation as evidence of the effectiveness of air risk mitigation measures, including DAA performance—particularly at high encounter volumes and over extended periods of time. FAA should provide access to relevant and appropriate air traffic data to support the development of safety cases for BVLOS operations to aerospace standards.
- The FAA should continue their engagement with, and funding for, Federal Funded Research and Development Centers (FFRDCs) and other neutral organizations to further develop models of aircraft behavior and airspace risk for use in development of DAA systems and safety cases, and continually identify and share models, best practices, evaluation criteria and assumptions with industry.
- To increase situational awareness and safety of flight at lower altitudes, and in alignment with recent safety research results¹, the FAA should reincentivize voluntary adoption and use of ADS-B.

Recommendation #5: Identify NEPA environmental review streamlining measures to facilitate reviews of drone operations and use of categorical exclusion (CE) process for permissions

- Develop NEPA Implementation Guidance for Commercial Drone Operational Approvals, as a supplement to FAA Order 1050.1F (until such time that the agency’s NEPA Order is updated). At a minimum, this guidance should include:
- Identify drone operational approval actions that should qualify for a CE and document process to determine whether extraordinary circumstances exist
- Develop and document the process for FAA coordination with other federal, state, local resource agencies and Tribal governments
- Develop procedures for Programmatic NEPA reviews to facilitate reviews of drone operations by one or more operators in a broad geographic areas with similar environmental characteristics (including nationwide reviews, as appropriate) over a defined time period.

Recommendation #6: Clarify Acceptable/Targeted Level of Risk Categorization and Applicability

1. A publicly available, standardized methodology for addressing ground risk for current process waivers, exemptions and other authorizing instruments should be made available along the following guidelines:



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

- a) Quantitative and qualitative approaches should be supported by the methodology (e.g. MITER guidance for modeling risk based approach for UAS2 .
 - b) Both components of risk - likelihood and severity - must be considered to determine if risks are sufficiently mitigated.
 - c) Existing acceptable mitigations and acceptable inputs and data sources should be clearly defined.
2. The Department of Transportation should define the ALR/TLS for ground-risk for drone operations, considering non-aviation modes of transportation that drones may supplement or replace as per DAC TG11 report.
3. To provide consistency to approved operations, templates-also known as standard scenarios or pre-defined risk assessments-should be made available to standardize waivers and exemptions to the current rules and to future waivable rules.
 - a) These should take the form of checklists and other guidance based on the existing effective mitigations accepted by FAA in previously granted waivers (e.g. C&Ls)
 - b) These should leverage the risk assessment methodology to validate the acceptability for waiver operations (which may have different thresholds than operations by rule).



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

FAA RESPONSE:

The FAA is committed to providing the safest, most efficient aerospace system in the world. We strive to reach the next level of safety and efficiency and to demonstrate global leadership in how we safely integrate new users and technologies into our aviation system. Our success depends on appropriate and collaborative working relationships with members of the aviation industry as well as balancing the public need for innovative aviation solutions using UAS platforms and the industry's revolutionary progress to develop and field those solutions as quickly and safely as possible.

The FAA has reviewed the recommendations provided by the Advanced Aviation Advisory Committee (AAAC) related to Task Group #14 – Beyond Visual Line of Sight (BVLOS) Aviation Committee (ARC) Opportunities and we want to thank the AAAC and all Task Group #14 members and Subject Matter experts for their dedication to this task, the thoughtful recommendations, and commitment to helping the FAA integrate BVLOS operations into the National Aerospace System (NAS) safely, efficiently, and expeditiously as we continue to develop regulatory framework that will normalize integrated BVLOS operations in the NAS.

The FAA continues to work on rulemaking project (2120-AL82: Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations (BVLOS) notice of proposed rulemaking) to enable safe, scalable, and environmentally sustainable BVLOS drone operations. This rulemaking effort, which engages many FAA subject matter experts from across lines of business and support offices is proceeding at an accelerated pace with the singular focus to normalize BVLOS operations in class G airspace quickly and safely as possible so American citizens can soon realize the social and economic benefits of UAS integration in the NAS.

Even with this unprecedented effort, it will be another year before a Notice of Proposed Rulemaking for normalized BVLOS operation will be published. In the interim the FAA is focused on accelerating review and approval of BVLOS waiver and exemption requests. On May 25, 2023, the FAA published 5 Federal Register Notices to seek public comments on 4 petitions for exemptions to conduct BVLOS operations, and 1 on broader BVLOS policy topics, largely stemming from the BVLOS ARC recommendations. The FAA will consider these comments when determining conditions and limitations (C&Ls) for the 4 exemptions, if granted, and as additional public input for ongoing BVLOS rulemaking. We expect the 4 exemptions, if granted, will incentivize further petitions and serve as basis for educating prospective petitioners on viable operational parameters as well as C&Ls applicable to CONOPS similar to the petition grants.

The FAA acknowledges the challenges the AAAC has presented that nearly all commercial drone operators seeking to gain regulatory approval for BVLOS face a need for clarity and consistency in requirements to demonstrate sufficient airworthiness for intended use cases, and a lack of understanding in what steps need to be taken in order to navigate the permissions path. Navigating the regulatory process can be frustrating and burdensome. Please know that the FAA recognizes these concerns and is hard at work to streamline review processes, improve coordination across FAA offices of primary responsibility, and enhance responsiveness to waiver requests and exemption petitions, and expand assistance for those who need it.



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

As an example the Flight Standards Service (AFS) waiver processing team has taken a number of steps to improve process efficiency and throughput such as:

- Updated WSEG's in July 2023 to better communicate what the applicant needs to include in a waiver application, including the initial information needed for the implementation of a detect and avoid (DAA) system.
- Increased the communication with the applicants to try and get them to a "yes" for waivers.
- Worked with other lines of business to streamline processes for waiver approval.
- Reassessing the risk of more complex operations which has led to a significant number of waiver approvals.
- Issued several varieties of BVLOS waivers using the shielding concept based on critical and non-critical infrastructures.

Below, please find high-level responses on each AAAC Task Group 14 recommendation.

Recommendation #1: Develop checklist derivative of 107.31 and/or 107.33 waiver applications (based on existing waiver special provisions, not for BVLOS carriage of property for compensation or hire).

- The FAA appreciates AAAC's request for a specific checklist derivative of 107.31 and/or 107.33 waiver applications. Providing checklists would serve to overly simplify a complex process of the applicant considering specific operational requirements in the context of the air and ground safety risk introduced by the operation and developing a comprehensive safety case (based on FAA Order 8040.6) to demonstrate how those risks are to be mitigated. To help applicants in prepare waiver applications the FAA provides on-line resources at [Part 107 Waiver | Federal Aviation Administration \(faa.gov\)](https://www.faa.gov/part107waiver) that include instructions for preparing a waiver, Waiver Safety Explanation Guidance (WSEG), and sample safety justifications for small UAS (sUAS) waivers. Additionally, applicants can contact the FAA UAS Support Center for assistance with waiver applications.
- To address the specific provisions included in AAAC recommendation #1 the FAA offers the following proposed mitigations:
 1. Unmanned aircraft (UA) must be equipped with geofencing and prior to operations, the remote pilot in command (RPIC) must establish a lateral and vertical geofence boundary throughout the entirety of the flight.
 2. Prior to each flight, the RPIC must complete a site survey to take into account all launch and recovery areas and flight planning and waypoints for all obstacles, structures, and obstruction avoidance.
 3. Maintenance and maintenance logs must be conducted in accordance with manufacturer's maintenance, replacement, inspection, safety bulletins, and life-limit requirements for the aircraft and aircraft components.



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

4. Prior to flight, the RPIC must ensure, in addition to aircraft checks, proper functionality and adequacy of the DAA system as it relates to the operation in accordance with the operators and the DAA system manual(s).
5. Standard training, qualification, and operational guidance for visual observers (VOs) is currently done through WSEGS for waivers.
6. Industry can also refer to the 4 exemptions enabling BVLOS operations, expected to be issued in the coming months. These exemptions will provide valuable information to inform future petitions for exemptions for similar operations.

Recommendation #2: Create a streamlined/expedited Part 91.113 waiver process to ensure acceptable safety levels met.

- As noted in recommendation #1 above the FAA provides extensive guidance for submitting waivers for sUAS operations. The FAA's process for reviewing and approving part 91.113 waivers implements a comprehensive review of the applicant's concept of operations, self-identified risks, and mitigations for those risks. Waivers to part 91.113 consider collision risk to crewed aircraft first and foremost and must ensure acceptable levels of safety for crewed aircraft that may be operating at low altitudes in the applicant's operational area. Streamlining or expediting this process could introduce additional risk for crewed aircraft operations.
- To address the specific provisions included in AAAC recommendation #2 the FAA offers the following proposed mitigations:
 1. The FAA currently uses approved waiver applications to develop WSEGS. Additionally, industry can refer to previous and future exemption grants as examples to allow for a broader context of language for future petitions.
 2. WSEGS provide guidance and are currently available to the public for waivers. While the FAA cannot provide petitioners specific language to include in their petition for exemption, general guidance is available in part 11 and on the FAA website. It is important to note that petitioners need to be prepared to submit a clear safety case to the FAA when petitioning for relief from part 91.113.
 3. The FAA has normalized the waiver process through the use of instructions for preparing a waiver, Waiver Safety Explanation Guidance (WSEG), and sample safety justifications for general guidance to the public.
 4. The FAA agrees that we can revise some of the WSEGS for BVLOS guidance with our current thoughts on detect and avoid (DAA), UAS Traffic Management (UTM) etc. For exemptions, petitioners can review the Federal Register Notices and previously issued grants of exemption.
 5. The FAA recently published 5 Federal Register Notices to seek public comments on 4 petitions for exemptions to conduct BVLOS operations, and 1 on broader BVLOS policy topics, largely stemming from the BVLOS ARC recommendations. The FAA



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

will consider these comments when determining conditions and limitations for the 4 exemptions, if granted, and as additional public input for ongoing BVLOS rulemaking.

Recommendation #3: Clarify how to meet 14 CFR 11 requirement that safety not be adversely impacted or is equal to rule seeking exemption against.

- The FAA appreciates AAAC's request for clarification on the 14 CFR 11 requirement that safety not be adversely impacted or is equal to the rule.
- The FAA believes that the best approach to determining if a proposed operation meets the 14 CFR 11 requirement that safety not be adversely impacted or is equivalent to the rule is by evaluating all elements of the petition in context of the specific rule(s) under consideration for relief. Each petition for exemption is unique, so it is difficult to provide a general clarification of how to meet that requirement. However, the FAA is currently considering 4 petitions for exemptions to conduct BVLOS operations, and the FAA expects industry will be able to refer to those and other future grants of exemption to gain insight into how specific proposed mitigations lead to a determination that safety is not adversely impacted.
- As stated in the response to recommendation #2 above, the FAA cannot provide petitioners specific language to include on petitions for exemptions. In addition to general guidance in 14 CFR 11, the 4 exemptions expected to be issued in the coming months can be reviewed to determine how the FAA weighs specific safety measures as mitigations to specifically identified risks for each petition for relief.

Recommendation #4: Evaluate DAA systems as a component of an overall safety case that incorporates strategic and tactical mitigations proposed by the proponent

- The FAA agrees that DAA systems should be evaluated as a component of an overall safety case that incorporates strategic and tactical mitigations. The FAA intends to consider the collective proposed detect and avoid mitigations provided in each waiver application and exemption petition to assess if proponents can adequately avoid collisions with other drones and crewed aircraft.
- To address the specific provisions included in AAAC recommendation #4 the FAA offers the following responses and clarifications:
 1. As the FAA continues to review and approve BVLOS waiver and exemption requests it will work toward publishing a common set of DAA-related Conditions and Limitations (C&Ls) for those exemptions, which would be oriented on "what to do to make sure your system is good enough," not "how to do it" so that there continues to be implementation flexibility for industry. Therefore, any future applicant could look at those C&Ls and request a similar exemption based on the specifics of their own system being able to meet the common C&Ls.
 2. The FAA expects that its on-going and accelerated effort to process BVLOS exemptions requests will lead to publishing one or more summary grants for BVLOS exemptions in the near future.



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

3. As the FAA processes waiver and exemption requests it always considers all mitigations in the proposed requests a comprehensive solution to mitigate the hazards unique to each request. While a “target level of safety” would be a convenient measure against which to assess a comprehensive set of mitigations, required levels of safety can change depending on operational parameters. Applying qualitative safety standards is still an important element in the risk analysis of each waiver and exemption request.
4. The FAA recognizes that a range of variables contribute to “adequate separation” between drones and crewed aircraft in shared operational airspace. We are taking into consideration ARC recommendations as well as public feedback from FRN Docket No.: FAA-2023-1256, *UAS BVLOS Operations*, that requested comments on DAA standards, declaration processes, and evaluating third party service providers.
5. The FAA intends to continue their engagement with, and support for Federally funded Research and Development Centers (FFRDCs) consistent with congressional requirements and emerging budgetary constraints.

Recommendation #5: Identify NEPA environmental review streamlining measures to facilitate reviews of drone operations and use of categorical exclusion (CE) process for permissions.

- The FAA appreciates AAAC’s recommendation to streamline environmental review processes and use of categorical exclusion process for permissions.
- To address the specific provisions included in AAAC recommendation #5 the FAA offers the following responses and clarifications:
 1. The FAA notes that [FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*](#), serves as the FAA’s policy and procedures for complying with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality’s (CEQ) NEPA-implementing regulations. This Order is not the appropriate document for guidance. The [FAA Order 1050.1F Desk Reference](#) provides explanatory guidance for environmental impact analysis. The FAA is currently working on drone-specific guidance for environmental impact assessment. This guidance may be published on the FAA’s website as a stand-alone document. In the interim, the Desk Reference can be used when conducting the environmental review of UAS projects.
 2. FAA Order 10501.F, Paragraph 5-6, contains the FAA’s list of Categorical Exclusions (CATEXs). FAA CATEXs that may be applicable to UAS-related federal actions include, but may not be limited to, the following:
 - Paragraph 5-6.2.c – Issuing certificates for agricultural aircraft operations
 - Paragraph 5-6.5.o – Procedural actions requested by users on a test basis to determine the effectiveness of new technology and/or possible impacts to the environment



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

- Paragraph 5-6.6.f – Regulations, standards, and exemptions (excluding those that if implemented may cause a significant impact on the human environment)

When evaluating a major federal action, the FAA assesses whether the action is within the scope of a CATEX listed in Paragraph 5-6 and determines whether there are any extraordinary circumstances, as described in Paragraph 5-2 of the Order. If the major federal action is not within the scope of a CATEX listed in the Order, the FAA must prepare an environmental assessment (EA) (if significant impacts are not likely) or environmental impact statement (EIS) (if significant impacts are likely).

3. The FAA coordinates with other federal, state, and local resource agencies and Tribal governments as appropriate as part of its environmental review. For example, depending on the project and its anticipated environmental effects, the FAA consults with resource agencies per long-standing requirements and practice, such as Section 106 of the National Historic Preservation Act (36 CFR Part 800) and Section 7 of the Endangered Species Act. Regarding Tribal governments, the FAA follows FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*. These requirements and procedures, as well as many others, are discussed in the FAA Order 1050.1F Desk Reference.
4. The FAA is pursuing strategic approaches for environmental review of proposed UAS commercial operations. For example, the FAA is currently preparing a programmatic EA (PEA) for Part 135 package delivery operations in a particular state. When completed, the PEA can be used to support FAA approval of multiple operator requests in the state for package delivery operations using various types of vehicles, flight plans, and operational cadences under mature market conditions. The FAA is also considering additional programmatic environmental reviews to facilitate and streamline individual reviews of proposed UAS operations.

Recommendation #6: Clarify Acceptable/Targeted Level of Risk Categorization and Applicability

- The FAA appreciates AAAC's recommendation to clarify Acceptable Level of Risk and Targeted Level of Risk categorization.
- The FAA uses FAA Order 8040.6B, Unmanned Aircraft Systems Safety Risk Management Policy, to assess safety risk associated with applications for waiver, exemption, or authorization. This Order uses quantitative and qualitative approaches which include components of risk -likelihood and severity to assess if risks are sufficiently mitigated or additional safety controls are required.
- The FAA has considered an activity to adopt and implement a Target Level of Safety (TLS) for drone operations but has determined that using "target level of safety" is inconsistent with existing language regarding safety performance metrics. To identify the appropriate methodology for collecting and analyzing performance metrics.



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

- The FAA developed a standard scenario using obstruction shielding early in 2023 and it has been shared with the public as well as our international partners. Additionally, the FAA has developed guidance for airspace waivers issues by ATO for relief from part §91.113, 107.41 or 107.43. This waiver guidance was shared with the BEYOND Lead Participants and their industry partners on June 29, 2023 during a Zoom Plenary Session and received substantial positive feedback from industry partners. The FAA's Air Traffic Organization (ATO) is still determining the best vehicle for sharing this guidance more broadly with the public.
- The FAA is working on rulemaking project (2120-AL82: Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations notice of proposed rulemaking) to enable safe, scalable, and environmentally sustainable beyond visual line of sight (BVLOS) drone operations. The Agency has determined that using "target level of safety" is inconsistent with existing language regarding safety performance metrics. Aviation Safety (AVS) is focused on rulemaking efforts and comments associated with the four federal register notices that were published that would enable four petitioners to conduct BVLOS operations. If approved these exemptions will have a monitoring plan requirement in the conditions and limitations that will require reporting of safety performance metrics.

In conclusion, thank you again for your hard work, dedication, and recommendations. We look forward to working with all of you on these efforts.

REPORT TO ADVANCED AVIATION ADVISORY COMMITTEE (AAAC):

FAA Response to AAAC Task Group #15 Community Outreach Recommendations

FAA Report
August 23, 2023

AAAC Tasking: Make recommendations on lessons learned and best practices related to drone and advanced aviation community engagement methods. Also, identify specific aviation operating sectors and their related community engagement methods.

The AAAC created task group 15 to complete this tasking.

AAAC Response:

Task Group 15 developed a report, which did three things:

- Created a recipe for operators to build an outreach plan to enable those operators to create a plan that can be tailored to their specific operations
- Identified key stakeholders and methods of communicating with the stakeholders that may benefit from communication from the Federal Aviation Administration
- Outlined some sample use cases, industry specific recommendations, to demonstrate the variety of stakeholders to consider

Summary of the report:

The AAAC reports covers the following information:

- Identifies and discusses several best practices and tips for approaching outreach and messaging
- Provides suggestions on building an outreach plan
- Describes and lists out stakeholders to consider
- Provides suggestion on best practices to reach out to stakeholder, including the General Public
- Provides use-cases and industry-specific recommendations

AAAC Recommendations:

The AAAC Recommendations fell within our main categories. For the outreach sections, the AAAC mentioned multiple stakeholder groups by name.

- Hosting the Report: The subgroup concluded the FAA would be the most appropriate site to host this information with other industry partners having a copy or version of it on their websites too.”
- Availability and Publishing: This report should be publicly available to accommodate both entry level and experienced operators to enhance their community outreach initiatives. This report should be advertised by the FAA and operators through social media posts and email notifications on a bi-annual basis.
- Updating Best Practices: Finally, Task Group 15 recommends that these best practices be updated on a regular basis as technology and societal perspectives change.
- Conduct Outreach. Multiple recommendations focused on six-month updates to: insurance companies, unions, permitting/authorizing agencies, production companies, location scouts, pilots, the public, airport operators and law enforcement.

FAA Response to the AAAC:

The FAA appreciates the content included in the report from Task Group (TG) 15 regarding recommendations on lessons learned and best practices related to drone and advanced aviation community engagement methods, best practices, and stakeholder engagement.

The FAA welcomes the AAAC’s acknowledgement that community engagement is a shared responsibility with the operators being in a unique position to lead this effort for UAS and AAM.

The FAA believes that engagement with the general public should be in parallel or concurrent with other stakeholders, including public agencies. This is captured and outlined in the FAA’s AAM Implementation Plan, “However, for this emerging industry to reach its fullest potential, it must gain the support of the general public. The FAA encourages communities to get involved now in these early phases, and to stay engaged.” Furthermore, engagement with the general public may help to facilitate discussions with public agencies, which are themselves comprised of members of the general public.

The report is largely targeted at commercial operators, but the FAA suggests a minor modification to simply cite “operators” as they could be commercial, governmental, or private operators. All of these groups could benefit from the recommendations put forth by TG 15.

Specifically, FAA has the following responses to the recommendations

Hosting the Report and Availability and Publishing

- FAA will support the distribution of the task group’s report. FAA is currently considering options for doing this, including posting it on the FAA’s community engagement website.
- FAA will consider the appropriate way to involve social media when publishing the report.

Updating Best Practices and Conduct Outreach

- FAA will continue its outreach efforts to stakeholders. FAA will consider the suggestions of the task group regarding reaching out to individual groups of stakeholders to provide periodical updates.
- FAA will explore options to collaborate with the task group on gaining feedback from operators implementing these best practices and developing subsequent versions of the best practice report.

In conclusion, thank you for your work, dedication and thoroughness for this report and the recommendations. This provides a great framework for operators to conduct engagement. We look forward to continually working with you regarding best practices for outreach in the future.

Charter of the Advanced Aviation Advisory Committee U.S. Department of Transportation

1. **Committee's Official Designation.** The Committee's official designation is the Advanced Aviation Advisory Committee (AAAC).
2. **Authority.** The Committee is established under the authority of the U.S. Department of Transportation (DOT), in accordance with the provisions of the Federal Advisory Committee Act (FACA), as amended, Pub. L. 92-463, 5 U.S.C. App. 2. The Secretary of Transportation has determined that the establishment of the Committee is in the public interest.
3. **Objectives and Scope of Activities.** The objectives of the AAAC are to provide independent advice and recommendations to the Department of Transportation (DOT) and the Federal Aviation Administration (FAA) and to respond to specific taskings received directly from the FAA. The advice, recommendations, and taskings relate to improving the efficiency and safety of integrating advanced aviation technologies-- including unmanned aircraft systems (UAS) and advanced air mobility (AAM), into the National Airspace System (NAS) -- while equipping and enabling communities to inform how UAS, AAM, and other technologies may operate in ways that are least impactful to those communities. In response to FAA requests, the AAAC may provide the FAA and DOT with information that may be used for tactical and strategic planning purposes.
4. **Description of Duties.** The AAAC will act solely in an advisory capacity and will not exercise program management responsibilities. Decisions directly affecting the implementation of transportation policy will remain with the FAA Administrator and the Secretary of Transportation. The AAAC will:
 - a. Undertake only tasks assigned by the FAA
 - b. Deliberate on and approve recommendations for assigned tasks in meetings that are open to the public.
 - c. Respond to ad-hoc informational requests from DOT and the FAA and/or provide input to DOT and the FAA on the overall AAAC structure (including the structure of subcommittees and/or task groups).
5. **Agency or Official to Whom the Committee Reports.** The AAAC reports to the Secretary of the U.S. Department of Transportation (DOT) through the FAA Administrator.

6. **Support.** The FAA will provide support, including funding for the Committee. The UAS Integration Office is the primary entity within the FAA responsible for supporting the AAAC.
7. **Estimated Annual Operating Costs and Staff Years.** The FAA's annual operating costs to support the AAAC for the period and scope specified by the charter is approximately \$460,000, which includes 2.0 full-time equivalent salary and benefits at \$413,000, plus \$47,000 for meeting, travel, and miscellaneous expenses.
8. **Designated Federal Officer.** The FAA Administrator, on behalf of the Secretary of Transportation, will appoint a full-time or permanent part-time Federal employee to serve as the AAAC Designated Federal Officer (DFO). The AAAC DFO will ensure that administrative support is provided for all activities. The DFO will:
 - a. Ensure compliance with FACA and any other applicable laws and regulations.
 - b. Call and attend all the committee and subcommittee meetings.
 - c. Formulate and approve, in consultation with the Chair, all committee and subcommittee agendas.
 - d. Notify all Committee members of the time, place, and agenda for any meeting.
 - e. Maintain membership records.
 - f. Ensure efficient operations, including maintaining itemized contractor invoices.
 - g. Maintain all AAAC records and files.
 - h. Adjourn any meeting when doing so would be in the public interest.
 - i. Chair meetings when directed to do so by the FAA Administrator.
9. **Estimated Number and Frequency of Meetings.** AAAC estimates meeting three times per year to carry out its responsibilities. AAAC meetings will be open to the public, except as provided under Section 10(d) of FACA, as implemented by 41 CFR part 102-3, and DOT Order 1120.3C.
10. **Duration.** Continuing, subject to renewal every two years.

11. Termination. The charter will terminate two years after its effective date unless renewed in accordance with FACA and other applicable regulations. If the AAAC is terminated, the FAA will give as much advance notice as possible of such action to all participants.

12. Membership and Designation. AAAC shall comprise members appointed by the U.S. Secretary of Transportation upon recommendation by the FAA Administrator. All AAAC members serve at the pleasure of the Secretary of Transportation. To the extent practicable, the membership of the AAAC shall include persons with lived experience and knowledge of the needs of underrepresented and underserved groups in race, ethnicity, religion, disability, sexual orientation, and gender identity.

- a. The AAAC will have no more than 41 members. Members represent airports and airport communities; pilot and controller labor groups; local, state, and tribal governments; navigation, communication, surveillance, and air traffic management capability providers; research, development, and academia; agricultural interests, traditional piloted aviation operators; UAS hardware component manufacturers; UAS manufacturers; corporate UAS operators; citizen UAS Operators; UAS software application manufacturers; advanced air mobility; community advocates; and industry associations or other specific areas of interest as determined by the FAA Administrator or Secretary of Transportation.
- b. Members will serve without charge and without government compensation. Members who represent a particular interest of employment, education, experience, or affiliation with a specific aviation-related organization will serve as representatives. Members appointed solely for their expertise serve as Special Government Employees (SGEs).
- c. Member representatives and SGEs are appointed for a two-year term but can continue to serve until their replacement is chosen or they are reappointed.
- d. Members shall not preference or otherwise utilize their membership on the Committee in connection with public statements in their personal capacities without a disclaimer that views expressed are their own and do not represent the views of the Committee, the Federal Aviation Administration, or the Department of Transportation.

13. Subcommittees. The FAA Administrator has the authority to create and dissolve subcommittees as needed. Subcommittees must not work independently of the AAAC. They must provide recommendations and advice to the AAAC, not the FAA, for deliberation, discussion, and approval. Subcommittees are comprised of subject matter experts from multiple stakeholder groups to include traditional, pilotless, and advanced aviation

communities, and they will include experts on a range of policy matters, including security, safety, and privacy.

14. Recordkeeping. The records of the AAAC are handled in accordance with the National Archives and Records Administration (NARA) General Records Schedule 6.2 or other approved agency records disposition schedules. Subject to the Freedom of Information Act, 5 U.S.C. § 552, the records, reports, transcripts, minutes, and other documents that are made available to or prepared for or by AAAC will be available for public inspection at https://www.faa.gov/uas/programs_partnerships/advanced_aviation_advisory_committee/.

15. Filing Date. This charter is effective June 10 2022, which is the filing date of this Charter



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

Advisory Committee Member Roles and Responsibilities

Advisory committees have played an important role in shaping programs and policies of the federal government from the earliest days of the United States of America. Since President George Washington sought the advice of such a committee during the Whiskey Rebellion of 1794, the contributions made by these groups have been impressive and diverse.

Through enactment of the Federal Advisory Committee Act (FACA) of 1972 (Public Law 92-463), the U.S. Congress formally recognized the merits of seeking the advice and assistance of our nation's citizens to the executive branch of government. At the same time, the Congress also sought to assure that advisory committees:

- Provide advice that is relevant, objective, and open to the public;
- Act promptly to complete their work;
- Comply with reasonable cost controls and recordkeeping requirements; and
- Had government oversight through creation of the Committee Management Secretariat.

Participation in a FACA such as the Advanced Aviation Advisory Committee (AAAC) provides the Federal Government with essential advice from subject matter experts and a variety of stakeholders. The FACA requires that committee memberships be "fairly balanced in terms of the points of view represented and the functions to be performed." Selection of committee members is made based on the particular committee's requirements and the potential member's background and qualifications. AAAC members assume the following responsibilities:

- Attend $\frac{3}{4}$ of all AAAC public meetings during membership term.
- Provide oversight, deliberation, comments and approval of the AAAC activities.
- Contribute respective knowledge and expertise.
- Participate as a member on a working group, if desired.
- Coordinate with the constituents in his or her Uncrewed Aircraft System and aviation sector.
- Review work plans, if requested.
- Review the AAAC and any subcommittee or working group recommendation reports.
- Inform the AAAC Chair and the DFO when he or she can no longer represent his or her organization/association on the AAAC.
 - Members may continue to serve until a replacement has been appointed or removed.



Federal Aviation Administration

Kathryn "Katie" Thomson was appointed as the Deputy Administrator in June 2023. She brings a 30+ year history of global aviation and transportation law and leadership experience to the Agency. Previously, she served as the FAA Chief of Staff (CoS) where she was a key advisor to the Administrator and provided leadership, guidance, oversight and coordination of activities related to aviation policy and resource management program. She oversaw and partnered with agency leadership on some of the agency's most complex and controversial matters.

Katie was the Director, Bipartisan Infrastructure Law Implementation at the U.S. Department of Transportation (DOT) immediately prior to joining FAA. In this capacity, Katie worked with internal and external stakeholders to successfully implement approximately \$660 billion in new and expanded programs across all modes of transportation over five years. This was Katie's second stint at DOT. She rejoined DOT from Amazon, where she was Vice President & Associate General Counsel, Worldwide Transportation and Sustainability.

Before joining Amazon, Katie played a pivotal role in shaping national and international transportation law and policy as General Counsel of DOT (2013-2016) and as Chief Counsel of the Federal Aviation Administration (2012-2014) during the Obama Administration. She also served as Counselor to the U.S. Secretary of Transportation (2009-2012) and was DOT's first Senior Sustainability Officer. During her tenure as Counselor, Katie led the DOT team that worked with the White House and the U.S. Environmental Protection Agency to develop and implement historic joint fuel economy/greenhouse gas emission standards for cars and trucks.

Prior to federal government service, Katie was a partner in the environmental group at Sidley Austin in Washington, D.C., where she supported clients in all industrial sectors. Immediately prior to joining Amazon, Katie chaired the transportation practice group at Morrison Foerster, advising clients on emerging technologies in the transportation sector.

Katie received her Bachelor of Arts degree from the University of Illinois (Champaign-Urbana) and her Juris Doctor from the University of Pennsylvania.



Kathryn Thomson

Deputy Administrator

As Vice President of Flight Operations & Safety, Captain Mills has global oversight of and responsibility for UPS Airline Flight Operations, Training, Regulatory Compliance and Airline Safety.

Prior to his current position Houston served as Global Aviation Strategy & Public Policy Director, where he advocated for federal and international aviation policy and collaborated with domestic and international industry groups to harmonize aviation safety standards and sustainability rules. He was also responsible for aggregating aviation strategy issues under one umbrella within UPS to help maximize safety and reliability for the company, as well as service to UPS's growing global customer base.

Houston also served as UPS's Director of Airline Safety and Compliance where he was responsible for ensuring safe and regulatory compliant Flight, Maintenance, and Ground support operations, Emergency Response preparedness, and interaction with government regulatory and safety organizations worldwide. Under his leadership UPS became one of the first U.S. airlines to have a certified Safety Management System (SMS). He also served as the UPS International Chief Pilot, where he was responsible for crew-related international flight operation activity and as the Director of Flight Training where he was responsible for the UPS Advance Qualification Program (AQP) for all crewmembers.

Houston currently serves as Chairman of the FAA Drone Advisory Committee, where as one of 35 executive stakeholders he brings a traditional aviation perspective to a group of other transportation and technology leaders as they explore policy considerations for unmanned aerial systems (UAS) integration into the National Air Space system. He also serves as the Chairman of the Cargo Airline Association Board of Directors, Board of Governors for the Flight Safety Foundation, Board of Advisors of RTCA and is a member of the IATA Safety Flight Ground Operations Advisory Council, and the Airlines for America (A4A) Safety and Operations Councils.

A native of Indianapolis, Houston received a bachelor's in English literature from Wabash College and an MBA from Webster University. He also holds a Professional Human Resources (PHR) designation.

Houston began his aviation career in 1985 as a Marine Corps officer and F/A-18 fighter pilot where he was certified as an air combat tactics instructor (ACTI). He served the United States in Operations Desert Shield, Desert Storm, Restore Hope and Southern Watch. He has more than 100 aircraft carrier landings to his credit. He has previously served as an FAA designated check airman and is currently an international qualified Captain on the Boeing 757/767.

In step with UPS's commitment to the community, Houston has served on numerous Boards to include: Washington Aero Club, Marine Toys for Tots Foundation, Association for Unmanned Systems International, Center for Women & Families, Hospice, and many others. He currently serves on the Board of Directors of the National Center for Families Literacy, RTCA Board of Advisors, Flight Safety Foundation Board of Governors, The Organization of Black Aerospace Professional Board of Advisors, and is president of the Marine Corps Coordinating Council of Kentucky.

Married and the father of three, Houston particularly enjoys motivational speaking, golf, and has coached various youth sports for many years.



Captain Houston Mills
UPS Vice President Flight Operations & Safety



Federal Aviation Administration

Jeffrey Vincent is the Federal Aviation Administration's (FAA) Executive Director for the Unmanned Aircraft Systems (UAS) Integration Office in Aviation Safety (AVS). He is responsible to safely integrate unmanned aircraft into the National Airspace System.

Prior to his current role, Mr. Vincent served as Vice President of Air Traffic Services responsible for providing safe and efficient air navigation services to more than 42,000 flights and 2.5 million airline passengers across more than 29 million square miles of airspace. Prior to the Vice President of Air Traffic Services, he served as the Vice President for Safety and Technical Training was responsible for the development of ATO's Safety Management System and the integration of safety and training standards into the provision of air traffic services.

Mr. Vincent was also the Director of Air Traffic Operations, Eastern Service Area providing strategic leadership and direction for ensuring the safety and efficiency of air traffic operations for Airport Traffic Control Towers, Terminal Radar Approach Control (TRACON) facilities, and Air Route Traffic Control Centers. He also served as Deputy Director as well as Senior Advisor to the Director of Air Traffic Operations. In addition, he worked as a Certified Professional Controller at Boston Logan and Charlotte Douglas International Airports. He began his leadership career as a Front-Line Manager (FLM) at Birmingham International Airport. He continued his leadership as a FLM at Houston Intercontinental Tower and TRACON.

Then in 1999, Mr. Vincent broadened his FAA experience by returning to the Southern Region (ASO) where he held positions as Quality Control Specialist and Acting Branch Manager of Airspace, in ASO-520. Additionally, he held several positions at Atlanta TRACON and Tower, to include; Operations Manager, Support Manager, and acting Tower Air Traffic Manager.

After completing a headquarters detail in the Terminal Mission Support office, Mr. Vincent was selected to lead the Quality Control Group for the Eastern Service Center in 2009. During his tenure there he worked closely with the Air Traffic Services Safety and Compliance Group in developing and implementing ATO's current Quality Assurance/Quality Control process in the Eastern Service Area.



Jeffrey Vincent

Executive Director, UAS Integration



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

Detailed Minutes

Introduction

An Advanced Aviation Advisory Committee (AAAC) meeting was held at the Federal Aviation Administration Headquarters Building, 800 Independence Avenue SW, Washington, D.C., on April 26, 2023, from 1:30 PM to 4:46 PM EDT. This meeting was held in a hybrid format and livestreamed across FAA social media for the general public.

The full meeting is archived on the FAA's YouTube channel which may be found here:
https://www.youtube.com/watch?v=n_TlZjvWQfg

Committee Management Officer Mr. Gary Kolb opened the session and provided the public meeting announcement published in the Federal Register on April 6, 2023, and provided an overview of the meeting agenda. Mr. Kolb turned the meeting over to the AAAC Committee Chairperson Captain Houston Mills, for a motion for approval of the October 20, 2022, meeting minutes. There were no objections and the motion passed. Captain Mills turned the meeting over to the Designated Federal Officer, FAA Deputy Administrator, Mr. Bradley Mims.

Designated Federal Officer Opening Remarks

Mr. Mims began the session of the meeting by welcoming the audience and provided opening remarks. Mr. Mims' remarks included: aviation is (at) an exciting time coupled with the need for collaboration among all participants to further Advanced Air Mobility (AAM) efforts in a safe and efficient manner. Mr. Mims acknowledged the industry momentum to implement advanced aviation but emphasized the need for continued collaboration while ensuring the safety of all aviation operations, which is the responsibility of the FAA. Mr. Mims emphasized the need for the traveling public to have confidence in the safety of the nation's transportation system and lead the world in safe and efficient aviation operations. In his remarks, Mr. Mims discussed the FAA's progress by releasing a blueprint for AAM, along with the Agency's efforts to publish a rule for pilot certification standards for the operation of aircraft with helicopter and fixed wing characteristics. Additionally, Mr. Mims highlighted the FAA plans to release the FAA's AAM Implementation Plan. Finally, Mr. Mims discussed that as technology and policy continues to develop, it is equally important to develop a diverse and competent workforce to support the future of aviation to run safely, efficiently and smoothly. The AAAC has been invaluable, providing important input on this topic and continues to further these efforts as this is an important topic in order to create an environment where people feel comfortable as a career choice. Most importantly, entering the field of aviation must be affordable and accessible to pursue as a career and the drone industry offers a unique opportunity for more individuals to enter into the industry. A diverse workforce that provides fresh ideas and perspectives from a



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

wide range of backgrounds and experiences will be important to help solve the integration challenges for advanced aviation efforts. Mr. Mims provided several examples of opportunities available by the FAA for people to enter the field of aviation, acknowledged this exciting period in aviation and encouraged all attendees to make AAM part of the fabric of their everyday lives. Mr. Mims thanked everyone for their hard work to realize AAM and turned the meeting to AAAC Chairperson, Captain Houston Mills.

View the DFO's remarks (link is timestamped for DFO Opening Remarks):
https://youtu.be/n_TlZjvWQfg?t=237

AAAC Chair Opening Remarks

Captain Mills thanked Mr. Mims and outlined the efforts and accomplishments by the AAAC to work integration challenges to further drone and AAM operations. These efforts include: remote identification, uncrewed aircraft systems (UAS) security, part 107 waivers, un-crewed air traffic management, the Beyond Visual Line of Sight (BVLOS) Aviation Rule Making Committee (ARC) recommendations, zoning maps, safety culture, gender neutral tasking, acceptable levels of risk, strategic framework, continued progress on career development initiatives through Science, Technology, Engineering, and Math (STEM) outreach as well as on community engagement. Captain Mills was appreciative of the AAAC membership and their continued commitment to further drone and AAM efforts and turned the meeting over to Mr. Jeffrey Vincent, Executive Director, UAS Integration Office, Federal Aviation Administration, for a brief on the FAA's Responses to AAAC Task Group #13: Strategic Framework for AAM Near Term Operations Recommendations.

View the remarks from the AAAC Chair's remarks: (link is timestamped for AAAC Chair Opening remarks): https://youtu.be/n_TlZjvWQfg?t=600

FAA Response to FAA Task Group 13: Strategic Framework for Advanced Air Mobility Near-Term Operations Recommendations

Presenter:

Jeffrey Vincent, Executive Director, FAA UAS Integration Office, Aviation Safety

Mr. Vincent began the presentation by including the background on this effort, which include the FAA presenting this task to the AAAC on February 23, 2022, to both serve as an opportunity and inform the FAA as industry prepares for near-term AAM plans as well as provide comments on the FAA's draft strategic Framework for FAA Near-Term Operations.



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

In response, on October 20, 2022 the AAAC formulated a Task Group whom collaborated to formulate final recommendations into five sub-groups: Aircraft, Airspace, Operations, Infrastructure, and Community. Mr. Vincent provided the FAA responses for each of the five sub-groups, comprised of eleven recommendations and a breakdown is as follows: Aircraft; two items, Airspace; three items, Operations; one item, Infrastructure; one item, and Community; four items. Mr. Vincent turned the meeting over to Captain Mills.

There was a brief discussion period following the presentation.

The AAAC eBook provides the official report of Task Group #13: Strategic Framework for Advanced Air Mobility Near-Term Operations Final Recommendations.

View this presentation and discussion (link is timestamped for Task Group #13: Strategic Framework for Advanced Air Mobility Near-Term Operations Final Recommendations):
https://youtu.be/n_TlZjvWQfg?t=689

Task Group #14 - Accelerating Implementation of BVLOS Operations

Presenter:

Sean Cassidy, Director, Safety, Flight Ops & Regulatory Affairs, Amazon Prime Air, substituting for David Carbon, Vice President, Amazon Prime Air

Captain Mills turned the meeting over to Mr. Cassidy, who provided an overview of Task #14 aimed at reflecting the current state of the industry and engagement which included various rulemaking activities. Under Task #14, the AAAC examined the BVLOS ARC recommendations and identify opportunities where industry can assist and accelerate implementation of BVLOS regulatory actions. Mr. Cassidy provided an overview of the membership of Task Group #14, which included 19 organizations and at least 28 professionals, who participated in the effort. Mr. Cassidy reviewed the BVLOS ARC objectives, approach to the tasking, and boundaries to the concepts of operations for the Task Group. This included: long-line linear infrastructure inspections, industrial aerial data gathering, small package delivery and precision agriculture operations, including crop spraying. Mr. Cassidy turned the briefing over to Task Group Member, Mr. Ben Ivers, Boeing, who detailed the steps taken by the group and how they applied a value stream mapping approach. Mr. Ivers shared the results of the value stream mapping approach chart as part of his briefing, which detailed the waiver and exemption process from both the FAA and applicant perspectives. Mr. Ivers then turned the briefing to Mr. Cassidy who shared the positive aspects of the in-depth review of the value mapping stream effort and turned the briefing to Task Group Member, Mr. Vic Moss, Moss Photography, who provided insights, findings and examples of the waiver and exemption process. Mr. Moss



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

returned the briefing to Mr. Cassidy, who provided detailed results of the value stream mapping approach which included eight areas as opportunities for improvement along with providing detailed reviews of the six recommendations from the Task Group, supported by Mr. Dallas Brooks, Wing, for recommendation #4, and Ms. Jen Player, Skydio, for recommendation #6. At the conclusion of the briefing, which included discussion and exchanges on the tasking efforts, Mr. Cassidy turned the meeting over to Captain Mills, who thanked the group for their hard work and brought forth a motion to present the recommendations of Task Group #14 to the FAA, which was approved by the members. Captain Mills turned the meeting over to Mr. Kolb, who provided notice of a 15-minute break.

The AAAC eBook provides the official report of Task Group #14: Accelerating Implementation of BVLOS Operations.

View this presentation and discussion (link is timestamped for Task Group #14: Accelerating Implementation of BVLOS Operations: https://youtu.be/n_TlZjvWQfg?t=1416)

After a 15-minute break, the AAAC meeting resumed, and Mr. Kolb introduced Mr. Kenji Sugahara.

AAAC Task Group #15 Community Engagement Lessons Learned Recommendations

Presenter:

Kenji Sugahara President and Chief Executive Officer Drone Service Providers Alliance

Mr. Sugahara, provided an overview of the tasking from the October 2022 meeting and noted the Task Group was comprised of twelve organizations with support provided by multiple AAAC members and subject matter experts. Mr. Sugahara stated the tasking for the group was to identify best practices and lessons learned regarding community engagement methods. Mr. Sugahara stated the subgroup was focused on both UAS and AAM communities regarding community engagement and the process and outcomes which are not technical in nature. Mr. Sugahara described the basic approach used, as creating a “cookbook” for an outreach plan that could be scalable and adapted to the context being used for the stakeholder and audience using key principles, concerns, and areas to address in the outreach plan. Mr. Sugahara noted the document is a living document and should be easy to understand, identify stakeholders, interest groups and emphasize safety and privacy concerns as well as noise and environmental topics along with economic and overall public impacts. Mr. Sugahara shared the need to include information for contingency situations, coupled with the need to engage the public and provided suggestions to foster stakeholder and community engagement. The Task Group recommended (the) outreach plan should be hosted by a neutral party involved in aviation, be publicly available, and updated at regular intervals through an established process.



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

There was a brief discussion following the presentation. After the discussion, Mr. Sugahara turned the meeting over to Captain Mills, who thanked the group for their hard work and brought forth a motion to present the recommendations of Task Group #15 to the FAA, which was approved by the members. Captain Mills turned the meeting over to Mr. Bernstein.

The AAAC eBook provides the official report of Task Group #15: Community Engagement Lessons Learned Recommendations.

View this presentation and discussion (link is timestamped for Task Group #15: Community Engagement Lessons Learned Recommendations: https://youtu.be/n_TlZjvWQfg?t=4282)

FAA – Innovate28 Information Briefing

Presenter:

Mitchell Bernstein, Innovate28 Project Manager, FAA Office of NextGen

Mr. Bernstein provided an overview on FAA efforts to operationalize an AAM ecosystem, entitled Innovate 28, which focuses on implementing AAM operations at one or more key sites by 2028. Mr. Bernstein outlined internal and external groups engaged, the extent of activities conducted and provided an overview of recent efforts. This includes: FAA subgroups, repeatable near term and longer term operational goals, implementation plan schedule, projected implementation elements as well as next steps to realize this effort. Mr. Bernstein emphasized the extensive engagement with industry and standards organizations, Federal interagency partners as well as with local and community organizations. Mr. Bernstein also noted how the subgroups are tied into the U.S. Department of Transportation Advanced Air Mobility Interagency Working Group (AAM IAWG) sub-groups to ensure coordination. Mr. Bernstein noted an Innovate28 draft implementation plan is scheduled to be released in May 2023, which will include a high-level strategy of AAM operational evolution in the document.

There was a brief discussion following the presentation. As part of this discussion, Mr. Peter Irvine, Deputy Director, Office of Aviation Analysis, Office of Secretary of Transportation (OST), provided an overview of efforts underway to realize AAM efforts, including recent momentum on the AAM Coordination and Leadership Act, which was signed into law by President Biden in October 2022. As a result, working groups were created in February 2023 to serve as a means of coordinating Federal agencies and industry to support the future of aviation. Mr. Irvine stated the effort is coordinated by OST, with a report expected to be provided by February 2024, followed by a National Strategy planned to be released by August 2024. Mr. Irvine provided an overview of the subgroup membership with their focus and emphasized the need for input from stakeholder and industry groups. Mr. Irvine announced that a request for



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

information is expected to be released from OST in the May 2023 timeframe, and strongly encouraged responses from the AAAC membership.

Mr. Bob Brock, Kansas DOT, made comments regarding the need to make provisions to accommodate vertiports at airports with responses provided by Mr. Bernstein and Mr. Irvine.

Ms. Jessica Sypniewski, Deputy Assistant Administrator, FAA Office of NextGen, requested input from industry to determine AAM priorities for both the mid-term and longer-term strategy efforts.

There was additional discussion regarding how the FAA is coordinating internally between the UAS Integration Office and the Office of NextGen including: air corridors, efficient use of existing infrastructure and resources, and the need to provide scalable guidance for approval of operators.

Captain Mills thanked the members for their interest and viewpoints as well updates on Innovate28. Captain Mills closed the session with open discussion.

View the presentation and discussion (link is timestamped for Innovate28 Informational Briefing presentation): https://youtu.be/n_TlZjvWQfg?t=6779

New Business/Agenda Topics

Mr. Mills opened the floor to Committee members to raise any new business or agenda items.

Topics for the FAA to consider for future taskings included:

- Dr. Paul Hsu raised the topic to create a task group to coordinate and evaluate a partnership with the U.S. Department of Defense regarding opportunities to identify areas of mutual interest for integration efforts for the nationwide implementation of UAS and AAM.
- Mr. James Grimsley, raised the topic of including areas of opportunities for innovation in infrastructure investment, including technologies for not only aviation based AAM efforts, but to be mindful of other transportation and land based autonomous technologies.
- Mr. Kenji Sugahara raised the topic for the AAAC to include insurance industry requirements in the development and refinement of regulations.
- Mr. Jim Viola, raised the topic of the need to include helicopter operations as technology and regulations evolve and to raise public awareness of current efforts.
- Mr. Vic Moss raised the topic of the need for community engagement regarding UAS operations and to initiate a task group to develop awareness training for future AAM operations.
- Captain Mills encouraged members to submit any new ideas or taskings to him, which he will forward to the FAA.



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

View the discussion (New Business/Agenda Topics): https://youtu.be/n_TlZjvWQfg?t=9691

Closing Remarks and Adjourn

Mr. Mims acknowledged two new FAA executives who will be working closely with members of the AAAC, Mr. Jeffrey Vincent, Executive Director, FAA UAS Integration Office, as well as Ms. Jessica Sypniewski, Deputy Assistant Administrator, FAA Office of NextGen, and encouraged AAAC members to provide their continued enthusiastic support. Mr. Mims stated the next meeting is planned for late August 2023 and thanked all of the presenters, as well as those who help make the AAAC possible. He then turned the meeting over to Captain Mills, who thanked the AAAC for all of their hard work and thought leadership.

Captain Mills asked for a motion to adjourn the meeting. The motion was approved, and the meeting was adjourned.

View the closing remarks (link is timestamped for Closing Remarks and Adjourn):
https://youtu.be/n_TlZjvWQfg?t=10382



Advanced Aviation Advisory Committee

April 26, 2023 AAAC Meeting

Appendix A: FAA Designated Federal Officer, Presenters, and Speakers

Name	Title	Org.
1. Brad Mims	Deputy Administrator and Designated Federal Officer (DFO)	FAA
2. Jeffrey Vincent	Executive Director, UAS Integration Office	FAA
3. Mitchell Bernstein	Innovate 28 Project Manager	FAA
4. Sean Cassidy	Director, Safety, Flight Ops & Regulatory Affairs, Amazon Prime Air	
5. Gary Kolb	UAS Stakeholder & Committee Officer, UAS Integration Office	FAA

FAA/DOT Observers and Stakeholders

Name	Title	Org.
1. Vinn White	Associate Director for Transportation Policy	DOT
2. Peter Irvine	Deputy Director, Office of Aviation Analysis	DOT
3. Hillary Heintz	Senior Advisor to Deputy Administrator	FAA
4. Tonya Coultas	Acting Associate Administrator, Security & Hazardous Materials Safety	FAA
5. Jodi Baker	Deputy Associate Administrator, Aviation Safety	FAA
6. Jessica Sypniewski	Deputy Assistant Administrator, NextGen	FAA
7. Christopher Loring	Chief of Staff, NextGen	FAA
8. Lorelei Peter	Deputy Chief Counsel for Strategic Operations	FAA
9. Tracy Edwards	Acting Deputy Director, UAS Integration Office	FAA
10. Sherita Jones	Acting Chief of Staff, UAS Integration Office	FAA
11. Jennifer Riding	Communications Outreach Specialist	FAA
12. Alexis Smollok	Business Analyst, UAS Integration Office	FAA



Advanced Aviation Advisory Committee

August 23, 2023 AAAC Meeting

Public Comments Received Since April 26, 2023



COMMENT to FAA Advanced Aviation Advisory Committee (AAAC)

August 15, 2023

Submitted to Gary Kolb, Advanced Aviation Advisory Committee Manager, Federal Aviation Administration, U.S. Department of Transportation, at gary.kolb@faa.gov

In response to the [August 8, 2023 Federal Register Notice](#), the AICA is submitting this written statement to the committee. The AICA includes 70+ groups across the country working to protect communities from harmful levels of aviation noise and pollution.

The community's expectation for the AAAC is to provide advice on key drone and AAM integration issues by helping to identify challenges and priorities and address the real and potential negative environmental impacts of AAM on communities. AAAC advice cannot focus solely on or be over-weighted by the advancement of the aviation industry despite the \$10B investment to date¹. FAA Kevin Walsh's testimony to the House Committee on Transportation, March 17, 2022, "The FAA's core mission...[is to provide the safest and most efficient aerospace system in the world. This mission also] includes addressing the environmental impacts of [aviation, such as climate change, local air quality, and] noise." An Advanced Air Mobility environment must work for all, and the AAAC should support this.

The FAA and, therefore, the AAAC have not adequately included community voices in the recommendations and implementation processes of new aviation technology. We are not included as primary stakeholders for advanced air mobility, and we have no representation on your committee. The FAA is ignoring its "sins of the past", a phrase used recently by an FAA employee during a public webinar on the FAA's Noise Policy Review. Those "past sins" include ignoring the need to have community stakeholders who are equal in number and voice to industry stakeholders on advisory committees and the FAA's lack of community participation, engagement, and dialog **prior to** new procedure and technology implementation. It appears that the FAA learned little from its failed implementation of the NextGen program which has sacrificed communities across the country, along with residents' health and quality of life. AICA wants to help ensure a better outcome for the implementation of advanced air mobility into our national air space.

The AAAC Charter states "The advice, recommendations, and taskings relate to improving the efficiency and safety of integrating advanced aviation technologies, ..., while equipping and enabling communities to inform how UAS, AAM, and other technologies **may operate in ways that are least impactful to those communities.**" Yet, the AAAC is expected to achieve this objective without a community voice on its committee, a voice that represents communities that will be negatively impacted by advanced air mobility.

To fulfill its Charter, our request to the AAAC begins with:

1. **Require at least one Community member to serve as a Community Advocate Representative on the FAA AAAC.** Such Community member must not be affiliated with, receive funds from, or provide services to the FAA, the aviation industry, or aviation industry consultants.

To ensure that the AAAC is populated with all needed experts to fulfill its objectives, we also request the AAAC to:

¹Source: SMG Consulting AAM Reality Index (last accessed 11/10/22)

2. **Create a community subcommittee of Special Government Employees members who are appointed solely for their individual expertise as laypersons exposed to or expected to be exposed to advanced air mobility noise, pollution, lack of privacy, nuisance, fears, and safety concerns.** This subcommittee should be charged with advising the full AAAC on “how UAS, AAM, and other technologies may operate in ways that are least impactful to those communities.” for the AAAC to fulfill this objective from its Charter.

Along with these two AAAC membership requests, we also encourage the AAAC to do the following:

3. **The presentation “Task Group #15 Community Engagement Lessons Learned/Best Practices Recommendations” at the AAAC April 26, 2023 meeting shows potential but lacks specifics for accountability.** For example, will “Community groups and organizations” be stakeholders versus “stakeholders to be considered”. It is unclear if non-aviation industry stakeholders will have timely engagement—before decisions are made and while changes can still be made to communications and programs, and if adequate information will be provided on noise and environmental impacts to those who will be affected.
4. **Community groups/organizations must be key stakeholders in all high-level activities of the AAM Integrated Master Schedule,** not only after Phase 5: “Post-implementation”.² The messaging to include the community does match the plan. This is the written message: “The FAA encourages communities to get involved now in these early phases, and to stay engaged”³ and “Public engagement and education through involvement of all stakeholders will be necessary to ensure that communities understand the benefits and impacts of AAM operations, and to address any concerns they may have.”⁴ However, the Integrated Master Schedule document shows “Community/Stakeholder Engagement”⁵ as a combined line item that starts at the beginning of the schedule. In fact, industry stakeholder engagement starts at the beginning, not the Community engagement. The Community engagement is only at the end of the schedule, after procedure development, evaluation, and implementation according to the “Detailed List of Activities in the Integrated Master Schedule Version 1.0”⁶.
5. **Innovate 28 (I28) should require that “collecting data” include environmental impacts, the type of AAM uses, and community engagement reports.** There should be monitoring reports for counts of AAM events using Lmax bands in 5dB increments between 45 dB and 80 dB. The T-Above metric needs to be reported as well to capture the duration of AAM “hovering” events. Reports on community engagement activities should include the type of outreach, number and type of attendees, timing relative to the decision-making process, level of transparency, feedback on whether information shared reflects the laymen’s experience of noise and visual pollution impacts. Information on the type of AAM uses should include the number and percentage of operations for transporting non-medical passengers, medical personnel and patients, goods, etc. Given that AAM is an emerging aviation ecosystem, detailed data is needed for I28 implementations to inform advanced regulations and to create a cost & benefits profile.

²Advanced Air Mobility (AAM) Implementation Plan, Version 1.0/July 2023, p 30
<https://www.faa.gov/sites/faa.gov/files/AAM-I28-Implementation-Plan.pdf>

³Ibid. p 4

⁴Ibid. p 4

⁵Ibid. p 29

⁶Ibid.

6. **Abandon the community engagement model of “Decide, announce, defend”⁷** and instead practice “...meaningful dialogue to address negative impacts of past FAA actions and of future FAA actions before decisions are made.”⁸ “Formal research on airport public involvement, research on other transportation modes, and research on other institutions that deal with the public all confirm that the “we vs. they” or “decide, announce, defend” approach has failed and must transition to strengthened two-way communications to have a better chance for long-term success.”⁹
7. **The evaluation and decision making for environmental impacts, including AAM, should relate to and represent the layperson’s lived experience** by using the metric of N-Above in Lmax bands, some reasonable threshold(s) for significant impacts, some ambient noise consideration, and should include total noise and visual impacts. Pursuant to 49 U.S. Code (U.S.C.) 44715, the FAA has the responsibility to “protect the public health and welfare from aircraft noise.” Total impacts (noise and visual) should include ALL current aviation impacts from:
 - multiple airports/helipads/drone launching & landing pads
 - multiple vehicle types (including new AAM),
 - multiple flight paths - procedure or vector, and
 - multiple specialized vehicle operations (e.g., hovering).
8. **Do not use the NextGen implementation as a best practice model for AAM** because NextGen excluded the community as a key stakeholder in all FAA processes and assessments. The community engagement was flawed. “The FAA is taking a holistic approach to the efforts required for AAM implementation. The I28 leadership team in the NextGen organization (ANG) established iTeams comprised of representatives across FAA lines of business (LOBs) to bring together expertise in different areas associated with AAM implementation and foster collaboration in the planning and execution of required activities. The iTeams represent the major workstreams associated with AAM implementation, including Certification, Airspace and Air Traffic Management, Infrastructure, Environment, Hazardous Materials Safety, and Community Engagement.”¹⁰ In addition, the current DNL and thresholds for decision making do not reflect the laymen’s experience of NextGen impacts, and will not either for AAM impacts.
9. **Create a “Questions & Answers” task force in 2023, with adequate representation of potentially impacted communities** to identify and answer the public’s AAM concerns for public communications. AAM can fundamentally alter the character of neighborhoods, cities, states, and the nation, impacting the quality of life for all. Public rejection will be a barrier to AAM implementation.
10. **Do not use the inadequate FAA’s 2016 Community Involvement Manual (CIM) for AAM Community Engagement.** “The FAA’s Community Involvement Manual provides flexible guidance and best practices applicable to all FAA actions and will be leveraged for AAM operations and I28.”¹¹ The CIM has not delivered on its assertions “we are accountable to the American Public,” “commitment to inform and involve the public and to give meaningful consideration to

⁷Jackson, Margaret Campbell. *Public Involvement in Transportation: Collaborating with the Customers* *TR New*, Number 220, May-June 2002, p. 3.

⁸Community Engagement and DISEngagement, ANE Symposium, May 2022

⁹Aircraft Noise: A Toolkit for Managing Community Expectations (2009), National Academies, ACRP Report 15

¹⁰Ibid, p 15

¹¹Ibid. pg 27

community concerns and views as the FAA makes aviation decisions that affect them”.¹² The NextGen community engagement underperformed and efforts over the last few years 2020-2022 has continued this underperformance. A survey to community groups on whether FAA Community Engagement for local topics has improved, reported 31% No Improvement, 28% Worse, 28% Improvement, and 13% No Engagement/Unknown¹³. The AAM Implementation Plan states “It is important that the public understand how these new aircraft operations will impact their communities.”¹⁴ The public does not want understanding; it expects meaningful dialogue to address negative impacts of past FAA actions and of future FAA actions before decisions are made. The iTeams represent the major workstreams associated with AAM implementation including Community Engagement¹⁵ and therefore Community Engagement should be updated and evolve to reflect the emerging aviation landscape.

11. **Address the issues reported by respondents to the survey “Scorecard on FAA Community Engagement”¹⁶** (presented at the ANE Symposium 2023) that are relevant to AAM.
 - Overweighting of aviation efficiency and underweighting of environmental Impacts.
 - Community engagement is constrained because FAA’s interpretations are limited to the DNL 65 threshold for Significant Impact.
 - Communities are not co-equal with other key external stakeholders - not represented, underrepresented, or questionably represented.
 - Current community engagement policies and processes restrict problem solving and instead the focus is on the outcome of “understanding and acceptance”.
 - Deficient Collaboration such as a presentation without dialogue, shared information on impacts that is not understandable and misleading, and not notified and engaged up front.
 - Some communities are excluded: not all roundtables are engaged, some communities do not have roundtables, and some roundtables restrict membership based on criteria that have nothing to do with aircraft impacts.
 - Need to build trust: check the box mindset, over focus on process versus outcomes, and actions, research and presentations do not adequately address and/or represent community concerns.

Respectfully Submitted,

Darlene Yaplee and Cindy L. Christiansen, PhD, Co-founders
[Aviation-Impacted Communities Alliance](https://aviationimpactedcommunities.org)
info@aviationimpactedcommunities.org

¹²FAA Community Involvement manual, 2016 p II

¹³FAA Community Engagement Scorecard – Is the FAA’s Community Engagement Improving?, ANE Symposium, May 2023

¹⁴Advanced Air Mobility (AAM) Implementation Plan, Version 1.0/July 2023, p 27
<https://www.faa.gov/sites/faa.gov/files/AAM-I28-Implementation-Plan.pdf>

¹⁵Ibid. p 15

¹⁶Community Engagement and DISEngagement, ANE Symposium, May 2022