

Maine Aeronautical Advisory Board

June 12, 2019

1:00 p.m. to 4:00 p.m.

Main Conference Room – MaineDOT Augusta (24 Capitol St.)

AGENDA

- 1:00** **Call to Order and Introductions – Scott Wardwell**
- 1:05** **Review and Accept October 24, 2018 Meeting Minutes**
- 1:10** **Review and Vote on Proposed By-Law Amendments – Mary Ann Hayes**
- 1:20** **Recommendations to the Commissioner for Board Memberships – Mary Ann Hayes**
- 1:25** **Election of Officers – Stacie Haskell**
- 1:30** **Statewide System Plan and PCI Update – Aviation Staff**
- 1:40** **Update on Maine’s ranking on the amount of funding from FAA in the New England Region**
- 1:50** **Omnibus Grants – Aviation Staff**
- 2:00** **FAA Update – Ralph Nicosia-Rusin**
→ **Determinations of Critical Aircraft**
→ **Crosswind Runway Requirements**
→ **Update on Improvements to AGIS and New Modules**
→ **Questions and Suggestions to bring back to our division**
- 3:00** **New Rules on Recreational Drone Use – Evan McDougal**
- 3:15** **Snow Control Expectations and Realities Post RCAM**
- 3:25** **Discussion on the New Pavement Marking Advisory Circular**
- 3:35** **Other Business**
→ **Next Meeting – Date, Location, Agenda**
→ **Event updates and announcements**
- 3:45** **Public Comment**
- 4:00** **Adjourn**

**Maine Aeronautical Advisory Board
MaineDOT Headquarters, Conference Room #216
24 Capitol Street, Augusta, Maine**

**October 24, 2018
1:00 p.m. to 3:10 p.m.
[Decisions made in bold italic.]**

MEETING MINUTES – (DRAFT)

Call to Order and Introductions

Allison Rogers called the meeting to order at 1:03 p.m. Board members and MaineDOT aviation staff introduced themselves, followed by all others in attendance. There was remote participation.

Board Members Present:

Allison Rogers, Sanford Seacoast Regional Airport
Lisa Reece, Maine Aeronautical Association
Guy Rouelle, DuBois & King
Evan McDougal, Hoyle, Tanner & Associates, Inc.
Ervin Deck, Stantec Consulting Services, Inc.
Kristopher Reynolds, Biddeford Municipal Airport
Sean Collins, Aircraft Owners & Pilots Association
Marty McMahon, Brunswick Executive Airport
Rick Lanman, Auburn – Lewiston Municipal Airport
Josh Dickson, LifeFlight of Maine
Brad Madeira, Bar Harbor/Hancock County Airport

Board Members Absent:

Scott Wardwell, Presque Isle Airport, Board Chairman
Randy Marshall, Waterville – Robert LaFleur Airport

Other Attendees:

Mary Ann Hayes, MaineDOT
Stacie Haskell, MaineDOT, clerk
Tim LeSiege, MaineDOT
Amy Rau, MaineDOT
Jennifer Grant, MaineDOT
Jeff Northgraves, Knox County Regional Airport
Patrick Sharrow, Hoyle, Tanner & Associates, Inc.
Kenn Ortmann, Belfast Airport Committee
Brady Brewster, Jacobs Engineering
Jackie Marks, Gale Associates, Inc.
Randall Wall, LifeFlight/BEFC
Rich Tetrev, Wiscasset Airport
Thomas Kittredge, Belfast Municipal Airport
Barry Valentine, Maine Aviation Business Association
Richard Yarnold, Ballantine Aviation Consulting Services, PLLC

On the Phone:

Barry Hammer, Federal Aviation Administration
Luke Garrison, Federal Aviation Administration
Brittany Davies, National Business Aviation Association
Victoria Forkus, Newton Field Airport/Town of Jackman

Review and Accept June 27, 2018 Meeting Minutes

Rick moved accepting the minutes as presented. Kris seconded. *The minutes were unanimously approved as presented.*

Long Range Plan Update – Jennifer Grant

Currently developing the draft, it is 60-70 % complete. We are still meeting with stakeholders. If you haven't taken survey yet please do so, it will be open through November. The original goal was to get 10,000 respondents to the survey, at last check it was 1,000. Hope to have draft complete by end of this year and out early next year. The primary goal is a well-managed system with safe and secure travel for all modes, connectivity and accessibility. Looking to maximize resources and partnerships

Statewide System Plan RFP and PCI Update – Aviation Staff

Mary Ann reported that the System Plan RFP is behind schedule. Staff pulling samples from other states. Will be sending to all committee members to review for models and sections to include or not in line with goals identified in June. Hope to dedicate time to it in December with an RFP issued by early February.

Tim reported that the PCI project is underway. 10 airports surveyed and completed with 18 to go. Milestone coming up in a month and a half.

What is the process, what can airport manager expect?

Tim - Survey crew goes out and measures cracks broken up in several sections, all airfield pavement. Will be put in system database with a plan developed for each airport on what you should do over the next 5 years, a pavement and maintenance CIP. Will also have a statewide plan with priorities.

Guy (Dubois & King is contractor) – we contact airport manager and give 2 weeks' notice and work with airport manager when we get there. Do 15-minute PPI, without actual shutdown of the airport. Will be having meeting with FAA and MaineDOT soon with sample.

G.A.R.D. – Mary Ann Hayes

What is the Board's thoughts/feeling if the state purchases upgrade to the G.A.R.D. system and have it automated so there isn't so much e-mail and data entry. Should this be a cost share and voluntary or a requirement that the state purchases?

Lisa – Requirement doesn't sound good. Is it based on flight operations? Maybe not required for Machias but is for Augusta.

Tim – It is not just for operations but the safety aspect as well. NTSB has already been using recordings for investigations. New system is ADSB equipped. With ADSB you can retrieve a lot more information including the registered owner and can use as marketing.

Sean – Safety side makes sense, operations side maybe not so much as small planes will typically not have ADSB and are the majority of planes using GA airports.

Allison – Works great for training, resolving disputes --- from the construction contractor to an assortment of pilots. The ADSB takes this to a whole new level. Feel it is extremely valuable. Maybe incentive instead of requirement. Airport should have a stake in it, not the state paying 100%. If put it out there, then there should be training.

Guy – Works great to show the public the actual data, not just modeled estimates.

Tim – In Florida it is 90% accurate data.

Kris – When will it be available?

Tim/Mary Ann – depends on timing of funding and how will it be funded? Will there be a local match?

Evan – Maybe if you don't want it at your airport you don't get the State 5%. Airport will need wireless connection.

Tim – System does not need to be at the airport.

Erv – The data is invaluable. Right now, using fictitious data and very hard to look at the public straight faced. It needs to be installed at every airport.

Marty – Even if not every plane is counted due to lacking ADSB, trend data is very important and the G.A.R.D. trend data matches the fuel sales.

There is a concern that operations will affect funding. It will not. Funding is based on based aircraft and the NPIAS.

Erv – What is estimated cost? Mary Ann -- less than \$250,000.

Approximately 17 airports currently have the original G.A.R.D. system.

Sean motioned for the board to recommend that MaineDOT: (1) make the purchase of the full G.A.R.D. system at state expense for the FAA/DOT obligated airports, (2) reimburse airports that make the purchase ahead of the state schedule, and (3) offer a preferred FAA AIP match % rate for those airports that opt to participate. The motion was seconded by Marty and voted 10-0-1 (Lisa abstained).

Transportation Conference – Aviation Staff

Chris Mann – The Transportation Committee cannot accommodate the request this year to have a panel on aviation, reason being that the theme is ITS and more specifically autonomous vehicles. That was unanimous that was the direction they wanted to go. That being said, Chris will be an advocate for pushing for next year if the Board would like.

Rick – Are drones on the agenda? Chris – Not sure, I would have to check.

Allison – Who makes decision on who is on committee?

Chris – Maine Better Transportation, MaineDOT, American Society of Civil Engineers (ASCE)

Tim suggested an alternative to the Transportation Conference. That conference has been highway and bridges for years. Why don't we hold our own aviation-based conference? You can have seminars for different things.

FAA used to have a bi-annual regional conference that was well attended. They are hoping to bring that program back; it has been discontinued. Barry Hammer suggested reaching out to Massachusetts to see what they are doing.

Tim suggested tying with the Aviation Forum in February. The group feels February is a bad time. Spring or fall were preferred times of the year.

Allison asked for a sub-committee to gather to brainstorm. Tim offered to be the point person.

Omnibus Grants – Aviation Staff

4 grants applied for under phase 1, Rangeley was the only one in Maine that was awarded a grant in the amount of approximately \$11.5 million to extend and reconstruct the runway.

Rangeley update – starting on relocation of Loon Lake Road. That end will be extended approximately 400 feet. First layer of pavement to be applied before snow fall. Earthwork moving on other end as well.

Evan – feedback from FAA (Priscilla) was that when you submit an application for this supplemental funding, in order to compete well delete some of the add in's (like including a taxiway with runway). Leave just for high priority work like the runways.

NASAO Conference Update – Tim LeSiege

- FAA is expanding the Block Grant program to 20 states and is looking for participants. While there are some positive aspects of moving to this program, MaineDOT does not have the staff to do so.
- NASAO has created the NASAO Center for Aviation Research and Education. It is an online workforce education program meant for State Aviation Officials, but may be expanded to include others.
- An Airport Cooperative Research Program regarding Performance Measures for Airports and States is now underway. MaineDOT has submitted PMs that were initially developed a few years back. As you all may recall, Department management was not satisfied with them and wanted us to develop different Performance Measurement Indicators. We hope this ACRP project can help identify acceptable and measurable PMI's for Maine.
- FAA Reauthorization was discussed (passed a few days after the conference), see the handout. The AIP was passed and \$1 billion per year in supplemental funding was added. FAA noted that \$762 million of entitlement was carried over. The unused entitlement gets put into the discretionary account. It was made very apparent that the unused entitlement monies that get carried over (not used at all in a fiscal year) wrecks havoc with the FAA budgeting fiscal year to fiscal year. No clear answer how to fix the problem. The good news is that Maine doesn't contribute to this issue because we do our best to transfer funds each year from airport to airport as needed.
- ATC will not be privatized.
- Some discussion of the Helicopter industry, they are short about 7000 pilots and 40k A&P mechanics. They are looking to invest in workforce development and are looking for opportunities.
- There was a discussion about State Aviation taxes and the various ones in place in the nation.
- The Omnibus package has already announced the 2018 grant awards. There were over 487 requests submitted, of that, only 37 airports received grants. Of the 37, 26 grants were awarded to small-hub and non-hub airports that were listed in the priority list. The remaining 11 grants went to GA airports. The total value of the 11 grants going to GA airports was \$55 million, of that over \$11 million was awarded to the Stephen A Bean Municipal airport for a runway extension and reconstruction. The applications were reviewed by a nationwide team comprised of FAA staff from various regions and facilitated by FAA HQ.
- Neat fact: In Oklahoma, the state provides a \$5000 per year tax credit to engineers in the aerospace industry. This credit is good for 5 years. It is meant for new engineers and the hiring companies. It is a very successful program.
- There was a lot of discussion on drones and the states that use them, even for aviation purposes.
- A few states run an AIRTAP (Airport Technical Assistance) program. See Tim for more information.

Omnibus Grant applications-

Mary Ann asked that sponsors and consultants please send Stacie copies of grants submitted so that MaineDOT knows what is being requested. We otherwise are in the dark until awards are announced.

Known:

Steven A Bean Municipal – Runway extension. reconstruction awarded, \$11.5 million
Auburn – Lewiston Municipal – East Ramp Reconstruction application, \$1.4 million
Eastport Municipal Airport – Design, Permit, Reconstruct Runway 15-33, \$5.25 million
Lincoln Regional Airport - Design, Permit, Reconstruct & Shift Runway 17-35, \$4.51 million
Machias Valley Airport – ALP Update with Narrative Report – PH 1 of a Construct Runway (5000'), \$200k
Millinocket Municipal Airport - Design, Permit, Reconstruct Runways 11-29 & 16-34, \$9.3 million
Newton Field – Design, Permit, and Reconstruct/Widen - Extend Runway 13-31, \$4.8 million

Rumored:

Sanford Seacoast Regional Airport – **Allison will forward copy of grant application to Stacie.**
Portland Jetport – MaineDOT has no information.

Aerospace Manufacturing Attractiveness – Sean Collins

Sean reviewed the recently published 2018 Aerospace Manufacturing Attractiveness Rankings. comparing states. Very disappointing to see Maine ranks 51 in aerospace manufacturing. Ranking broken out by 6 different categories. We do best in is labor and infrastructure, where we are in the middle of the pack (26th for labor, 24th for infrastructure). Based on sessions Sean has sat in on at Legislature, some of the areas we are already working on as a state. We are 43rd on cost and may not be much we can do about that. We are 42nd in economy and 39th in tax policy. Good information to be aware of. Marty – if we looked at aviation tax structure alone we probably would rank fairly high. Allison thanked Sean for sharing this good information and analysis.

Runway Cameras – Josh Dickson

Josh – LifeFlight Maine was successful with a very short 7-day window for a grant application. Submitted proposal based on airport security for runway cameras. Trying to find a runway condition at 2 in the morning at an airport has proved very challenging. Applied for grant and were very lucky to get almost all the money just shy of \$100,000. Will cover 22 airports and some helipads. Helipads will not be visible on internet as the airports will for privacy issues. Grant through Maine Emergency Management System. Josh has partnered with Randall Walls, an IT specialist, to select and install the equipment.

Randall displayed the camera and WiFi connectors to be installed – Don't need internet at airport for it to work. Camera is motion sensed. Camera works all the time but does not record until motion sensed. IR portion of camera maxes out at 100 in the dark , needs to be close to runway.

Josh – If attaching to an already mapped obstruction, then there is no issue. Each airport will be a different scenario how we install, some may be impossible. It will be airport by airport. This system will benefit all pilots/aviators, not just LifeFlight. There is a plan in place on installation and who and when they will be installed. If an airport installs one on their own, Josh is more than happy to host.

Evan – Carrabassett Valley has a camera installed and FAA allowed another installed with the fuel farm grant.

Randall – Do airports here have a desire for recording capabilities? Unanimous response – yes.

Nominations for Board Members – Stacie Haskell

The following individuals were nominated to a 2-year term effective January 1, 2019; bios were provided:

Kenneth N. Ortmann, Belfast Airport Committee (new nomination)
Marty McMahon, Brunswick Executive Airport (renomination)
Sean Collins, Aircraft Owners & Pilots Association (renomination)
Bradley C. Madeira, Hancock County – Bar Harbor Airport (renomination)
Evan R. McDougal, Hoyle, Tanner & Associates (renomination)
Lisa R. Reece, Maine Aeronautics Association (renomination)
Ervin Deck, Stantec Consulting (renomination)

Stacie reminded the Board that the nominations handed out were to fill board slots for a 2-year term beginning January 1, 2019. Some would be renewals and one would be a new member, bringing the size of the board to its maximum size of 13 members according to the bylaws adopted in March. **Rick moved that the Board recommend the full slate of nominees as presented to Commissioner Bernhardt for appointment. Kris seconded the motion, which then passed unanimously.**

Draft Revisions to State Statute – Mary Ann Hayes

Mary Ann reviewed proposed changes to the statute as discussed in March to delete outdated references and get terms synchronized on fiscal year calendar to match new bylaws structure. We are proposing to have

Commissioner do all appointments. **Allison moved that the Board recommend the changes as proposed. Kris seconded the motion, which passed unanimously.**

Other Business

- **Maine Airport Manager's Committee Update**
Hasn't met. No update.

- **Maine Aviation Business Association Update**
Barry Valentine reported that MABA had just met this morning and is working to regenerate the organization. Membership has been an issue. Looking to take a different approach with organization. Still very interested in being a voice for the aviation business. How can our voice be heard? Becoming associated with various trade groups and organizations. Guy Rouelle was elected as a new member to the board. We are looking for additional board members; help get the word out. Contact Barry Valentine valaero@aol.com or Allison Rogers at marogers@sanfordmaine.org if you are interested. Next meeting will be in December.

- **Maine Aeronautics Association Update**
Pilot organization here to promote and serve pilot association. Put on a lot of safety seminars, fly-ins. Have bike programs at Brunswick and Bethel. Pittsfield now as well. Couple of events coming up January soup Sunday in Wiscasset, March Chili cook off. If you are not a member, you should be! Just had a tour of Boeing, it was an amazing operation; Kenmore Air was great. Lisa flies out of Wiscasset and you can find her on their website. If you are a member, you get reminders of events.

- **Next Meeting – Date, a Location, Agenda**
The time, business and location of the next meeting were discussed. At this point, member and staff effort are directed to subcommittees on the System Plan RFP and Aviation Conference. While it is interesting to visit airports, the MaineDOT office is the preferred central location and offers the Adobe Connect system.

Next meeting will be the Annual Meeting on June 12, 2019, 1:00 p.m. to 4:00 p.m. at the MaineDOT headquarters in Augusta unless a meeting is needed prior (which could be by teleconference). Recall that physical Board attendance is REQUIRED at the annual meeting.

Public Comment

There was no public comment.

Adjourn

The meeting adjourned at 3:10 p.m.

Maine Aeronautical Advisory Board Bylaws

Adopted 3-28-18 – Proposed for Amendment 6-12-19

ARTICLE I Name and Origin

The name of this organization is the Maine Aeronautical Advisory Board and shall be referred to herein as the MAAB, or the board.

ARTICLE II Purpose and Duty

The purpose and duty of the MAAB is to actively advise the Maine Department of Transportation (hereinafter the Department) on all matters related to aeronautics, including recommended changes to state statute.

ARTICLE III Membership and Terms

1. The MAAB shall be comprised of no fewer than seven (7) nor more than ~~thirteen (13)~~ fifteen (15) voting members appointed by the commissioner of the Department according to the provisions of 6 MRSA §302.
 - ~~1.1. — To satisfy the requirement that one member be selected by a statewide aviation association's board of directors, the Commissioner of Transportation (hereinafter the Commissioner) shall ask the Airport Managers Committee of the Maine Aviation Business Association to select a representative.~~
 - ~~1.2. — To satisfy the requirement that one member selected by a statewide pilots' association board of directors, the Commissioner shall ask the Maine Aeronautics Association to select a representative.~~
 - ~~1.3. — When appointing, the Commissioner shall seek to ensure that a broad cross-section of perspectives is represented on the board.~~
2. Terms shall normally be for two years, except for one-year terms assigned to balance terms expiring in odd- and even-numbered years. In addition, a member may be appointed to serve out the remainder of a term in the case of a vacancy. To the extent practicable, terms shall be staggered so that approximately half the board terms are refreshed each year. At the completion of a term, a member may be reappointed to serve at the pleasure of the ~~respective appointing authority commissioner.~~ There are no term limits.
3. Members shall be expected to maintain regular communications with the clerk, typically via email. Attendance at all meetings is an expectation of board service. If a member is unable to attend all or part of a meeting, the member is expected to notify the clerk and supply an explanation. Such absences, at the discretion of the chair and clerk, may be considered excused.
4. A board member shall be considered to have vacated her or his position following unexcused absence of three (3) meetings during any two (2) year term. Such a vacancy shall be recommended by the board to the respective appointing authority, who shall make the final decision. The clerk will send a warning to any member who has missed two (2) meetings unexcused, requesting that the member reaffirm her or his intention and ability to fully participate.
5. Should a member wish or need to resign from the board before the end of her or his term, a written notification including the effective date must be submitted to the clerk. Advance notice is appreciated to the extent possible to enable timely action on filling the vacancy.

ARTICLE IV Officers

1. The Commissioner of Transportation or designee shall serve as secretary of the board. This position shall be non-voting and ensure that the Department provides the necessary support for the board to fulfill its duties.
2. The secretary shall appoint a clerk from among Department staff, responsible for all board records, legal filings and meeting support. The clerk's position shall not be counted toward the board membership.
3. A chair and vice chair of the board shall be nominated and elected by a simple majority of board members at the Annual Meeting. The terms of office shall be one year, beginning on July 1 of the year of the election.
4. The duties of the chair shall be to preside at the meetings of the MAAB; to schedule, arrange for, and prepare the agenda for meetings in conjunction with the clerk and vice chair; and to appoint subcommittees as needed to conduct business of the board.
5. The vice chair shall perform such duties as may be prescribed by the chair or board and, in the absence of the chair, exercise all power and duties of the chair.
6. Resignation from an officer position shall be done via written notification to the clerk. Should a vacancy occur in an officer position during the year, the board shall elect a replacement at its earliest opportunity to fill out the remainder of the term.

ARTICLE V Meetings and Voting

1. The board shall meet at the call of the chair, or at the call of at least three (3) voting members of the board. The date, time and place of all meetings, as well as business to be conducted, shall be set by the chair and vice chair in conjunction with the clerk.
2. All meetings of the board are public proceedings as defined in Maine's Freedom of Access Act, 1 M.R.S.A. sect. §401 et seq. Meetings of the board are open to the public. Notice of all meetings, including the agenda, shall be posted on the MaineDOT web site. Meeting minutes shall be posted on the MaineDOT web site once they are approved at a subsequent meeting.
3. Meeting discussion shall be reserved for board members, MaineDOT staff and invited guests. However, the board shall reserve time at each meeting to invite public comment from non-members who may be in attendance.
4. There must be an Annual Meeting, normally held during June, at which time officers are elected, recommendations for any upcoming vacancies are made to appointing authorities, and objectives are set for the coming year. Members must be physically present at the Annual Meeting to count toward a quorum and vote.
5. As a best practice goal, the board shall strive to meet quarterly. Meetings other than the Annual Meeting may be held all or in part by teleconference or videoconference provided a main location is fully accessible to the public.
6. The latest edition of The Modern Rules of Order: A Guide for Conducting Business Meetings shall govern the deliberations of the board in all cases where they do not conflict with these bylaws.

7. 51% of voting members present constitutes a quorum for conduct of official business. Provided a quorum is reached during a meeting, the entire meeting's actions shall be considered valid; however, a minimum of 4 affirmative votes must be cast on any motion for it to carry. If fewer than a quorum is present at a duly called meeting, the only formal action that may be taken is adjourning the meeting to a subsequent date. Those members present may discuss and deliberate, with opinions expressed recorded in meeting minutes, to inform a future meeting at which formal action may be taken.

8. At the outset of discussion on any issue in which a member has a potential direct or indirect pecuniary, familial or other conflict of interest, the member must declare the conflict. The member may then engage in discussion before the board unless a majority of the board votes that this would be inappropriate. The member must recuse her or himself from voting on any such matter and upon request of any other board member may be directed by the chair to leave the room while discussion and voting on that matter is conducted.

ARTICLE VI Finances

1. Board members shall receive no compensation specific to their board service and shall provide for their own transportation to board meetings.

2. The Maine Department of Transportation shall cover necessary meeting, notice, photocopying and other incidental costs incurred by the board in conducting its business. Costs including the clerk's staff time shall be recorded and reported annually to the Maine board of Commissions.

ARTICLE VII Amendments

These by-laws may be amended by a two-thirds majority of members present at any properly noticed meeting containing proposed revisions at which a quorum is present. Proposed bylaw language may be amended on the floor. Final adoption is subject to Department of Transportation legal review and Commissioner approval.

CERTIFICATION OF ADOPTION

As clerk of the board, I attest that the foregoing bylaws were approved at a meeting of the MAAB on March 28, 2018.

 Stacie Haskell, clerk

Date: _____

Approved by MaineDOT Legal Division:

 Toni Kemmerle, Principal Attorney

Date: _____

Approved by MaineDOT Commissioner:

 David Bernhardt, P.E. Bruce A. Van Note

Date: _____



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Exception for Limited Recreational
Operations of Unmanned Aircraft

Date: 5/31/19

AC No: 91-57B

Initiated by: AFS-800

Change:

- 1 PURPOSE OF THIS ADVISORY CIRCULAR (AC).** This AC provides interim safety guidance to individuals operating unmanned aircraft, often referred to as drones, for recreational purposes under the statutory exception for limited recreational operations of unmanned aircraft (Title 49 of the United States Code (49 U.S.C.) § 44809). This AC restates the statutory conditions to operate under the exception and provides additional guidance on adhering to those conditions. Per 49 U.S.C. § 44809, recreational flyers may only operate under the statutory exception if they adhere to all of the conditions listed in the statute.
- 1.1 Effect of Guidance.** This guidance is not legally binding in its own right and will not be relied upon by the Department of Transportation (DOT) or the Federal Aviation Administration (FAA) as a separate basis for affirmative enforcement action or other administrative penalty. Regardless of whether you rely on this guidance, you are independently required to comply with all existing laws applicable to the operation of unmanned aircraft. Conforming your actions with this guidance is voluntary and nonconformity will not affect any right or obligation under any existing statute or regulation.
- 2 AUDIENCE.** This AC provides guidance to individuals operating unmanned aircraft for recreational purposes in the National Airspace System (NAS) of the United States. The use of the term “recreational operations” in this AC refers to operations described in 49 U.S.C. § 44809(a).
- 3 WHERE YOU CAN FIND THIS AC.** You can find this AC on the FAA’s website at http://www.faa.gov/regulations_policies/advisory_circulars.
- 4 WHAT THIS AC CANCELS.** AC 91-57A CHG 1, Model Aircraft Operating Standards, dated January 11, 2016, is canceled.
- 5 REFERENCES.** This guidance relates to 49 U.S.C. § 44809.
- 6 RELATED READING MATERIAL (current editions):**
 - Title 49 U.S.C. Subtitle [VII](#).
 - Title 14 of the Code of Federal Regulations (14 CFR).
 - AC [107-2](#), Small Unmanned Aircraft Systems (sUAS), which contains 14 CFR part [107](#) guidance.

- [Pilot's Handbook of Aeronautical Knowledge \(PHAK\)](#).
- FAADroneZone: <https://faadronezone.faa.gov/>.
- Unmanned Aircraft System (UAS) Data Delivery System: <https://faa.maps.arcgis.com/apps/webappviewer/index.html>.
- Temporary Flight Restriction (TFR) listing: <http://tfr.faa.gov/tfr2/list.html>.
- The FAA's Airspace Restrictions website: https://www.faa.gov/uas/recreational_fliers/where_can_i_fly/airspace_restrictions/.
- Notices to Airmen (NOTAM): https://www.faa.gov/air_traffic/publications/notices/.
- Academy of Model Aeronautics (AMA) Safety Handbook: <https://www.modelaircraft.org/sites/default/files/100.pdf>.
- FAA National Aviation Events Program website: <https://www.faa.gov/about/initiatives/airshow/>.
- FAA Unmanned Aircraft Registration website: https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/UA/.
- Federal Register (FR) Notice [84 FR 22552](#), Exception for Limited Recreational Operations of Unmanned Aircraft.

7 RECREATIONAL UNMANNED AIRCRAFT OPERATIONS. Unmanned aircraft are aircraft without a human pilot on board; they are controlled by an operator on the ground. Operators flying unmanned aircraft can endanger other aircraft, people, or property when flying recklessly or without regard to risks. Additionally, most unmanned aircraft manufactured for recreational use are not tested to any FAA standards for airworthiness, meaning they come with no assurance they will stay airborne or fly in a predictable manner, especially when encountering unexpected circumstances such as radio interference, winds, or power failures. When you fly an unmanned aircraft in the United States, it is your responsibility to ensure the safety of the flight, and to understand and follow the appropriate Federal, state, and local laws.

1. The FAA assumes owners and operators of unmanned aircraft are generally concerned about safety and willing to exercise good judgment when flying their aircraft. However, basic aeronautical knowledge and awareness of responsibilities in shared airspace are not common knowledge.
2. The FAA intends to provide a process for recognizing community-based organizations (CBO) and their safety guidelines for recreational flyers in consultation with manufacturers of UAS, CBOs, and other industry stakeholders upon full implementation of 49 U.S.C. § 44809. In the meantime, this interim guidance provides information on the statutory conditions and basic safety guidelines for recreational flyers. Nevertheless, recreational flyers must always remain aware that any operations endangering the safety of the NAS (particularly careless or reckless operations, those endangering persons or property, and/or those that interfere with or fail to give way to any manned aircraft) will be subject to FAA compliance action.

3. Operators who do not fulfill the criteria of 49 U.S.C. § 44809(a) (e.g., those who wish to fly small unmanned aircraft for commercial purposes) or who wish to obtain an FAA-issued Remote Pilot Certificate, should review part 107 and the associated guidance in AC 107-2. The guidance in AC 91-57 applies to flyers who only operate recreationally under the statutory exception.
- 7.1 Statutory Conditions.** Until further notice, paragraphs 7.1.1 through 7.1.8 provide guidance on how a person may meet the eight statutory conditions of the statutory exception of 49 U.S.C. § 44809 to operate a UAS for recreational purposes. A person who fails to meet any of the statutory requirements of 49 U.S.C. § 44809 may not operate UAS under the statutory exception and would need to operate them under part 107 or any other applicable FAA authority.
 - 7.1.1 The Aircraft is Flown Strictly for Recreational Purposes.** Any use of unmanned aircraft for commercial purposes must be conducted under part 107 or other applicable FAA regulations (e.g., 14 CFR part [91](#), [135](#), or [137](#)).
 - 7.1.2 The Aircraft is Operated in Accordance With or Within the Programming of a CBO's Set of Safety Guidelines That are Developed in Coordination With the FAA.** Once the FAA has developed the criteria for recognition of CBOs and started officially recognizing CBOs, those CBOs' safety guidelines will be available for use. During this interim period, the FAA offers two means to satisfy this statutory condition. Recreational flyers should be able to explain to an FAA inspector or law enforcement official which safety guidelines they are following.
 - 7.1.2.1** The FAA acknowledges that existing aeromodelling organizations have developed safety guidelines that are helpful to recreational flyers. An example is the AMA safety guidelines, which have previously been reviewed by the FAA as part of the organization's Recognized Industry Organization (RIO) status for participation in the National Aviation Events Program (refer to FAA Order 8900.1, [Volume 5, Chapter 9, Section 6](#), Issue/Renew/Reevaluate/Rescind an Air Boss Letter of Authorization). These or existing safety guidelines of another aeromodelling organization may be used for recreational operations, provided the guidelines do not conflict with the other statutory conditions of 49 U.S.C. § 44809(a).
 - 7.1.2.2** The FAA has existing basic safety guidelines for recreational operations, which are available on its website (<https://www.faa.gov/uas/>) that may be used.
 - 7.1.3 The Aircraft is Flown Within the Visual Line of Sight (VLOS) of the Person Operating the Aircraft or a Visual Observer Co-Located and in Direct Communication With the Operator.** This means that either the recreational flyer or the visual observer must have eyes on the aircraft at all times to ensure it is not a collision hazard to other aircraft or people on the ground. The assistance of a visual observer is generally optional but is helpful in ensuring the recreational flyer is able to check instruments for extended periods. The assistance of a visual observer is necessary if the recreational flyer wants to

use first person view (FPV) devices that allow a limited view of the surrounding area from the perspective of a camera aboard the aircraft.

- 7.1.3.1** Visual observers need to be co-located with the recreational flyer, and able to communicate directly with the recreational flyer without the use of technological assistance.
- 7.1.4** The Aircraft is Operated in a Manner That Does Not Interfere With, and Gives Way to, Any Manned Aircraft. This makes the recreational flyer responsible for knowing the altitude and position of their aircraft in relation to other aircraft, and responsible for maintaining a safe distance from other aircraft by giving way to all other aircraft in all circumstances.
- 7.1.5** In Class B, C, or D Airspace or Within the Lateral Boundaries of the Surface Area of Class E Airspace Designated for an Airport, the Operator Obtains Prior Authorization From the Administrator or Designee Before Operating and Complies With all Airspace Restrictions and Prohibitions.
- 7.1.5.1** The FAA has created different classes of airspace to reflect whether aircraft receive air traffic control (ATC) services (these are called controlled or uncontrolled), and to note levels of complexity, traffic density, and equipment requirements that exist for aircraft flying through different parts of controlled airspace. Recreational flyers can learn more about the classes and types of airspace in PHAK Chapter 15, Airspace.
- 7.1.5.2** For now, recreational flyers may fly in controlled airspace only at fixed sites specifically authorized by the FAA, which are posted at the FAA's interactive map on the UAS Data Delivery System. On the map, small blue circles depict the location of these sites in controlled airspace, and the altitude limits imposed on those sites. The altitude restrictions are derived from the UAS Facility Maps (UASFM) which form the basic structure of the Low Altitude Authorization and Notification Capability (LAANC) and its operating procedures. Recreational flyers can access site-specific information by clicking on the blue circle. Recreational flyers may also refer to the actual airspace authorization and a list of sites on the FAA's UAS website at www.faa.gov/uas.
- Note:** These sites have existing letters of agreement (LOA) with the FAA. For the CBO to operate in controlled airspace, an agreement between the CBO and the FAA must be in place. Certain sites may have access restrictions or other operating limitations, which are available from the site sponsor.
- 7.1.5.3** Do not contact local FAA Air Traffic facilities for airspace authorizations.
- 7.1.5.4** In order to stay notified of airspace restrictions and prohibitions, recreational flyers can determine any restrictions or requirements in effect at the location where they want to fly by referencing the FAA's interactive map on the

UAS Data Delivery System. On the map, semi-transparent polygons depict airspace information. UAS flight restrictions are shown as red polygons. UAS flight restrictions apply to all UAS flight operations, and remain in effect 24 hours a day, 7 days a week. Recreational flyers may also refer to:

1. The FAA's TFR listing; or
2. The FAA's Airspace Restrictions website.

7.1.6 In Class G (Uncontrolled) Airspace, the Aircraft is Flown From the Surface to Not More Than 400 Feet Above Ground Level and Complies With all Airspace Restrictions and Prohibitions.

7.1.7 The Operator has Passed an Aeronautical Knowledge and Safety Test and Maintains Proof of Test Passage to be Made Available to the Administrator or a Designee of the Administrator or Law Enforcement Upon Request. The FAA is developing the test in consultation with stakeholders. Recreational flyers would have to pass the test, which could be administered electronically, and would be responsible for providing proof of passage upon request from FAA personnel or law enforcement. The FAA will provide additional guidance and notice when the test is available and the date on which adherence to this condition would be required.

7.1.8 The Aircraft is Registered and Externally Marked, and Proof of Registration is Made Available to the Administrator or a Designee of the Administrator or Law Enforcement Upon Request. Additionally, per the statutory requirements of 49 U.S.C. § 44809(a)(8), proof of registration would have to be carried and provided to FAA personnel or law enforcement upon request. Recreational flyers may register electronically under 14 CFR part [48](#) through the FAADroneZone.

7.1.8.1 Persons 13 years of age or older may register aircraft. If the person is younger than 13, they may not register the aircraft, but another person 13 years of age or older may register the aircraft.

7.1.8.2 A person will need an email address, credit or debit card, a physical address, and a mailing address (if different from the registrant's physical address) to register electronically under part 48.

7.1.8.3 Under part 48, a person may only operate a small unmanned aircraft if the registration number or unique identifier of the aircraft is legibly displayed on an external surface of the aircraft.

7.2 Upcoming Guidance.

7.2.1 CBO Requirements and Procedures. The FAA intends to provide further information on how organizations can be recognized by the FAA as official CBOs.

7.2.2 Basic Aeronautical Training and Test (BATT). The FAA is developing a training module with an accompanying test to provide basic aeronautical education to all recreational

flyers and enhance the safety of the NAS through greater education and awareness. The training and test will be developed in consultation with stakeholders. The FAA expects to provide the training module and test to recognized CBOs for online administration to their members and also to the general public.

7.2.3 LAANC. The FAA currently is upgrading the LAANC system, which will allow recreational flyers far greater flexibility in the future to obtain automated authorization to controlled airspace. The FAA also is exploring upgrades to FAADroneZone to enable access for recreational flyers.

8 ADDITIONAL INFORMATION. For additional information on unmanned aircraft, please visit the FAA's UAS website at <http://www.faa.gov/uas/>.

9 AC FEEDBACK FORM. For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.



Robert C. Carty
Deputy Executive Director, Flight Standards Service

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting the General Aviation and Commercial Division at 9-AFS-800-Correspondence@faa.gov or the Flight Standards Directives Management Officer at 9-AWA-AFS-140-Directives@faa.gov.

Subject: AC 91-57B, Exception for Limited Recreational Operations of Unmanned Aircraft

Date: _____

Please check all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____
on page _____.

Recommend paragraph _____ on page _____ be changed as follows:

In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____

Date: _____