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**Cc:** [Lawrence, Earl \(FAA\)](#); [Amend, Erik \(FAA\)](#); [Crozier, Bill \(FAA\)](#)  
**Subject:** FW: UAS Registration Task Force Member Materials  
**Date:** Saturday, October 31, 2015 2:49:34 PM  
**Attachments:** [UAS RTF ARC Materials.zip](#)

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Hi all!

Attached are the materials and message sent out today to all of the UAS RTF members. Presentation materials will be finished and provided for review on Monday.

Thanks!

Meredith Tracey  
Special Assistant  
UAS Integration Office, AFS-80  
(202) 267-8305

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**From:** Tracey, Meredith (FAA)  
**Sent:** Saturday, October 31, 2015 3:33 PM  
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**Cc:** Lawrence, Earl (FAA)  
**Subject:** UAS Registration Task Force Member Materials

Hi everyone!

Attached are materials in preparation for next week's Task Force meeting. Please note that the agenda is still in draft form and is subject to change.

The meeting is being held at the FAA Headquarters Building, 800 Independence Avenue, SW, Washington, DC, 20591, in the Bessie Coleman Conference Center on the second floor. Sign in starts outside the conference room at 8:00 am, with the meeting beginning promptly at 8:30 am. Please allow yourself enough time to get through security and upstairs before the meeting begins. Each day will run until approximately 5:00 pm. Calendar invitations will follow this message.

Also, meeting attendance is by invitation only and seating is very limited. Please do not bring any

additional people with you. If you are unable to attend and need to designate a new representative, please let me know as soon as possible.

Thanks!

Meredith Tracey  
Special Assistant  
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UNMANNED AIRCRAFT SYSTEMS (UAS)  
REGISTRATION TASK FORCE (RTF)  
AVIATION RULEMAKING COMMITTEE (ARC)

# RTF MEMBER & SME INTERVIEWS

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FINDINGS

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DEVELOPED BY THE  
RTF FAA SUPPORT TEAM

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## EXECUTIVE SUMMARY

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The Unmanned Aircraft Systems (UAS) Registration Task Force (RTF) Aviation Rulemaking Committee (ARC) FAA Support Team conducted twenty-four (24) out of a targeted twenty-six (26) UAS RTF Member interviews over the period of October 22 – October 28, 2015.

In addition to these interviews, the Support Team also interviewed five (5) UAS subject matter expert (SME) organizations.

The purpose of these interviews was to understand the going in positions, thoughts, and concerns of each of the UAS RTF Members and select SMEs, as well as to assist with the development of the UAS RTF meeting agenda.

The objective of the UAS RTF ARC is to recommend a registration process for small UAS that promotes aviation safety in the air and on the ground.

This document presents the high-level findings based upon the results of twenty-five (25) of these interviews.



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## SUMMARY OF FINDINGS

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**1. What methods are available for identifying individual products? Does every UAS sold have an individual serial number? Is there another method for identifying individual products sold without serial numbers or those built from kits?**

- Preliminary Findings
  - Not all UAS have serial numbers.
  - While serial numbers may be unique for a given manufacturer, they are not unique across them.
  - Other methods for uniquely identifying UAS do exist but again are not standard across all manufacturers or technologically available today.
- Preliminary Recommendations
  - Registration should collect make, model, and serial number if available.
  - Registration process should provide a unique identifier (VIN number creation methodology to be provided).

**2. At what point should registration occur (e.g., point-of-sale (POS) or prior to operation (PTO))? How should transfers of ownership be addressed in registration?**

- Preliminary Findings
  - POS provides greatest chance of compliance and therefore traceability back to original owner, which is of tremendous value to law enforcement.
  - PTO would be required for all post purchase transfers (ex., Christmas gift giving).

- Preliminary Recommendations
  - Immediately establish PTO registration portal.
  - Begin to pull in POS info (fast, easy, standardized, minimally invasive) from retailers when possible to provide access to initial purchase records (traceability back to original owner).
  - Determine what, if any, integration (x-ref) could/should be done between POS records and PTO records after establishment of initial registry.

**3. If registration occurs at point-of-sale, who should be responsible for submission of the data? What burdens would be placed on vendors of UAS if DOT required registration to occur at point-of-sale? What are the advantages of a point-of-sale approach relative to a prior-to-operation approach?**

- Preliminary Findings
  - Vendor would be responsible.
  - Vendors would be required to modify processes as well as potentially add/change technologies to transmit POS information.
  - POS will provide initial purchase records, however many purchasers are not operators.
- Preliminary Recommendations
  - POS should be fast, simple, easy, secure, and minimally invasive while still being effective.
  - Obtain as much information as possible electronically and as little information as possibly manually.

**4. Consistent with past practice of discretion, should certain UAS be excluded from registration based on performance capabilities or other characteristics that could**

be associated with safety risk, such as weight, speed, altitude operating limitations, duration of flight? If so, please submit information or data to help support the suggestions, and whether any other criteria should be considered.

- Preliminary Findings

- Yes, certain UAS should be excluded.

- Preliminary Recommendations

- Consider weight combined with performance capabilities (altitude, speed, duration of flight).

5. How should a registration process be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry?

- Preliminary Recommendations

- POS should be fast, simple, easy, secure, and minimally invasive while still being effective.
- Obtain as much information as possible electronically and as little information as possibly manually.

6. Should the registration be electronic or web-based? Are there existing tools that could support an electronic registration process?

- Preliminary Findings

- Electronic is automatic and standardized but may not offer enough information.
- Web-based would be needed for transfers if registration were done at POS only.

- Preliminary Recommendations
  - Allow both methods (POS & PTO) and integrate over time to get best of both.

**7. What type of information should be collected during the registration process to positively identify the aircraft owner and aircraft?**

- Preliminary Findings
  - Minimize amount of personal information collected while still achieving goal.
- Preliminary Recommendations
  - Registration should collect make, manufacturer, serial number if available.
  - Registration process should provide a unique identifier (VIN number creation methodology to be provided).
  - Name, address, phone number, date of birth, email address.

**8. How should the registration data be stored? Who should have access to the registration data? How should the data be used?**

- Preliminary Findings
  - Data should be secure.
  - Data should be accessible by FAA and law enforcement.
  - Data could eventually be used to communicate as necessary with UAS operators.
- Preliminary Recommendations
  - Data should be owned by FAA.



- Solution & Data should be in FISMA compliant data center with appropriate FISMA moderate controls (iaw NIST 800-53) or equivalent as verified by FAA CISO.

**9. Will the data be used primarily to hold registrants accountable for accidents or intentional misuse? If so, how will this affect registration by consumers? How will registration be enforced?**

- Preliminary Findings
  - Registration will increase awareness of the responsibility associated with being a UAS operator.
  - Registration would also assist in holding individuals accountable for accidents.
  - Registration would not assist in holding individuals accountable for intentional misuse, as bad actors will likely not register.
  - Enforcement could be enabled via a proof of registration.
- Preliminary Recommendations
  - Provide UAS registrants with electronic proof of registration that could be printed or shown electronically to law enforcement.

**10. To encourage awareness, should the registration process include an acknowledgement of UAS safe operating rules?**

- Preliminary Findings
  - Registration should include acknowledgement of UAS safety operating rules.
- Preliminary Recommendations
  - Include safety operating rules and acknowledgement.

**11. Should a registration fee be collected and if so, how will the registration fee be collected if registration occurs at point-of-sale? Are there payment services that can be leveraged to assist (e.g. PayPal)?**

- FAA will determine what if any registration fees are required as well as how they are collected.

**12. How will a registration program affect sales of drones, future innovation, and the positive economic impacts of the use of drones?**

- Preliminary Findings
  - If done correctly effect will be minimal.
- Preliminary Recommendations
  - Design registration process so that it does not over burden vendor and/or consumer.

**13. The effort to register all aircraft will have costs to government, consumers, industry, and registrants. What are these costs, and are these costs clearly outweighed by the benefits to aviation safety?**

- Preliminary Findings
  - Benefits of UAS registry outweigh costs.
  - Costs to consider are:
    - Loss of UAS sales due to registration requirement.
    - Upgrades to retailers' IT systems (POS) to provide data.

- Increase in manpower for both government and industry to facilitate registration management.
- Costs to government for data storage and protection.
- Preliminary Recommendations
  - Design registration process to minimize costs on all participants while remaining both efficient and effective.

**14. Are there additional means to encourage accountability and safe and responsible use of UAS?**

- Preliminary Findings
  - Additional means to encourage accountability and safe and responsible use of UAS are:
    - Public Awareness Campaigns
    - Outreach and education
    - Geo-fencing
    - Location-based software alerts
    - Live Data
    - Establishment of UAS Community standards
    - Self-policing
- Preliminary Recommendations
  - Develop a formal UAS Accountability and Responsibility Program of which the UAS registry is a part.

UAS RTF ARC FAA SUPPORT TEAM MEMBERS

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Meredith Tracey, AFS-80, UAS Integration Office Special Assistant



# UAS RTF ARC Questions and Sub-Questions

Red-Text = Not Needed for ARC Discussion

1. What methods are available for identifying individual products? Does every UAS sold have an individual serial number? Is there another method for identifying individual products sold without serial numbers or those built from kits?
  - What is the best universal method to mark all UAS?
    - What is the best method to quickly visually identify a UAS?
  - Should the required identifying methods become increasingly complex based on the registered UAS's capabilities?
2. At what point should registration occur (e.g. point-of-sale or prior to operation)? How should transfers of ownership be addressed in registration?
  - What are the pros and cons with registering point-of-sale (POS) and prior-to-operation (PTO)?
    - What method (POS or PTO) is more accessible to the general public?
  - How do we incorporate used UAS and kit products?
  - How do you handle someone who buys it as a gift for someone else?
  - Do we include a form or sticker in/on the packaging?
  - Should registration be conducted by multiple players?
3. If registration occurs at point-of-sale, who should be responsible for submission of the data? What burdens would be placed on vendors of UAS if DOT required registration to occur at point-of-sale? What are the advantages of a point-of-sale approach relative to a prior-to-operation approach?
  - Should the store/vendor or owner be responsible for providing registration information to the FAA?
  - Will POS provide verifiable identification?
  - Will it affect other sales?
  - Will a store incur additional manpower/technological costs?
    - Are there ways for the store to mitigate registration costs?
  - Does a store have expertise to answer registration questions?
  - Should a store have access to the level of information a registrant provides?
  - Can a store use that information for non-safety/registry purposes?
  - Will the store's copy of information be secure?
  - Would an EBay seller have the authority to register their purchasers?
4. Consistent with past practice of discretion, should certain UAS be excluded from registration based on performance capabilities or other characteristics that could be associated with safety risk, such as weight, speed, altitude operating limitations, duration of flight? If so, please submit information or data to help support the suggestions, and whether any other criteria should be considered.
  - What defines a "UAS?"
  - What is a difference between a "toy" and a "UAS?"

# UAS RTF ARC Questions and Sub-Questions

Red-Text = Not Needed for ARC Discussion

- Do we grandfather-in current owners?
  - How do the following categories affect what should be registered?
    - Weight
    - Speed
    - Range
    - Altitude
    - GPS or non-GPS
    - Mac/Wifi IDs
    - Optical capabilities
    - Download capabilities
    - Construction material of the UAS?
    - Duration of flight
    - Flight platform
    - Location of flight
    - Other risks
5. How should a registration process be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry?
- Will registering affect UAS sales?
  - Will registration data feedback to manufacturers?
  - How do we provide the right balance of protecting data to allow for innovation?
  - How will states and localities be affected?
  - Should there be a period-of-time allowed to use the UAS prior to registration?
6. **Should the registration be electronic or web-based? Are there existing tools that could support an electronic registration process?**
7. What type of information should be collected during the registration process to positively identify the aircraft owner and aircraft?
- Are there privacy considerations to take into account?
  - Are addresses as effective in finding someone as a cell phone?
  - What is the best method in finding the owner/operator?
  - Does there need to be protections for personal data so UAS telemarketers do not try to sell products.
  - Are there methods to validate someone's identity or correctness of information?
  - Should we tie registration to a credit card like USPS does when changing your address?
  - Should only the owner/operator be required to register?
  - Should the registrant be required to complete any training prior to registering?
  - Is there a minimum age to register?
  - Should criminal record affect registration?
  - Should proof of ownership be submitted to register?



# UAS RTF ARC Questions and Sub-Questions

Red-Text = Not Needed for ARC Discussion

8. How should the registration data be stored? Who should have access to the registration data? How should the data be used?
9. Will the data be used primarily to hold registrants accountable for accidents or intentional misuse? If so, how will this affect registration by consumers? How will registration be enforced?
10. To encourage awareness, should the registration process include an acknowledgement of UAS safe operating rules?
  - What methods of education should occur?
  - Who should provide the training?
  - Should the complexity of the UAS require additional training?
  - Should training be limited to one standard method?
  - Should current FAA certifications or membership in aviation community based group serve as an alternate to a training requirement?
  - Should the training include airspace discussion?
  - Should registration have different levels of user privileges based on experience?
11. Should a registration fee be collected and if so, how will the registration fee be collected if registration occurs at point-of-sale? Are there payment services that can be leveraged to assist (e.g. PayPal)?
12. How will a registration program affect sales of drones, future innovation, and the positive economic impacts of the use of drones?

Same as 5.
13. The effort to register all aircraft will have costs to government, consumers, industry, and registrants. What are these costs, and are these costs clearly outweighed by the benefits to aviation safety?
  - Does UAS registration fall within the same requirements as a driving, boating, and other vehicular movement in a public sphere?
  - Should those operating strictly on private land be required to register?
  - Should registration be free?
  - Does registering deter consumer actions?
  - What registrants, if any, would be excluded from registering?
  - Will UAS operated by separate government entities be required to register (federal, state, local, territory, tribal).

# UAS RTF ARC Questions and Sub-Questions

Red-Text = Not Needed for ARC Discussion

14. Are there additional means to encourage accountability and safe and responsible use of UAS?
- Does membership in a community based aviation organization or holding current FAA certifications streamline the registration process?
  - What are the effective methods to educate UAS operators of a registration requirement?
  - Are training and registration requirements tied together?

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## Questions for UAS Registration Task Force

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1. What methods are available for identifying individual products? Does every UAS sold have an individual serial number? Is there another method for identifying individual products sold without serial numbers or those built from kits?
2. At what point should registration occur (e.g. point-of-sale or prior to operation)? How should transfers of ownership be addressed in registration?
3. If registration occurs at point-of-sale, who should be responsible for submission of the data? What burdens would be placed on vendors of UAS if DOT required registration to occur at point-of-sale? What are the advantages of a point-of-sale approach relative to a prior-to-operation approach?
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5. How should a registration process be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry?
6. Should the registration be electronic or web-based? Are there existing tools that could support an electronic registration process?
7. What type of information should be collected during the registration process to positively identify the aircraft owner and aircraft?
8. How should the registration data be stored? Who should have access to the registration data? How should the data be used?
9. Will the data be used primarily to hold registrants accountable for accidents or

## Questions for UAS Registration Task Force

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- intentional misuse? If so, how will this affect registration by consumers? How will registration be enforced?
10. To encourage awareness, should the registration process include an acknowledgement of UAS safe operating rules?
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  12. How will a registration program affect sales of drones, future innovation, and the positive economic impacts of the use of drones?
  13. The effort to register all aircraft will have costs to government, consumers, industry, and registrants. What are these costs, and are these costs clearly outweighed by the benefits to aviation safety?
  14. Are there additional means to encourage accountability and safe and responsible use of UAS?

**Unmanned Aircraft Systems (UAS) Registration Task Force (TF)  
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**Unmanned Aircraft Systems (UAS) Registration Task Force (TF)  
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Last Name	First Name	Salutation	Organization	Title	Mailing Address	City	State	Zip	Office Phone	Cell Phone	Email
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Tripard	Baptiste	Mr.	Parrot (SenseFly)	SenseFly US Manager	Route de Geneve 38, 1033 Cheseaux sur-Lausanne	Switzerland				(b) (6)	<a href="mailto:baptiste.tripard@sensefly.com">baptiste.tripard@sensefly.com</a>
Collins	Tyler	Mr.	Precision Hawk	Director	9001 Glenwood Ave, Suite 100	Raleigh	NC	27617	317-213-4895		<a href="mailto:t.collins@precisionhawk.com">t.collins@precisionhawk.com</a>
McNeal	Gregory	Mr.	Small UAV Coalition (AirMap)	Co-Founder, AirMap / Professor of Law, Pepperdine University	1460 4th Street, Suite 304	Santa Monica	CA	90401	512-413-3869		<a href="mailto:greg@airmap.io">greg@airmap.io</a>
Head	Thomas	Mr.	Walmart	Director, Product Safety and Compliance	Walmart Aviation #5 Hangar Hammerschmidt Drive	Rogers	AR		479-204-8976		<a href="mailto:thomas.head@walmart.com">thomas.head@walmart.com</a>
Hemphill	Adam	Mr.	Walmart	Director, Federal Government Relations	Walmart Aviation #5 Hangar Hammerschmidt Drive	Rogers	AR		202-434-0748	(b) (6)	<a href="mailto:adam.hemphill@walmart.com">adam.hemphill@walmart.com</a>

**1. Roles and Responsibilities** - Each ARC Member is expected to:

- Actively represent the organization or industry by contributing respective aviation knowledge and expertise;
- Attend meetings on a regular and consistent basis and participate;
- Advise on matters of importance to the aviation industry and traveling public;
- Participate in task/working groups, as necessary;
- Discuss with management and constituents to gain knowledge, expertise, and input throughout the process to actively represent an organization's viewpoints;
- Contribute to the recommendation report;
- Agree to not post draft documents on an organization's website to obtain general input; and
- **Ensure that the ARC's work is not shared with any outside groups and the media as all ARC products are for the sole benefit of the FAA.**



**U.S. DEPARTMENT OF TRANSPORTATION**  
**FEDERAL AVIATION ADMINISTRATION**  
Aviation Rulemaking Committee Charter

Effective Date: 10/20/2015

**SUBJECT: UAS Registration Task Force Aviation Rulemaking Committee**

- 1. PURPOSE.** This charter establishes the Unmanned Aircraft Systems (UAS) Registration Task Force (RTF) Aviation Rulemaking Committee (ARC), according to the Administrator's authority under Title 49 of the United States Code (49 U.S.C. § 106(p)(5)). The sponsor of the RTF ARC, subsequently referred to as the RTF, is the Director of the UAS Integration Office (AUS-1). This charter outlines the RTF's organization, responsibilities, and tasks.
  
- 2. BACKGROUND.** Federal law (49 U.S.C. § 44101(a)) requires that a person may only operate an aircraft when it is registered with the FAA. An "aircraft" is defined as "any contrivance invented, used, or designed to navigate, or fly in, the air" (49 U.S.C. § 40102(a)(6)). In 2012, Congress confirmed that UAS, including those used for recreation or hobby purposes, are aircraft consistent with the statutory definition set forth in 49 U.S.C. § 40102(a)(6). *See* Pub. L. 112-95, §§ 331(8), 336. The FAA currently requires civil UAS operators who have been granted operational authority by exemption to register their aircraft. The FAA would also require registration for civil UAS that would be operating under the proposed rule on Operation and Certification of small UAS. *See* 80 FR 9544 (Feb. 23, 2015). Although the FAA does not currently enforce the requirement for UAS used for hobby or recreational purposes to be registered, the rapid proliferation of these aircraft in the national airspace system (NAS), requires the FAA to reevaluate this policy in the interests of public safety and the safety of the NAS. The recommendations of the RTF are to be focused on registration requirements and process for small UAS, including those used for commercial purposes, and all model aircraft.
  
- 3. OBJECTIVES AND TASKS OF THE RTF.** The RTF will provide a forum to discuss and provide recommendations to the FAA and is tasked specifically to develop recommendations for the registration of small UAS. Specifically, the RTF will:
  - a. Develop and recommend minimum requirements for UAS that would need to be registered.
    - i. Factors to consider include, but are not limited to: technical capabilities and operational capabilities such as size, weight, speed, payload, equipage, and other factors such as the age of operator.
  - b. Develop and recommend registration processes.
    - i. Factors to consider include, but are not limited to: electronic means for registration, data retention and storage, fee collection, and information required to be submitted for registration.
  - c. Develop and recommend methods for proving registration and marking.
    - i. Factors to consider include, but are not limited to: how certificates will be issued and how a UAS will be able to be identified with the registered owner.

**Recommendation Report:**

The RTF will develop and submit to the FAA a recommendation report within 30 days of the charter being signed.

#### 4. RTF PROCEDURES.

- a. Act solely in an advisory capacity by advising and providing written recommendations to the Director of the UAS Integration Office
- b. May propose related follow-on tasks outside the stated scope of the RTF to the Director of the UAS Integration Office
- c. **Recommendation Report.** Submit a report detailing recommendations within four weeks of the effective date of the RTF.
  - i. The Industry Co-Chair sends the recommendation report to the Administrator through the Director of the UAS Integration Office, who will also distribute the recommendation report within the Agency
  - ii. The Director of the UAS Integration Office determines when the recommendation report and records pursuant to paragraph (8) will be made available for public release

5. **RTF ORGANIZATION, MEMBERSHIP, AND ADMINISTRATION.** The FAA will establish a committee of members of the aviation community. The FAA will select members based on their familiarity with UAS, aircraft registration policies and procedures, retail inventory control and tracking, and electronic data capture. Membership will be balanced in viewpoints, interests, and knowledge of the committee's objectives and scope.

The provisions of the August 13, 2014 Office of Management and Budget guidance, "Revised Guidance on Appointment of Lobbyists to Federal Advisory Committees, Boards, and Commissions" (79 FR 47482), continues the ban on registered lobbyists participating on Agency Boards and Commissions if participating in their "individual capacity." The revised guidance allows registered lobbyists to participate on Agency Boards and Commissions in a "representative capacity" for the "express purpose of providing a committee with the views of a nongovernmental entity, a recognizable group of persons or nongovernmental entities (an industry, sector, labor unions, or environmental groups, etc.) or state or local government." For further information refer to the OMB guidance at 79 FR 47482.

Membership is limited to promote discussion. Attendance, active participation, and commitment by members are essential for achieving the objectives and tasks.

The RTF will consist of members from the attached list of industry member organizations, manufacturers, and retailers who are involved in the promotion of UAS and/or UAS production, sale, or distribution. FAA and other agency subject matter experts may be requested to participate and provide technical support to RTF members.

- a. The Director of the UAS Integration Office will function as the FAA Co-Chair and will:
  - 1) Function as the Designated Federal Official
  - 2) Select and appoint industry members and the FAA participants
  - 3) Select an Industry Co-Chair from the membership of the RTF
  - 4) Provide the FAA participation and support from all affected lines-of-business
  - 5) Provide notification to the members of the time and place for each meeting
- b. Once appointed, the Industry Co-Chair will:

- 1) Coordinate required RTF meetings in order to meet the objectives and timelines
- 2) Establish and distribute meeting agendas in a timely manner
- 3) Determine the method of keeping meeting notes, if deemed necessary
- 4) Perform other responsibilities, as required, to ensure the objectives are met
- 5) Provide status reports, as requested, in writing to the Director of the UAS Integration Office
- 6) Submit the recommendation report to the Director of the UAS Integration Office in accordance with 4(c)

**6. COST AND COMPENSATION.** The estimated cost to the Federal Government for the RTF is approximately \$2,500. All travel costs for government employees are the responsibility of the government employee's organization. Non-government representatives, including the Industry Co-Chair, serve without government compensation and bear all costs related to their participation on the RTF.

**7. PUBLIC PARTICIPATION.** Meetings are not open to the public. Persons or organizations outside the RTF who wish to attend a meeting must get approval in advance of the meeting from the Industry Co-Chair and the FAA Co-Chair.

**8. AVAILABILITY OF RECORDS.** Consistent with the Freedom of Information Act, Title 5, U.S.C., section 552, records, reports, agendas, working papers, and other documents that are made available to or prepared for or by the RTF will be available for public inspection and copying at the FAA UAS Integration Office, 490 L'Enfant Plaza, Suite 7225, Washington DC, 20024. Fees will be charged for information furnished to the public according to the fee schedule published in Title 49 of the Code of Federal Regulations, part 7.

This charter may be found on the FAA Committee Database website at:  
[http://www.faa.gov/regulations\\_policies/rulemaking/committees/documents/](http://www.faa.gov/regulations_policies/rulemaking/committees/documents/).

**9. DISTRIBUTION.** This charter is distributed to the Director of the UAS Integration Office, the Office of the Associate Administrator for Aviation Safety, the Office of the Chief Counsel, the Office of Aviation Policy and Plans, and the Office of Rulemaking.

**10. EFFECTIVE DATE AND DURATION.** The RTF is effective upon issuance of this charter and will remain in existence for 30 days, unless the charter is sooner suspended, terminated, or extended by the Administrator.

Issued in Washington, D.C. on



Michael P. Huerta  
Administrator

Not for Public Release

**Overview of Public Comments Received on the Clarification  
of the Applicability of Aircraft Registration Requirements  
for Unmanned Aircraft Systems (UAS) and Request for  
Information Regarding Electronic Registration for UAS  
as of October 28, 2015**

Prepared by:



**1911 Ft Myer Drive, Suite 102, Arlington, VA, 22209 Phone: 202-466-3205**

## **A. Introduction**

On October 22, 2015, the Department of Transportation and the Federal Aviation Administration published the Clarification of the Applicability of Aircraft Registration Requirements for Unmanned Aircraft Systems (UAS) and Request for Information Regarding Electronic Registration for UAS (80 FR 63912) (Clarification and RFI). At the end of the business day on October 28, 2015, 469 comments were submitted to the Clarification and RFI docket, Docket No. FAA-2015-4378.<sup>1</sup> This report provides an overview of the comments received by October 28, 2015 in response to the Clarification and RFI.

Approximately 10 submissions stated general opposition to the proposed clarification of the aircraft registration requirement, but provided no responses to the specific questions asked in the request for information, or any other substantive comments. The rest of the submissions contained some information responsive to one or more of the requests for information, or some other substantive comment on the proposed registration requirement. Most of the submissions received to date have been short, only one page in length. Many of the individual commenters were members of the model aircraft community, and were generally opposed to a registration requirement for all or some model aircraft.

Three submissions were submitted by organizations. The National Association of Mutual Insurance Companies (FAA-2015-4378-0250) submitted a request to participate in the UAS registration task force. That submission also contained some information responsive to the requests for information in the Clarification and RFI. The other two organizational commenters were Modovolate Aviation, LLC (FAA-2015-4378-0364) and Aviation Management Associates, Inc. (FAA-2015-4378-0067).

## **B. Overview of Responses to Specific Requests for Information**

### **1. Methods Available for Identifying UAS**

#### **a. What methods are currently available for identifying UAS?**

A number of commenters pointed out that no standard method of aircraft identification exists for UAS and that many UAS are assembled by consumers for parts from a range of sources. Commenters also pointed out that UAS components are regularly replaced or upgraded. One commenter suggested identifying consumer grade UAS by serial number and hobby built UAS

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<sup>1</sup> Four hundred forty-two of those submissions have been posted to the public docket on regulations.gov. The remaining 27 submissions are available on FDMS.gov, but have not been processed by the docket office.



by radio transmitter and receiver (because hobbyists tend to use same radio across multiple builds).

b. Does every UAS sold have an individual serial number?

Commenters responding to this request for information generally stated that every UAS sold does not have individual serial numbers.

c. Is there another method for identifying UAS sold without serial numbers or those built from kits?

Commenters suggested the following methods for identifying UAS sold without serial numbers or those build from kits:

- Visual description of aircraft (e.g., black quadcopter, white hexcopter)
- QR code with 8-digit unique alphanumeric identifier that can be affixed to aircraft

## **2. The point at which registration should occur**

a. Point-of-sale registration

A few commenters said registration should occur at point-of-sale. One commenter noted that if registration does not occur at point-of-sale, then the process will become voluntary. The commenter acknowledged that this would not address the registration of hand-built model aircraft, but said those aircraft pose less of the problem and can be addressed “some other way.”

b. Prior-to-operation registration

A number of commenters said registration should occur prior-to-operation. Reasons given for favoring prior-to-operation registration over point-of-sale registration included:

- To take the burden off retailers.
- Point-of-sale registration is not practical because:
  - People may be purchasing UAS for gifts and will therefore not be the owner/operators.
  - The point-of-sale suggests a physical place but retail sellers of UAS are often online.
  - Resellers such as Amazon direct shipment from distribution points (which may be outside the US) directly to consumers and never handle the products themselves.
  - Many UAS are built from parts sold by multiple vendors.
  - Many hobbyists continually upgrade and replace parts.

- No way to ensure UAS vendors outside the UAS will comply.
- Given the global do-it-yourself market for UAS, if point-of-sale registration were required the FAA would have to define what part is the most critical, identifiable, and common to all UAS and enforce compliance with foreign component sellers.
- Necessary initially to capture UAS that have already been purchased or are already in use.
- Only way to ensure that all new ready-to-fly UAS are registered.
- Point-of-sale registration could put small businesses in a position where they could be held civilly liable for how product they sell are used.

c. Comments on how transfers of ownership should be addressed in registration

A few commenters addressed the question of how to handle transfers of ownership. One commenter said a transfer of ownership requirement would be burdensome and unenforceable. Other commenters suggested transfers of ownership be addressed in one of the following ways:

- Re-registering the UAS with the same registration number.
- Through an online form.
- Through the AMA.

d. How to register aircraft that have already been purchased or are otherwise already in use

A few commenters addressed the issue of how to register aircraft that are already in operation. One commenter questioned whether the compliance period will provide operators sufficient to register aircraft that are already in use. Another commenter said the registration process should not require “microdrone” owners and operators who have already registered their aircraft under the existing system and affixed tail numbers to them to take any additional action. The commenter said FAA can merge the existing database with microdrone registration information into the new database.

**3. Who should be responsible for submission of data if registration occurs at point-of-sale and what burdens should be placed on UAS vendors if registration occurs at point-of-sale**

A few commenters addressed the question of who should be responsible for submission of data if registration occurs at point-of-sale and what burdens should be placed on the UAS vendors. One commenter said methods and systems to register UAS at the point-of-sale are readily available and should be no more complicated than activating a gift card or warranty. Another commenter suggested DOT develop a card that retailers could provide purchasers with instructions as to how to register their UAS, either online or by mailing the card to the DOT.

#### 4. Whether certain UAS should be excluded from the registration requirement

a. No UAS should be excluded from the registration requirement

Many of the commenters who addressed this issue supported the exclusion of UAS that meet some threshold requirement from the registration requirement. A few commenters, however, said that all UAS should be registered. In support of this position, one commenter pointed out that UAS of any size or weight could pose a safety threat to manned aircraft (including, for example, helicopters on emergency or rescue missions that operate at all altitudes and from areas other than certificate airports).

b. All model aircraft (i.e., UAS not used for commercial purposes) should be excluded from the registration requirement

Many commenters favored the exclusion of all model aircraft from the registration requirement. Reasons given for this position included the fact that model aircraft have a long history of safe operations and the fact that the FAA is not authorized to regulate model aircraft (discussed below in section C., paragraph 9).

c. Model aircraft under a certain weight should be excluded from the registration requirement

A few commenters said model aircraft under a certain weight or battery size should be excluded from the registration requirement. In support of this suggestion, one commenter asserted that “toy” model aircraft that run on one 3.7 1S battery or smaller have a very small range and are designed to be flown indoors, and therefore will not cause harm to anyone.

d. All UAS under a certain weight should be excluded from the registration requirement  
UAS with certain performance capabilities should be excluded from the registration requirement

Many commenters said UAS under a certain weight should be excluded from the registration requirement. These commenters did not explicitly make a distinction between model aircraft and aircraft that are operated for commercial purposes. Examples of proposed weight limits include:

- Under 100 grams.
- Under 750 grams.
- Under 5 ounces.
- 2 lbs. and under.

- 2.2 lbs. and under.
- Under 3 lbs.
- Under 20lbs.
- Less than 1.5 times the (heaviest) flying bird's weight.

e. UAS with certain performance capabilities should be excluded from the registration requirement

Commenters suggested that UAS possessing or lacking the following performance capabilities be excluded from the registration requirement:

- Multicopters that cannot be operated beyond the operator's line of sight (i.e., no GPS system, no FPV capabilities, or a radio range of less than 100 yards.)
- Aircraft with limited flight duration, distance capabilities, and no wind tolerance above 3 nmphs.
- Aircraft not capable of reaching over 400 feet (and below a "reasonable weight limit").
- Aircraft with limited flight time (e.g., 15-30 minutes).
- UAS programmed with "Safe Fly" technology which limits or precludes flights into restricted airspace.

In contrast, another commenter said speed, altitude, and flight duration should not be criteria for registration because these can vary depending on a wide-variety of "user-selectable UAS components" such as props choice, battery size, flights mode, etc.

Other commenters phrased their responses in terms of which UAS should be included in the registration requirement, including, for example, UAS with the ability to fly autonomously and beyond the line of sight of the operator.

f. UAS should be excluded based on operations (e.g., flying below 200 AGL, not near airports, only within visual line of sight)

Commenters said certain UAS should be excluded from the registration requirement based on operations, including, for example, UAS flown exclusively indoors and UAS flown outside the 5-mile radius of airports and under 400 feet.

Other commenters phrased their responses in terms of which UAS should be included in the registration requirement. Examples include:

- Multicopters with the intent of leaving the line of sight of the operator.
- Any UAS flown outdoors, whether for commercial or recreational purposes.

g. Other comments on whether certain UAS should be excluded from the registration requirement

Several commenters stated that FAA must provide a defined threshold for UAS that must be registered. One commenter said thresholds should be defined only by risk levels because size and weight are poor metrics of potential risk of harm.

Commenters said that UAS matching the following other descriptions should be excluded from the registration requirement:

- 200mm or smaller and powered with a 1 cell battery (3.7 nominal volts).
- Any aircraft made of frangible material construction (foam).
- Any UAS flown from a national community-based organization's established UAS flying field in accordance with that organization's rules.

Other commenters phrased their responses in terms of which UAS should be included in the registration requirement. Examples include:

- All commercially-operated UAS.
- Any geo-stabilized UAS.
- Fixed-wing and rotary UAS greater than 22kg and faster than 20 knots.
- Commercial UAS that has an N number and is now under a 333 exemption.
- UAS meeting some energy use and weight threshold.
- High-volume production aircraft over a certain weight – i.e., models produced in volumes greater than a specified value (e.g., 5,00 units per year).
- UAS operated recreationally if they are “fairly large and powerful.”
- Any multi-rotor UAS with a motor size greater than 300 mm.
- Any helicopter with a rotor size greater than 300 mm.

**5. Suggestions as to how the registration process can be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry**

Commenters made the following suggestions as to how the registration process can be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry:

- Use a simple online registration process requires the user to scan a government-issued ID and take a test covering relevant restrictions.
- Make the process available online or through a mobile application, take no more than 5 minutes to complete, and allow operators to de-register or update information for UAS that are lost, sold, destroyed, disassembled, or significantly changed. Charge a single registration fee per individual, not per UAS that is registered.
- Require minimal personal information.

- Register operators, not each individual aircraft.

## **6. The use of an electronic or web-based registration process**

### a. Support for the use of an electronic or web-based registration process

Most commenters who addressed this issue supported the use of an electronic or web-based registration process. One commenter said a registration web site should provide for the following:

- An education and instructional portion prior to accessing the registration portion.
- A test which requires registrants to answer a specified number of questions prior to entering personal identification information.
- A section for vehicle and systems registration.
- Notice to registrant with an FAA-generated identification number to be inscribed on the UAS.

### b. Comments on existing tools that can support an electronic registration process

A few commenters provided information on existing tools that can support an electronic registration process. One commenter stated that a simple web site or mobile application could be used for registration. Another commenter said the existing FAA system for reserving aircraft tail numbers can be adapted. Another commenter said something similar to a national firearm registration database should be used.

## **7. Types of information that should be collected during the registration process to positively identify the aircraft owner and aircraft**

Commenters provided the following examples of the types of information that should be collected during the registration process:

- Name and address of owner.
- Name and address of owner, serial number of UAS, and main flight areas for UAS.
- Name and address of owner, serial number of UAS, and type of UAS.
- Name, address, phone number, and State-issued ID or driver's license number of owner, and serial number of UAS.
- Information available from a scan of a government-issued ID (e.g., birth date, residence, criminal background).
- "Normal car registration type of info, motor size, battery info."
- Mass of UAS, prop diameter, and frame size.

- No information that is difficult to access (e.g., serial numbers off of single parts located inside the UAS and therefore can only be obtained through dismantling).

## **8. Storage of registration data**

### a. How should the registration data be stored?

Commenters who responded to this request generally expressed concern about the security of personal identifying information, and recommended that data be stored in some sort of secure database (e.g., encrypted database, secured server, database under the control of FAA, central database with 256 bit AES digital encryption). One commenter said data should be stored in accordance with the Privacy Act of 1974.

### b. Who should have access to the registration data?

Commenters said the following people or entities should have access to the registration data:

- Government agencies and law enforcement officials only.
- DOT or FAA only.
- Law enforcement with a warrant.
- Registrants only.
- Any member of the public.

### c. How should the data be used?

Few submissions reviewed so far addressed this request for information. One commenter said registration data should be used to tie an aircraft to its owner while another commenter said the data should be used similarly to an IP address – i.e., to tie an aircraft to its owner but without provide personal identifying information.

## **9. Imposition of a registration fee**

### a. Should a registration fee be collected?

Some commenters said a registration fee should be collected, while other commenters said they would not object to a small registration fee. Examples of registration fee amounts proposed by commenters include:

- \$10 per UAS.
- No more than \$10 per operator.

- \$25 or less per operator.

A number of the commenters said registration should be free.

b. How should the registration fee be collected if registration occurs at point-of-sale?

Few submissions reviewed so far addressed this request for information. One commenter suggested a registration fee could be collected in a separate transaction at the point-of-sale after the vendor completes the initial registration, or when the operator “activates” the registration before use.

c. Are there payment services that can be leveraged to assist (e.g., PayPal)?

Commenters provided examples of payment services that can be leveraged to assist, including credit card, PayPal, Google Wallet, and Amazon Pay.

## **10. Additional means beyond aircraft registration to encourage accountability and responsible use of UAS**

Comments provided a number of other methods beyond registration to encourage accountability and responsible use of UAS. Examples of those methods include:

- Working with AMA to encourage responsible use of model aircraft.
- Safety awareness campaigns such as “Know Before you Fly.”
- Education and training requirements.
- Testing and licensing requirements.
- Operational limitations.
- Technology requirements (e.g., electronic ID tags, geofencing, ADBS, altitude limiters).
- Follow the approach used by the handgun, ultralight, model airplane, parachute, or amateur radio communities – create a process to earn a recognized credential.
- Making owners strictly liable for all incidents caused by their UAS.
- Obtaining and maintaining damage and liability policy coverage for UAS.

## **C. Overview of other Comments on the Clarification and RFI**

### **1. Comments on whether each UAS should be required to have a separate registration number (i.e., one registration number per aircraft versus one registration number per aircraft owner)**



Several commenters opposed the idea of individual registration of all aircraft, suggesting instead that aircraft owners be registered – i.e., UAS owners receive a single registration number that they affix to each aircraft they own.

## **2. Comments on the use of the N numbering system to register UAS**

One commenter recommended that a registration system separate from the current N number system be used for UAS.

## **3. Comments on the issuance of registration certificates**

None of the submissions reviewed so far addressed the issuance of registration certificates.

## **4. Comments on registration markings**

Few of the submissions reviewed so far addressed the issue of registration markings. One commenter said registration numbers should be prominently displayed on the exterior of the UAS and be sized based on the largest single dimension of the UAS. Another commenter said a registration number should be displayed using a placard of some sort, such as a sticker placed on the aircraft.

## **5. Comments on whether a registration requirement will encourage accountability and responsible use of UAS**

Several commenters asserted that a registration requirement will not encourage accountability and responsible use of UAS. One of the main reasons given for this assertion was that “bad actors” will simply avoid the registration requirement. Another commenter said that no registration scheme can ensure that grey-market, second-hand, home-built, or stolen UAS will be registered.

## **6. Comments on age restrictions or minimum age for registration**

One commenter said that registration should be limited to persons aged 18 years old and older. The commenter further suggested that people under the age of 18 years old should be permitted to operate a UAS under the supervision of a person who is 18 years old or older.

## **7. Comments on enforceability**

A number of commenters raised general concerns about the enforceability of a registration requirement.

## **8. Comments on usefulness of registration number for identification purposes**

Several commenters questioned the usefulness of a registration number of identification purposes, asserting that it would only be useful after an incident has occurred and only if the UAS is recovered. One commenter said affixing the name and contact information of the owner to or in the aircraft will serve the same purpose with much less expense.

## **9. Legal issue with registration requirement**

Several commenters stated that the FAA's decision to require registration of model aircraft exceeds the agency's authority under § 336 of the FAA Modernization and Reform Act of 2012.

Several commenters stated that FAA's decision to impose a registration requirement without going through the traditional notice-and-comment rulemaking process is without justification.

## **10. Other comments on the UAS registration requirement**

Some of the other comments submitted about the proposed UAS registration requirement include the following:

- FAA has not provided sufficient justification for the mandatory registration of model aircraft.
- The proposed registration requirement is unnecessary as the registration issue is already being addressed in the current 333 exemption process and proposed part 107.
- FAA needs to clarify what is considered a drone or UAS for purposes of the registration requirement.
- A mandatory UAS registration requirement is an invasion of privacy.
- FAA should encourage registration by providing information and services of value, such as enabling operators to receive discounted insurance rates by virtue of meeting educational requirements that qualify for registration.

# UAS Registration Task Force Meeting | 2015

## Tuesday, November 3<sup>rd</sup>, 2015 (Day 1)

8:00 AM – 5:00 PM

FAA Headquarters, FOB 10A (800 Independence Avenue, SW, Washington, D.C.)

Bessie Coleman Center (2<sup>nd</sup> Floor)

Tuesday	Activity	Responsible Party
8:00 – 8:30	Arrival and Sign In	All
8:30 – 8:40	Welcoming Remarks	FAA Administrator Michael Huerta
8:40 – 9:00	Welcome and Introductions	UAS RTF Co-Chair Earl Lawrence
9:00 – 9:15	Flight Standards Overview	Director, Flight Standards John Duncan
9:15 – 10:30	RTF Objectives and Expectations	UAS RTF Co-Chairs Earl Lawrence and David Vos
<b>10:30 – 10:45</b>	<b>BREAK</b>	<b>All</b>
10:45 – 12:00	Open Discussion and Additional Topics	UAS RTF Co-Chair David Vos
<b>12:00 – 1:00</b>	<b>LUNCH</b>	<b>All</b>
1:00 – 2:30	Objective 1 – UAS Registration Minimums	UAS RTF Co-Chairs Earl Lawrence and David Vos
<b>2:30 – 2:45</b>	<b>BREAK</b>	<b>All</b>
2:45 – 4:00	Objective 1 – UAS Registration Minimums (cont'd)	UAS RTF Co-Chairs Earl Lawrence and David Vos
4:00 – 4:30	Objective 1 Recap and Summary	UAS RTF Co-Chairs Earl Lawrence and David Vos
4:30 – 5:00	Review of Day 2 Agenda and Wrap Up of Day 1	UAS RTF Co-Chair Earl Lawrence

# UAS Registration Task Force Meeting | 2015

**Wednesday, November 4<sup>th</sup>, 2015 (Day 2)**

8:00 AM – 5:00 PM

FAA Headquarters, FOB 10A (800 Independence Avenue, SW, Washington, D.C.)

Bessie Coleman Center (2<sup>nd</sup> Floor)

Wednesday	Activity	Responsible Party
8:00 – 8:30	Arrival and Sign In	All
8:30 – 8:45	Welcome, Agenda Overview, and Review of RTF Breakout Groups	UAS RTF Co-Chair Earl Lawrence
<b>MORNING BREAKOUT SESSIONS</b>		
8:45 – 10:45	Objective 2 – Registration Process: Develop and recommend registration process.  *NOTE: See UAS RTF ARC Questions & Sub-Questions Handout.	RTF Breakout Leader for Objective 2 Facilitator – Michael Cameron  *See RTF Breakout Groups Listing
8:45 – 10:45	Objective 3 – UAS Unique Registration Marking: Develop and recommend methods for proving registration and marking.  *NOTE: See UAS RTF ARC Questions & Sub-Questions Handout.	RTF Breakout Leader for Objective 3 Facilitator – Dan Ngo  *See RTF Breakout Groups Listing
<b>10:45 – 11:00</b>	<b>BREAK</b>	<b>All</b>
11:00 – 11:45	Objective 2 Breakout Group Recap	RTF Breakout Leader for Objective 2 Facilitator – Michael Cameron
11:00 – 11:45	Objective 3 Breakout Group Recap	RTF Breakout Leader for Objective 3 Facilitator – Dan Ngo
<b>11:45 – 1:00</b>	<b>LUNCH</b>	<b>All</b>
1:00 – 1:15	Agenda Overview, and Review of RTF Breakout Groups	UAS RTF Co-Chair Earl Lawrence
1:15 – 3:15	Objective 2 – Registration Process: Develop and recommend registration process.  *NOTE: See UAS RTF ARC Questions &	RTF Breakout Leader for Objective 2 Facilitator – Michael Cameron  *See RTF Breakout Groups Listing

	Sub-Questions Handout.	
1:15 – 3:15	Objective 3 – UAS Unique Registration Marking: Develop and recommend methods for proving registration and marking.  *NOTE: See UAS RTF ARC Questions & Sub-Questions Handout.	RTF Breakout Leader for Objective 3 Facilitator – Dan Ngo  *See RTF Breakout Groups Listing
<b>3:15 – 3:30</b>	<b>BREAK</b>	<b>All</b>
3:30 – 4:15	Objective 2 Breakout Group Recap	RTF Breakout Leader for Objective 2 Facilitator – Michael Cameron
3:30 – 4:15	Objective 3 Breakout Group Recap	RTF Breakout Leader for Objective 3 Facilitator – Dan Ngo
4:15 – 5:00	Review of Day 3 Agenda and Wrap Up of Day 2	UAS RTF Co-Chair Earl Lawrence

DRAFT



# UAS Registration Task Force Meeting | 2015

## Thursday, November 5<sup>th</sup>, 2015 (Day 3)

8:00 AM – 5:00 PM

FAA Headquarters, FOB 10A (800 Independence Avenue, SW, Washington, D.C.)

Bessie Coleman Center (2<sup>nd</sup> Floor)

Thursday	Activity	Responsible Party
8:00 – 8:30	Arrival and Sign In	All
8:30 – 8:45	Welcome and Agenda Overview	UAS RTF Co-Chair Earl Lawrence
8:45 – 10:00	Objective 2 Breakout Group Recap	RTF Breakout Leaders for Objective 2
<b>10:00 – 10:15</b>	<b>BREAK</b>	<b>All</b>
10:15 – 12:00	Objective 3 Breakout Group Recap	RTF Breakout Leaders for Objective 3
<b>12:00 – 1:00</b>	<b>LUNCH</b>	<b>All</b>
1:00 – 3:00	Final Recommendations Discussion	UAS RTF Co-Chair David Vos
<b>3:00 – 3:15</b>	<b>BREAK</b>	<b>All</b>
3:15 – 4:30	Final Recommendations Discussion (cont'd)	UAS RTF Co-Chair David Vos
4:30 – 5:00	Next Steps and Final Recommendations Report	UAS RTF Co-Chairs Earl Lawrence and David Vos

4910-9X

**DEPARTMENT OF TRANSPORTATION**

**OFFICE OF THE SECRETARY OF TRANSPORTATION**

**[Docket No. FAA-2015-4378]**

**AGENCY:** Department of Transportation and Federal Aviation Administration

**ACTION:** Clarification of the Applicability of Aircraft Registration Requirements for Unmanned Aircraft Systems (UAS) and Request for Information Regarding Electronic Registration for UAS.

**SUMMARY:** This notice clarifies the applicability of the statutory requirements regarding aircraft registration to UAS, including those operating as model aircraft. In addition, the DOT announces the formation of a UAS registration task force to explore and develop recommendations to streamline the registration process for UAS to ease the burden associated with the existing aircraft registration process. This notice requests information and recommendations regarding what information and registration platform would be appropriate for UAS registration and ways to minimize the burden to the regulated community. In addition, we request comment on which UAS, based on their weight or performance capabilities, warrant a continued exercise of discretion with respect to requiring registration because of the negligible risk they pose to the national airspace system (NAS).

**DATES:** To assist the task force in developing its recommendations, the Department requests that comments in response to the request for information be submitted to docket FAA-2015-4378 at [www.regulations.gov](http://www.regulations.gov), by [insert date 15 days after date of publication].

The docket will remain open after this time and the Department will consider all comments received in developing a registration process.

**ADDRESSES:** You may submit comments by any of the following methods:

- Federal Rulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: Dockets Management System; U.S. Department of Transportation, Dockets Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, S.E., Washington, DC 20590-0001.
- Hand Delivery: To U.S. Department of Transportation, Dockets Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, S.E., Washington, DC, 20590-0001, between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays.

Instructions: Include the agency name and docket number FAA-2015-4378 for this Notice at the beginning of your comment. Note that all comments received will be posted without change to <http://www.regulations.gov> including any personal information provided. If sent by mail, comments must be submitted in duplicate. Persons wishing to receive confirmation of receipt of their comments must include a self-addressed stamped postcard.

**Privacy Act:** Anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement at <http://www.dot.gov/privacy>.



**Docket:** You may view the public docket through the Internet at <http://www.regulations.gov> or in person at the Docket Operations office at the above address (See ADDRESSES).

**FOR FURTHER INFORMATION CONTACT:**

Questions regarding this notice may be directed to Earl Lawrence, Director, FAA UAS Integration Office, 800 Independence Ave. SW, Washington DC, 20591; phone: (202) 267-6556; email: [UASRegistration@faa.gov](mailto:UASRegistration@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

In the FAA Modernization and Reform Act of 2012 (Pub. L. 112-95) (the Act), Congress mandated that the DOT, in consultation with other government partners and industry stakeholders, develop a comprehensive plan to safely accelerate the integration of civil UAS in the NAS. Since 2012, the Department has made progress in enabling UAS operations, through issuing exemptions under section 333 of the Act to permit commercial operations; creating a UAS test site program to encourage further research and testing of UAS operations in real-world environments; issuing a notice of proposed rulemaking, Operation and Certification of Small Unmanned Aircraft Systems (RIN 2120-AJ60) (small UAS NPRM), that sets forth a framework for integrating small UAS operations in the NAS; and developing a Pathfinder program to encourage research and innovation that will enable advanced UAS operations.

A foundational statutory and regulatory requirement that the Department has employed for each of these integration programs is aircraft registration and marking. In order to operate in

the NAS, the Department must ensure that operators are not only aware of the system in which they are operating, but that we also have a means to identify and track the UAS to its operator. One means to accomplish this is through aircraft registration and marking. To date, UAS operators that the Department has authorized have been required to register their UAS through the FAA's existing paper-based registration process under 14 CFR part 47. As an exercise of discretion, historically we have not required model aircraft to be registered under this system.

UAS hold enormous promise for our economy and for the aviation industry. But for the industry to develop to its full potential, we have to ensure that it develops safely. Over the past several months, we have received increasing reports of unauthorized and unsafe use of small UAS. Pilot reports of UAS sightings in 2015 are double the rate of 2014. Pilots have reported seeing drones at altitudes up to 10,000 feet, or as close as half-a-mile from the approach end of a runway. In recent weeks, the presence of multiple UAS in the vicinity of wild fires in the western part of the country prompted firefighters to ground their aircraft on several occasions. These UAS operations are unsafe and illegal. However, only a small percentage of these incidents have resulted in enforcement actions against individuals for unsafe or unauthorized UAS operation because identifying an individual or entity responsible for the dangerous operation of UAS is very difficult. This situation is troubling to the unmanned aircraft industry, to responsible model aircraft users, and to users of the NAS, all of whom always put safety first.

The risk of unsafe operations will only increase as more UAS enter the NAS. Some retailers have projected huge holiday sales. We are committed to ensuring that the U.S. continues to lead the world in the development and implementation of aviation technology, and in doing so, that we create a space for the creativity, innovation and exploration that will drive this industry forward in the years and decades ahead. At the same time, we must create a culture of accountability and responsibility among all UAS operators. To maintain safety in the NAS, the Department has reconsidered its past practice of exercising discretion with respect to requiring UAS to be registered, consistent with statutory requirements of 49 U.S.C. 44101-44103, and has determined that registration of all UAS is necessary to enforce personal accountability while operating an aircraft in our skies.

Federal law requires that a person may only operate an aircraft when it is registered with the FAA. 49 U.S.C. 44101(a).<sup>1</sup> “Aircraft” is defined as “any contrivance invented, used, or designed to navigate, or fly in, the air.”<sup>2</sup> 49 U.S.C. 40102(a)(6). In 2012, Congress confirmed that UAS, including those used for recreation or hobby purposes, are aircraft consistent with the statutory definition set forth in 49 U.S.C. 40102(a)(6). *See* Pub. L. 112-95, sec. 331(8), 336 (defining an unmanned aircraft as “an aircraft that is that is operated without the possibility of direct human intervention from within or on the aircraft,” and model aircraft as “an unmanned aircraft that is capable of sustained flight in the atmosphere, flown within visual line of sight of the person operating the aircraft, and flown for hobby or recreational purposes”); *see also Administrator v. Pirker*, NTSB Order No. EA-5730, at 12 (Nov. 17, 2014) (affirming that the statutory definition

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<sup>1</sup> The FAA is charged with registering and issuing a certificate of registration to the owner of an aircraft that meets the requirements of 49 U.S.C. 44102. *See* 49 U.S.C. 44102-03. These statutory requirements are augmented by regulations in part 47 of Title 14, Code of Federal Regulations.

<sup>2</sup> Similarly, FAA regulations define “aircraft” as “a device that is used or intended to be used for flight in the air.” 14 C.F.R. § 1.1.



of aircraft is clear and unambiguous and “includes any air aircraft, manned or unmanned, large or small.”). Because UAS, including model aircraft, are aircraft, they are subject to FAA regulation, including the statutory requirements regarding registration set forth in 49 U.S.C. 44101(a), and further prescribed in regulation at 14 CFR part 47.

Historically, the FAA, through the exercise of its discretion, has not enforced the statutory requirements for aircraft registration in 49 U.S.C. 44101 for model aircraft. As evidenced by the recent reports of unsafe UAS operations, the lack of awareness of operators regarding what must be done to operate UAS safely in the NAS, and the lack of identification of UAS and their operators pose significant challenges in ensuring accountability for responsible use. Without increased awareness and knowledge of the statutory and regulatory requirements for safe operation, the risk of unsafe UAS operations will only rise. Aircraft identification and marking will assist the Department in identifying owners of UAS that are operated in an unsafe manner, so we may continue to educate these users, and when appropriate, take enforcement action.

Requiring registration of all UAS, including those operated for hobby or recreation, embraces and applies the Academy of Model Aeronautics’ (AMA)’s policy of identification to UAS operators who may not be modelers registered with the AMA. Additionally, it would ensure consistency with other UAS operations currently required to be registered, such as public aircraft, those operated under exemptions, and certificated aircraft, as well as those operations contemplated in the small UAS NPRM.

Based on the Department’s experience in registering small UAS authorized by exemptions granted under the authority of section 333 of the FAA Modernization and Reform Act of 2012, and the comments received on the proposed registration requirements in the small UAS NPRM, it is apparent that the current paper-based system for aircraft registration is too burdensome for

small UAS, to include model aircraft. To facilitate compliance with the statutory obligation for registration, the DOT is currently evaluating options for a streamlined, electronic-based registration system for small UAS. The Department has convened a UAS registration task force, under the FAA's authority in 49 U.S.C. 106(p)(5) to designate aviation rulemaking committees. This task force will provide recommendations on the type of registration platform needed to accommodate small UAS, as well as the information that will need to be provided to register these aircraft. The UAS registration task force also will explore and provide recommendations on whether it is appropriate for the FAA to continue to exercise discretion with respect to requiring registration of certain UAS based on their weight and performance capabilities. The task force will meet and provide its recommendations to the Department by November 20, 2015. To facilitate the task force's work, we are requesting information and data from the public in the following areas:

1. What methods are available for identifying individual products? Does every UAS sold have an individual serial number? Is there another method for identifying individual products sold without serial numbers or those built from kits?
2. At what point should registration occur (e.g. point-of-sale or prior-to-operation)? How should transfers of ownership be addressed in registration?
3. If registration occurs at point-of-sale, who should be responsible for submission of the data? What burdens would be placed on vendors of UAS if DOT required registration to occur at point-of-sale? What are the advantages of a point-of-sale approach relative to a prior-to-operation approach?
4. Consistent with past practice of discretion, should certain UAS be excluded from registration based on performance capabilities or other characteristics that could be

associated with safety risk, such as weight, speed, altitude operating limitations, duration of flight? If so, please submit information or data to help support the suggestions, and whether any other criteria should be considered.

5. How should a registration process be designed to minimize burdens and best protect innovation and encourage growth in the UAS industry?
6. Should the registration be electronic or web-based? Are there existing tools that could support an electronic registration process?
7. What type of information should be collected during the registration process to positively identify the aircraft owner and aircraft?
8. How should the registration data be stored? Who should have access to the registration data? How should the data be used?
9. Should a registration fee be collected and if so, how will the registration fee be collected if registration occurs at point-of-sale? Are there payment services that can be leveraged to assist (e.g. PayPal)?
10. Are there additional means beyond aircraft registration to encourage accountability and responsible use of UAS?

Comments received by [insert date 15 days after date of publication] would be most helpful in assisting the UAS registration task force in developing its recommendations. The comment period will remain open after this period and the Department will consider the comments



received, in addition to the UAS registration task force's recommendations, in developing a stream-lined registration process for small UAS, including model aircraft.

Issued in Washington, DC on October 19, 2015.



Anthony R. Foxx,

Secretary



Michael P. Huerta,

Administrator

## Ray, Kathy (OST)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Tuesday, November 03, 2015 7:09 PM  
**To:** Katz, Dan (OST); Lagana, Susan (OST); Stanton, Donald (OST); Thomson, Kathryn (OST); Kurland, Susan (OST); Belford, Brandon (OST); Gresham, Dana (OST); Monroe, Kevin (OST); Emmerling, Suzanne (OST); Porter, Melissa (OST); Moss, Jonathan (OST); Rogoff, Peter (OST); Pickrell, Don H (VOLPE); Peraino, Joe (OST); Dowd, Mark (OST)  
**Cc:** 'Chris.Rocheleau@faa.gov'; 'Earl.Lawrence@faa.gov'; Jenny Rosenberg; 'Molly.Harris@faa.gov'  
**Subject:** UAS Task force update

Good evening everyone,

Below is a more detailed recap of the first day of discussion with the UAS registration task force. Abbreviated briefs for WH, Hill staff, and press are being developed given that we have asked the task force members not to release any information to the public until their report is finalized, given that this is still very much a deliberative process and no consensus has yet been reached/formalized, and we don't want any leaks of information/views to disrupt that process.

FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered. We also notified the group that there is an existing contract in place that could be leveraged to build a baseline system and that their input would help us frame the parameters for the new registration and how information can be fed into the system and accessed.

Following the introductory briefing, the industry chair led an open discussion for the group to raise questions and thoughts regarding the three main objections of the task force. This discussion focused on the goals of the registration process: to educate users on the safe operating rules for UAS and the need to link the aircraft to the owner or operator in the event of an incident or accident. The group recognized a need to connect responsibility for the aircraft to the owner/operator of the aircraft. There was also discussion and acknowledgment that the group would have to recommend when/how/and where we should give people the opportunity to register the UAS before it is operated, and questioned whether protocols for feeding information into the registration system could be developed to allow for POS and other points of entry for registration. Other areas of discussion included the need to ensure that the information submitted is accurate, reliable, and easily accessible, and questioned how it could be verified or authenticated. The group also acknowledged that the end product of registration is the certificate of registration but questioned whether it should be paper copy, electronic copy, accessible on a mobile application, etc.

The afternoon session focused on the first objective of the task force: whether certain small UAS should be excluded from registration. The group acknowledged that this should be a risk-based decision. There was much discussion about the level of risk that we accept today for manned aircraft operations and what is the appropriate level of risk to accept for unmanned aircraft operations, based on the data that is available. Many in the group noted the need to keep this simple and are focused on looking at a mass-based number to draw the line for requiring registration. Before the group can agree on what this number should be, they would like to look at various ranges based on available data and literature, as well as the work of other foreign civil aviation authorities. Currently, the weight range the group is considering is between a ¼ lb device up to 1 kilogram. Some in the group felt that in assessing this range, the recommendation should err on the conservative side in order to serve the need to educate more users on the safe operating requirements, while others thought the risk

acceptance should be at the upper range of the weight of the UAS. The group will reconvene in the morning and share thoughts on this issue before they begin discussion on the other two objectives.

If you have any questions, please feel free to call me on my BB at 202-740-0624 or email me.

Have a great night,

Anne Bechdolt  
U.S. Department of Transportation  
Office of the General Counsel  
Regulation and Enforcement  
Phone: 202-366-9318

## Ray, Kathy (OST)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Tuesday, November 03, 2015 7:20 PM  
**To:** 'Loewentheil, Nate'; 'Hansell, David (b) (6)'; 'Vorhaus, Dave (b) (6)'; 'Wackler, Ted M. (b) (6)'; 'Benenati, Frank J. EOP/WHO'; 'Boogaard, Peter C. EOP/NSC'; 'Jenkins, Nate (b) (6)'  
**Cc:** Stanton, Donald (OST); Thomson, Kathryn (OST); Lagana, Susan (OST); 'Chris.Rocheleau@faa.gov'; 'Earl.Lawrence@faa.gov'  
**Subject:** UAS Registration Task force update

Good evening, everyone,

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its first day of work. FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered.

Following the introductory briefing, the industry chair (Dave Vos of Google X) led an open discussion for the group to raise questions and thoughts regarding the three main objections of the task force. This discussion focused on the goals of the registration process: to educate users on the safe operating rules for UAS and the need to link the aircraft to the owner or operator in the event of an incident or accident. The group recognized a need to connect responsibility for the aircraft to the owner/operator of the aircraft. There was also discussion and acknowledgment that the group would have to recommend when/how/and where we should give people the opportunity to register the UAS before it is operated, and questioned whether protocols for feeding information into the registration system could be developed to allow for POS and other points of entry for registration. Other areas of discussion included the need to ensure that the information submitted is accurate, reliable, and easily accessible, and questioned how it could be verified or authenticated. The group also acknowledged that the end product of registration is the certificate of registration but questioned whether it should be paper copy, electronic copy, accessible on a mobile application, etc.

The afternoon session focused on the first objective of the task force: whether certain small UAS should be excluded from registration. The group is still considering this initiative and no consensus has been reached. The group noted that it should be risk-based but noted the lack of data that is available to make this decision. The group acknowledged the need to keep it simple so the general public could understand when they would be required to register and for the moment, are looking at the weight of the aircraft. Some in the group felt that in assessing the weight of the aircraft, the recommendation should err on the conservative side in order to serve the need to educate more users on the safe operating requirements, while others thought the risk acceptance should be at the upper range of the weight of the UAS. The group will reconvene in the morning and share thoughts on this issue before they begin discussion on the other two objectives.

This is a deliberative process and we are not sharing this info with anyone outside the USG and task force members, as we do not want to disrupt the process with premature release of information about possible recommendations for which there is no consensus yet. If you have any questions, please feel free email me or call me at 202-740-0624

Best regards,

Anne Bechdolt  
U.S. Department of Transportation  
Office of the General Counsel  
Regulation and Enforcement  
Phone: 202-366-9318



## Ray, Kathy (OST)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Wednesday, November 04, 2015 9:25 AM  
**To:** 'Weiss, Jeff ( (b) (6) )'; 'Couillard, Albert ( (b) (6) )';  
'daniel.price ( (b) (6) )'; 'Vehmeyer, John ( (b) (6) )'; 'Elmore, Jim  
( (b) (6) )'; 'McErlain (Flohr), Amy K ( (b) (6) )';  
'Parimal.H.Kopardekar ( (b) (6) )'; '( (b) (6) )@mail.mil'; 'Gaskins, Shimica  
(OLP) ( (b) (6) )'; 'kim\_thorsen ( (b) (6) )'; 'Bathrick, Mark  
( (b) (6) )'; 'John Verdi ( (b) (6) )'; 'Ross\_A.  
\_Rutledge ( (b) (6) )'  
**Subject:** UAS registration task force recap of Day 1

Good morning, everyone,

First, thank you to all of you are attending in person this week. As you can see, this is a very diverse and engaged group with lots of ideas on these issues. Below is a summary of yesterday's discussion. As we have continued to note during the meetings, this is a deliberative process and we are not sharing this info with anyone outside the USG and task force members, as we do not want to disrupt the process with premature release of information about possible recommendations for which there is no consensus yet. Further, we have had some inquiries as to whether this committee is subject to FACA. It is not. FAA has a special statutory exception from FACA to establish aviation rulemaking committees when needed. This task force is operating under that exception. If you have any questions, please feel free email me or call me at 202-740-0624.

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its first day of work. FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered.

Following the introductory briefing, the industry chair (Dave Vos of Google X) led an open discussion for the group to raise questions and thoughts regarding the three main objections of the task force. This discussion focused on the goals of the registration process: to educate users on the safe operating rules for UAS and the need to link the aircraft to the owner or operator in the event of an incident or accident. The group recognized a need to connect responsibility for the aircraft to the owner/operator of the aircraft. There was also discussion and acknowledgment that the group would have to recommend when/how/and where we should give people the opportunity to register the UAS before it is operated, and questioned whether protocols for feeding information into the registration system could be developed to allow for POS and other points of entry for registration. Other areas of discussion included the need to ensure that the information submitted is accurate, reliable, and easily accessible, and questioned how it could be verified or authenticated. The group also acknowledged that the end product of registration is the certificate of registration but questioned whether it should be paper copy, electronic copy, accessible on a mobile application, etc.

The afternoon session focused on the first objective of the task force: whether certain small UAS should be excluded from registration. The group is still considering this initiative and no consensus has been reached. The group noted that it should be risk-based but noted the lack of data that is available to make this decision. The group acknowledged the need to keep it simple so the general public could understand when they would be required to register and for the moment, are looking at the weight of the aircraft. Some in the group felt that in assessing the weight of the aircraft, the recommendation should err on the conservative side in order to serve the



need to educate more users on the safe operating requirements, while others thought the risk acceptance should be at the upper range of the weight of the UAS. The group will reconvene in the morning and share thoughts on this issue before they begin discussion on the other two objectives.

I will send a recap of today's discussion this evening.

Best regards,

Anne

## Ray, Kathy (OST)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Wednesday, November 04, 2015 7:55 PM  
**To:** 'Hansell, David (b) (6)'; 'Loewentheil, Nate'; Vorhaus, Dave (b) (6); 'Wackler, Ted M. (b) (6)'; 'Jenkins, Nate (b) (6)'; 'Boogaard, Peter C. EOP/NSC (b) (6)'; 'Benenati, Frank J. EOP/WHO (b) (6)';  
**Cc:** Thomson, Kathryn (OST); Stanton, Donald (OST); Lagana, Susan (OST); 'Earl.Lawrence@faa.gov'; 'Chris.Rocheleau@faa.gov'  
**Subject:** UAS registration task force recap-Day 2 and press statement

Good evening, everyone,

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its second day of work. The chairs led with a brief recap of yesterday's discussion regarding which UAS should be required to be registered and outlined the goals for today's discussion, which focused on developing and recommending a registration process and means for proving registration methods and marking UAS. For this session, we created break-out groups to help facilitate discussion amongst the members.

With respect to developing and recommending a registration process, the discussion focused on the type of system that should be built and the type of information that should be collected. Both groups agree that it should be web-based, with multiple entry points for submitting data. Many members of both groups noted issues with point of sale registration and expressed concern with requiring POS registration. They are considering allowing it as one option to register. Both groups are considering a system that could produce a unique identifier that would be tied to the owner. The owner would be responsible for updating and maintaining his or her contact information. With respect to the information collected during registration, there seems to be agreement that at a minimum, name, address, mailing address would be needed, and phone number and email address could be options. There is still much discussion on the information that is needed for registration. There is no agreement that the registration system should collect information on the make/model/serial number of each UAS owned by the operator. This was an issue particularly for home-built UAS because they do not have them. Both groups agreed that the registration system should be easily populated with owner information. Both groups were concerned on releasing this information and would prefer that only federal, state, and local agencies with a need to access the data have access to the system.

Both groups agreed that the end result of registration would be the issuance of a registration certificate. The certificate could be transmitted electronically with the option to print or receive a paper copy. The groups agreed that the process for registration should be leveraged as an educational opportunity.

With respect to the third objective, both groups generally agreed the goal of marking would be that the unique identifier is legible and easily viewable upon external inspection of the UAS. Prior to operation, operator should check to make sure that the marking is still clear.

It was a very productive day and the task force seems to be coming together on general concepts. Tomorrow is the last day for the in-person meeting. In the morning, we will do a recap of today's break-out sessions and then lead into the discussion of the initial recommendations that the group will be drafting over the next 2 weeks.

We are issuing the following as our press statement for today:

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its second day of work today. The discussion focused on developing and recommending a registration process, how to prove the UAS is registered and how to mark a UAS. The discussion about the registration process focused on the type of system that should be built and the type of information that should be collected. The group will continue meeting tomorrow.

Best regards,  
Anne

Best regards.

Anne Bechdolt  
U.S. Department of Transportation  
Office of the General Counsel  
Regulation and Enforcement  
Phone: 202-366-9318



## Ray, Kathy (OST)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Wednesday, November 04, 2015 8:04 PM  
**To:** 'Weiss, Jeff (b) (6)'; 'Gaskins, Shimica (OLP) (b) (6)';  
'daniel.price (b) (6)'; 'Couillard, Albert (b) (6)'; 'Vehmeyer,  
John (b) (6)'; 'Elmore, Jim (b) (6)';  
'(b) (6) @mail.mil'; 'Parimal.H.Kopardekar (b) (6)'; 'McErlain (Flohr),  
Amy K (b) (6)'; 'kim\_thorsen (b) (6)'; 'Bathrick, Mark  
(b) (6)'; 'John Verdi (b) (6)'; 'Ross\_A.  
\_Rutledge (b) (6)'  
**Cc:** 'Earl.Lawrence@faa.gov'  
**Subject:** UAS registration task force Day 2 recap

Good evening, everyone,

Thanks again to all of you who attended in person to listen and offer support for the UAS registration task force. The task force completed its second day of work. The chairs led with a brief recap of yesterday's discussion regarding which UAS should be required to be registered and outlined the goals for today's discussion, which focused on developing and recommending a registration process and means for proving registration methods and marking UAS. For this session, we created break-out groups to help facilitate discussion amongst the members.

With respect to developing and recommending a registration process, the discussion focused on the type of system that should be built and the type of information that should be collected. Both groups agree that it should be web-based, with multiple entry points for submitting data. Many members of both groups noted issues with point of sale registration and expressed concern with requiring POS registration. They are considering allowing it as one option to register. Both groups are considering a system that could produce a unique identifier that would be tied to the owner. The owner would be responsible for updating and maintaining his or her contact information. With respect to the information collected during registration, there seems to be agreement that at a minimum, name, address, mailing address would be needed, and phone number and email address could be options. There is still much discussion on the information that is needed for registration. There is no agreement that the registration system should collect information on the make/model/serial number of each UAS owned by the operator. This was an issue particularly for home-built UAS because they do not have them. Both groups agreed that the registration system should be easily populated with owner information. Both groups were concerned on releasing this information and would prefer that only federal, state, and local agencies with a need to access the data have access to the system.

Both groups agreed that the end result of registration would be the issuance of a registration certificate. The certificate could be transmitted electronically with the option to print or receive a paper copy. The groups agreed that the process for registration should be leveraged as an educational opportunity.

With respect to the third objective, both groups generally agreed the goal of marking would be that the unique identifier is legible and easily viewable upon external inspection of the UAS. Prior to operation, operator should check to make sure that the marking is still clear.

It was a very productive day and the task force seems to be coming together on general concepts. Tomorrow is the last day for the in-person meeting. In the morning, we will do a recap of today's break-out sessions and then lead into the discussion of the initial recommendations that the group will be drafting over the next 2 weeks.

Best regards,  
Anne

## Ray, Kathy (OST)

---

**From:** Bechdolt, Anne (OST)  
**Sent:** Friday, November 06, 2015 4:37 PM  
**To:** lorelei.peter@faa.gov  
**Subject:** FW: UAS Registration Task Force-Day 3 recap (OST/FAA only--WH/HILL/Press statement to follow)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Thursday, November 05, 2015 5:24 PM  
**To:** Katz, Dan (OST); Lagana, Susan (OST); Thomson, Kathryn (OST); Dowd, Mark (OST); Stanton, Donald (OST); Porter, Melissa (OST); Emmerling, Suzanne (OST); Moss, Jonathan (OST); Kurland, Susan (OST); Belford, Brandon (OST); Rogoff, Peter (OST); Pickrell, Don H (OST); Gresham, Dana (OST); Monroe, Kevin (OST); Peraino, Joe (OST); [Chris.Rocheleau@faa.gov](mailto:Chris.Rocheleau@faa.gov); [Earl.Lawrence@faa.gov](mailto:Earl.Lawrence@faa.gov); [Marke.Gibson@faa.gov](mailto:Marke.Gibson@faa.gov); Peggy Gilligan ([peggy.gilligan@faa.gov](mailto:peggy.gilligan@faa.gov)); Hickey, John <FAA>; 'Reggie.Govan@faa.gov'; [mark.bury@faa.gov](mailto:mark.bury@faa.gov); [Molly.Harris@faa.gov](mailto:Molly.Harris@faa.gov); [Scott.Gore@faa.gov](mailto:Scott.Gore@faa.gov); Jenny Rosenberg; [laura.montgomery@faa.gov](mailto:laura.montgomery@faa.gov); [Lirio.Liu@faa.gov](mailto:Lirio.Liu@faa.gov); Duncan, John S <FAA>; [Timothy.R.Adams@faa.gov](mailto:Timothy.R.Adams@faa.gov); [Tiffani.Blexrud@faa.gov](mailto:Tiffani.Blexrud@faa.gov); Amereihn, Tina <FAA>; [Rich.Swayze@faa.gov](mailto:Rich.Swayze@faa.gov); [carl.burleson@faa.gov](mailto:carl.burleson@faa.gov); [nan.shellabarger@faa.gov](mailto:nan.shellabarger@faa.gov); Tracey, Meredith <FAA>; McNall, Pat <FAA>; [dean.griffith@faa.gov](mailto:dean.griffith@faa.gov); [Sara.Mikolop@faa.gov](mailto:Sara.Mikolop@faa.gov); [courtney.freeman@faa.gov](mailto:courtney.freeman@faa.gov)  
**Subject:** UAS Registration Task Force-Day 3 recap (OST/FAA only--WH/HILL/Press statement to follow)

The UAS Registration Task Force met for the third day to develop an initial set of recommendations as the basis for the report that will be drafted and submitted by Nov. 20<sup>th</sup>.

The group was able to reach consensus on the following recommendations, provided they are adopted as a package. With respect to which UAS should not be subject to registration, there was much discussion of the weight and speed of the aircraft and the likelihood of a fatal impact. In a vote of 19 to 4 (2 opposed, 2 absentions), the task force recommended that each UAS weighing more than 250 grams should be subject to registration. Some members raised concerns that this would reach too far into the toy market and noted that this was based on a preliminary review of one study and limited data. If this number is selected, the group felt that it should be re-evaluated in a year or on a regular basis as additional data and research becomes available.

The group will be providing information on the number of UAS in the market that would be required to register.

With respect to the registration process, the group agreed that every registrant should receive a unique number that connects the owner to the vehicle. The owner should bear the responsibility for updating information and maintaining an active/inactive status. It should be a web-based system with the existing registry as an alternate paper process. Anyone younger than 13 would not be eligible to register; a parent or guardian would have to register on behalf of the child. The owner's name, street address, and mailing address (if a paper certificate is desired) would be required to be submitted; registrants would have the option to include the serial number (if provided by the manufacturer), email and phone number if they want info via text. All raised concerns about whether this information would be subject to release under FOIA. With respect to citizenship, the group requested that if it has to be a required element, it should be self-identification. The group questioned how individuals who don't meet citizenship requirements and can't register their aircraft could operate in the U.S. The group asked how the agency could exercise its discretion under 49 USC 41703 to recognize these operators.

All agreed that the owner must register prior to operation and that registration could be accomplished via multiple portals (point of sale, mobile apps, kiosks, etc). Point of sale registration should not be mandatory but could be offered as an option.



For marking the UAS, they group agreed that it should be in a legible condition at all points of time upon external visual inspection, or in a reasonably accessible compartment that would not require tools to open. Owners would be required to use their unique number, or if they include a serial number during the registration, the serial number could be used instead. The manufacturers noted that they should work together to develop a uniform system for issuing serial numbers.

All agreed that education is an essential element of the registration process.

There was no discussion of the fee today.

With respect to next steps, we are still in a deliberative process until the report is finalized and published. The members agreed that they would not discuss with anyone outside of their organizations or membership until the report is published. The members will be collecting information and data. A draft will be provided to the industry chair by COB tomorrow. The chair and the break-out group leads will review over the weekend and revise. The rest of the members will then be provided a draft and a member telecom/webex will be held Thursday, November 12, 2015.

Anne Bechdolt  
U.S. Department of Transportation  
Office of the General Counsel  
Regulation and Enforcement  
Phone: 202-366-9318

## Griffith, Dean (FAA)

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**From:** Bechdolt, Anne (OST)  
**Sent:** Thursday, November 05, 2015 7:01 PM  
**To:** Stanton, Donald (OST); Thomson, Kathryn (OST); Lagana, Susan (OST); Rocheleau, Chris (FAA); Lawrence, Earl (FAA); Gilligan, Peggy (FAA); john.hickey@faa.dot.gov; Adams, Timothy R (FAA); Blexrud, Tiffani (FAA); Harris, Molly (FAA); Gore, Scott (FAA); Rosenberg, Jenny (FAA); Brown, Laura J (FAA); Bury, Mark (FAA); Mikolop, Sara (FAA); Griffith, Dean (FAA); Freeman, Courtney (FAA); Liu, Lirio (FAA)  
**Subject:** UAS Registration Task Force Day 3 notifications  
**Categories:** Red Category

All notifications have been made. Consolidated notifications are below for reference.

Have a great evening,  
Anne

### **WH Briefing:**

Good evening, everyone,  
The UAS Registration Task Force met for the third day to develop an initial set of recommendations as the basis for the report that will be drafted and submitted by Nov. 20<sup>th</sup>.

The task force was able to reach a tentative agreement on which UAS should not be subject to registration after a discussion of the risk to both people on the ground and other users of the NAS. Recognizing the limited data that is available, the group is considering that UAS that weigh less than 250 grams should not be required to register. If this number is selected, the group is considering whether it should be re-evaluated on a regular basis and adjusted as additional data and research becomes available.

The group will continue to analyze this and gather data and information over the next two weeks, including information on the number of UAS in the market that would be required to register using this weight.

With respect to the registration process, the group generally agreed that every registrant should receive a unique number that connects the owner to the vehicle. The owner should bear the responsibility for updating information and maintaining an active/inactive status. It should be a web-based system with the existing registry as an alternate paper process. Anyone younger than 13 would not be eligible to register; a parent or guardian would have to register on behalf of the child. The owner's name, street address, and mailing address (if a paper certificate is desired) would be required to be submitted; registrants could have the option to include the serial number (if provided by the manufacturer), email and phone number if they want info via text. All raised concerns about whether this information would be subject to release under FOIA. The group questioned how individuals who don't meet the statutory requirement for citizenship to register their aircraft could operate in the U.S.

All agreed that the owner must register prior to operation and that registration could be accomplished via multiple portals (point of sale, mobile apps, kiosks, etc). Point of sale registration should not be mandatory but could be offered as an option.

For marking the UAS, they group agreed that it should be in a legible condition at all points of time upon external visual inspection, or in a reasonably accessible compartment that would not require tools to open. Owners would be required to use their unique number, or if they include a serial number during the registration, the serial number could be used instead. The manufacturers noted that in the future, they should work together to develop a uniform system for issuing serial numbers.

All agreed that education is an essential element of the registration process.

There was no discussion of the fee today.

With respect to next steps, the task force is still in a deliberative process until the report is finalized and published. The members agreed that they would not discuss with anyone outside of their organizations or membership until the report is published. Over the next two weeks, the members will draft the report and continue to collect information and data. The industry chair and the break-out group leads will begin drafting the report over the weekend. The task force will meet via telecon/webex next Thursday, November 12, 2015 to discuss the draft report.

Here is the draft press statement we will release tonight:

FAA Statement: UAS Registration Task Force Day Three

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its final day of meetings. The group focused on reaching a consensus on a recommended process for registration. The discussions included how an operator might prove a UAS is registered, how the aircraft would be marked, and how to use the registration process to encourage or require UAS operators to become educated on basic safety rules. The group also worked to find consensus on which types of UAS would need to be registered and which would not. The Task Force will now finalize its recommendations for delivery to the FAA Administrator by Nov. 20.

**Hill Briefing:**

The UAS registration Task Force met for the third day to develop an initial set of recommendations as the basis for the report that will be drafted and submitted by Nov. 20th.

With respect to which UAS should not be subject to registration, the group continues to gather data and analyze this issue.

With respect to the registration process, the group agreed that it should be web-based with multiple points of entry. The owner should bear the responsibility for updating information and maintaining an active/inactive status. The group continues to assess what information should be collected via the registration process. The group continues to note that point of sale registration should not be mandatory and is evaluating whether it should be offered as an option.

For marking the UAS, they group generally agreed that it should be in a legible condition at all points of time upon external visual inspection, or in a reasonably accessible compartment that would not require tools to open.

All agreed that education is an essential element of the registration process.

With respect to next steps, the task force members are still in a deliberative process until the report is finalized and published. Over the next two weeks, the members will continue to gather information and data and begin drafting the final report. The report will be submitted by Nov. 20.

**FAA Press Statement: UAS Registration Task Force Day Three**

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its final day of meetings. The group focused on reaching a consensus on a recommended process for registration. The discussions included how an operator might prove a UAS is registered, how the aircraft would be marked, and how to use the registration process to encourage or require UAS operators to become educated on basic safety rules. The group also continues to gather data and analyze which types of UAS would need to be registered and which would not. The Task Force will now finalize its recommendations for delivery to the FAA Administrator by Nov. 20.

## **RTF ARC - Day 2**

### **Objective 2 Registration Process Break Out Discussions**

- The registration process should collect the following information:
  - o NAME
  - o STREET ADDRESS
  - o Blue group specified MAILING ADDRESS optional
  - o EMAIL optional
  - o PHONE NUMBER optional
  - o Red group specifically did not want to collect MAKE/MODEL
  - o Blue group specifically wanted to collect MAKE/MODEL, as an additional piece of information that would help traceability back to owner
  
- Registration should not be at point-of-sale, but enforcement begins at UAV operation. In between these two points, there should be many ways for an owner to register, either at POS, or just before operating, ability to register via various online portals (put together by FAA and whichever members of industry) in smartphone apps to websites.
  
- Registration age limit is 13-years or older. If younger than 17 years, the process needs to add legal guardian information.
  
- The registration process should be uniform throughout industry. Maybe there should be an organization that unifies the process and/or standard.
  
- The FAA should create an API to ensure that members of industry could easily access /integrate registration information in their own way, in order to promote UAV culture of safety individual to their own communities and marketing /educational efforts.



**From:** [Brown, Laura J \(FAA\)](#)  
**To:** [AOA-1 \(FAA\)](#); [Whitaker, Michael \(FAA\)](#); [Rocheleau, Chris \(FAA\)](#); [Harris, Molly \(FAA\)](#); [Bechdolt, Anne \(OST\)](#)  
**Cc:** [Gore, Scott \(FAA\)](#); [Lawrence, Earl \(FAA\)](#); [Rosenberg, Jenny \(FAA\)](#)  
**Subject:** UAS Registration Task Force Day 2 Update  
**Date:** Wednesday, November 04, 2015 7:13:59 PM

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Here is the Day 2 Update we'll put out shortly:

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its second day of work today. The discussion focused on developing and recommending a registration process, how to prove the UAS is registered and how to mark a UAS. The discussion about the registration process focused on the type of system that should be built and the type of information that should be collected. The group will continue meeting tomorrow.

Laura Brown  
202-267-3455 W  
(b) (6) C

**From:** [Rosenberg, Jenny \(FAA\)](#)  
**To:** [Harris, Molly \(FAA\)](#)  
**Cc:** [Brown, Laura J \(FAA\)](#); [Gore, Scott \(FAA\)](#); [Lawrence, Earl \(FAA\)](#); [Bechdolt, Anne \(OST\)](#)  
**Subject:** Re: Draft News and Updates Statement on UAS Registration TF Day One  
**Date:** Tuesday, November 03, 2015 5:58:58 PM

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Thanks Molly.  
Once I get OST feedback we will be ready to go out with this.

--

Jenny T. Rosenberg  
Asst. Administrator for Communications | FAA  
O: (202) 267-3454  
C: (202) 394-2427  
[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

On Nov 3, 2015, at 5:56 PM, Harris, Molly (FAA) <[Molly.Harris@faa.gov](mailto:Molly.Harris@faa.gov)> wrote:

For the Hill – we’re going to hold out for the more detailed version anne is putting together and will make sure everyone is on the same page before we send it up.  
Jenny – no need for AOC to wait on us before posting the statement.

**From:** Rosenberg, Jenny (FAA)  
**Sent:** Tuesday, November 03, 2015 5:50 PM  
**To:** Brown, Laura J (FAA); Harris, Molly (FAA); Gore, Scott (FAA)  
**Cc:** Lawrence, Earl (FAA); Bechdolt, Anne (OST)  
**Subject:** Re: Draft News and Updates Statement on UAS Registration TF Day One

Forgot to add - let me know if this works for all of you.

Anne - I'm going to send concurrently to OST and will copy you.

Thanks.

--

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Asst. Administrator for Communications | FAA  
O: (202) 267-3454  
C: (202) 394-2427  
[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

On Nov 3, 2015, at 5:41 PM, Rosenberg, Jenny (FAA)  
<[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)> wrote:

Statement: UAS Registration Task Force Day One

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its first day of work. FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the

current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered. The Task Force will continue deliberating tomorrow.

###

**Jenny Thalheimer Rosenberg**  
**Assistant Administrator for Communications | FAA**  
W: (202) 267-3454 | C: (202) 394-2427  
[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

**From:** [Rosenberg, Jenny \(FAA\)](#)  
**To:** [Harris, Molly \(FAA\)](#)  
**Cc:** [Brown, Laura J \(FAA\)](#); [Gore, Scott \(FAA\)](#); [Lawrence, Earl \(FAA\)](#); [Bechdolt, Anne \(OST\)](#)  
**Subject:** Re: Draft News and Updates Statement on UAS Registration TF Day One  
**Date:** Tuesday, November 03, 2015 5:58:58 PM

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**Sent:** Tuesday, November 03, 2015 5:50 PM  
**To:** Brown, Laura J (FAA); Harris, Molly (FAA); Gore, Scott (FAA)  
**Cc:** Lawrence, Earl (FAA); Bechdolt, Anne (OST)  
**Subject:** Re: Draft News and Updates Statement on UAS Registration TF Day One

Forgot to add - let me know if this works for all of you.

Anne - I'm going to send concurrently to OST and will copy you.

Thanks.

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[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

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<[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)> wrote:

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**Assistant Administrator for Communications | FAA**  
W: (202) 267-3454 | C: (202) 394-2427  
[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)



**From:** [Gore, Scott \(FAA\)](#)  
**To:** [Lawrence, Earl \(FAA\)](#); [Gibson, Marke \(FAA\)](#); [Amend, Erik \(FAA\)](#); [Tracey, Meredith \(FAA\)](#); [Adams, Timothy R \(FAA\)](#); [Liu, Lirio \(FAA\)](#); [Bury, Mark \(FAA\)](#); [Eck, James \(FAA\)](#); [Bechdolt, Anne \(OST\)](#)  
**Subject:** FW: Larsen - LoBiondo Letter to UAS Registration Task Force  
**Date:** Tuesday, November 03, 2015 5:53:03 PM  
**Attachments:** [LarsenLoBiondo Inquiry Registration 11042015.pdf](#)

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All -- Attached is the letter just in that Molly referenced at the 5:00 wrap up meeting.

Scott

**From:** Satterley, Matthew [mailto:Matthew.Satterley@mail.house.gov]  
**Sent:** Tuesday, November 03, 2015 5:10 PM  
**To:** Gore, Scott (FAA); Harris, Molly (FAA)  
**Cc:** Bormet, Matt  
**Subject:** Larsen - LoBiondo Letter to UAS Registration Task Force

Scott and Molly,

Wanted to give you a heads up on a letter that Ranking Member Larsen and my boss are putting in the mail to Administrator Huerta tomorrow morning. It outlines priorities that our bosses have identified for consideration by the task force and your team. Our offices are planning to press this. I should be here for most of the night with the highway bill so feel free to give me or Matt a call if you would like to discuss.

Matts



**Matthew Satterley** / Legislative Director  
[matthew.satterley@mail.house.gov](mailto:matthew.satterley@mail.house.gov)  
**Congressman Frank A. LoBiondo**  
Office: 202.225.6572 / Fax: 202.225.3318  
2427 Rayburn House Office Building  
Washington, DC 20515-3002  
<http://lobiondo.house.gov>

**Congress of the United States**  
**Washington, DC 20515**

November 4, 2015

The Honorable Michael P. Huerta  
Administrator  
Federal Aviation Administration  
800 Independence Avenue, S.W., #1010  
Washington, D.C. 20591

Dear Administrator Huerta:

We appreciate your continued efforts and work with the House Aviation Subcommittee to safely integrate unmanned aircraft systems (UAS) into the National Airspace. The government and industry task force the Department of Transportation launched last month to consider how to best institute a recreational UAS registration requirement is an important step forward for safety. We believe that aircraft registration is an important part of a comprehensive safety solution. The following four issues are our top priorities to be addressed in the registration process, and we ask that the task force consider them as it develops its recommendations.

1. **Streamlined Process:** The registration process should be entirely accessible to ordinary consumers who are becoming users of the airspace for the first time. Keeping the process simple will promote participation.
2. **Federal Aviation Administration (FAA) Access to Data:** A key purpose of registration is to create a long-term deterrent to unauthorized UAS operations by establishing a means for detecting and prosecuting those who violate the law. In order for this approach to be effective, we believe the FAA must have access to the data regardless of whether a public or private entity operates the registry just as the agency has access to registration data of manned aircraft today.
3. **Education and Training:** The registration process should include a knowledge or training component to ensure that consumers are made aware of the federal aviation laws and the consequences of violating them. The FAA's Know Before You Fly campaign is a good start, but may not reach the entire new massive consumer drone market. The task force should examine what further education and public outreach efforts should be made.
4. **Incentives for Consumers to Register:** Requiring registration as a prerequisite to receive software updates and other improvements from manufacturers may incentivize consumers to register their UAS.

Thank you again for your focus on safely integrating unmanned aircraft. We look forward to continuing to work with you as we move forward with FAA Reauthorization legislation.

Sincerely,

  
Rep. Frank A. LoBiondo  
Member of Congress

  
Rep. Rick Larsen  
Member of Congress

**From:** [Rosenberg, Jenny \(FAA\)](#)  
**To:** [Brown, Laura J \(FAA\)](#); [Harris, Molly \(FAA\)](#); [Gore, Scott \(FAA\)](#)  
**Cc:** [Lawrence, Earl \(FAA\)](#); [Bechdolt, Anne \(OST\)](#)  
**Subject:** Re: Draft News and Updates Statement on UAS Registration TF Day One  
**Date:** Tuesday, November 03, 2015 5:49:59 PM

---

Forgot to add - let me know if this works for all of you.

Anne - I'm going to send concurrently to OST and will copy you.

Thanks.

--

Jenny T. Rosenberg  
Asst. Administrator for Communications | FAA  
O: (202) 267-3454  
C: (202) 394-2427  
[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

On Nov 3, 2015, at 5:41 PM, Rosenberg, Jenny (FAA) <[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)> wrote:

Statement: UAS Registration Task Force Day One

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its first day of work. FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered. The Task Force will continue deliberating tomorrow.

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[Jenny.Rosenberg@faa.gov](mailto:Jenny.Rosenberg@faa.gov)

**From:** [Rosenberg, Jenny \(FAA\)](#)  
**To:** [Brown, Laura J \(FAA\)](#); [Harris, Molly \(FAA\)](#); [Gore, Scott \(FAA\)](#)  
**Cc:** [Lawrence, Earl \(FAA\)](#)  
**Subject:** Draft News and Updates Statement on UAS Registration TF Day One  
**Date:** Tuesday, November 03, 2015 5:41:37 PM

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## Statement: UAS Registration Task Force Day One

The Unmanned Aircraft Systems (UAS) Registration Task Force completed its first day of work. FAA Administrator Michael Huerta kicked off the Task Force with remarks that outlined the group's objectives and expectations. The FAA briefed participants on the current statutory requirements and international obligations for aircraft registration before the group began initial discussions on a streamlined registration process and minimum requirements for UAS that need to be registered. The Task Force will continue deliberating tomorrow.

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