



# UAS Symposium Day 2 – Aviation



## HQ Perspectives and Impacts of other Federal Regulations Related to UAS Operations

Oct 26, 2016 CAPT Philip Hall



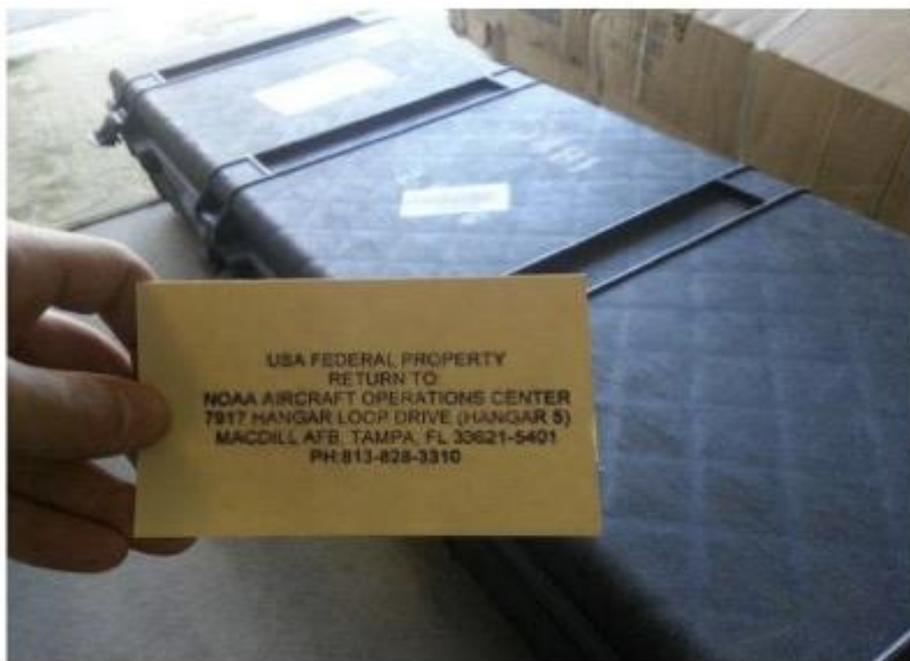
Office of Marine and Aviation Operations

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## MILITARY NEWS

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# NOAA drone parts shipped in error to college student



Google



## Weather Center

Frontier



Weather Alerts:  
Full-sized radar  
Current conditions  
10-day Forecast

Radar Images:



# Briefings to NOAA Executive Panel (NEP)



- NEP briefing to understand the scope of risks to NOAA from Unmanned Aircraft Systems (UAS)
  - Dr. Sullivan has requested clarity on governance on Unmanned Systems
- NEP briefing to provide options for UAS governance
- Governance by Policy and Compliance
  - Centralized policy
  - Decision authority remains in the line offices (for field UAS)



# NOAA Compared to Other Agencies

	NOAA	NASA	DOI
sUAS Selection	Determined by user	Determined by user	5 approved systems
sUAS Procurement	Coordination with AOC & UASPO	Requires Center Director acquisition approval	Requires bureau SES level approval
sUAS Ownership	Line office user	NASA Center's Aviation Management Office	DOI Office of Aircraft Services (OAS)
Airworthiness and Operational Approval	AOC Flight Readiness Review Board	NASA Airworthiness Flight Safety Review Board	NASA Airworthiness Board
Crew Training	Provided by user	Provided by NASA AMO	Provided by DOI OAS
Operations Management Funding	Ad hoc funds (OMAO)	Fee for service - WBS	Funded by Bureau's contributions to DOI OAS
Safety assurance	No 3 <sup>rd</sup> party operational audits	Range safety officer onsite	DOI OAS QA / checkrides

# Summary of Data Call Response

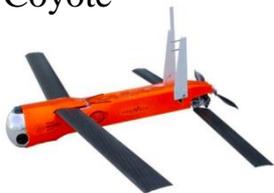
DJI Phantom



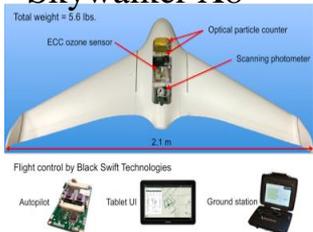
DJI S1000



Coyote



Skywalker X8



APH-22



Manta



Puma



md4-1000



UAS Name	LO	Total System Cost	Qty	Reported in Data Call	Previously Not Reported	Mission Authorized
DJI Phantom	NWS	11,323	7	6	5	N
3DR Iris	OAR	10,000	1	1	1	N
Skywalker X8	OAR	25,000	3	3		pending
DJI-s1000	OAR	12,000	1	N		Y
Sensintel Coyote	OAR	250,000	8	N		Y
Sensintel Manta	OAR	205,000	1	1		Y
DJI Phantom	NMFS	1,200	1	N		N
DJI Inspire	NMFS	3,500	1	1		pending
APH-17	NMFS	15,000	1	1		Y
APQ-18	NMFS	29,000	2	2		Y
APH-22	NMFS	305,000	12	12		Y
md4-1000	NOS	115,600	1	1		Y
WMD-59 Quad	OMAO	1,991	1	1		Y
AV Puma AE	OMAO	622,314	2*	2		Y
		<b>\$1,556,928</b>	<b>46</b>	<b>35</b>	<b>6</b>	<b>10 missions</b>



# Governance Structure

## Next Steps



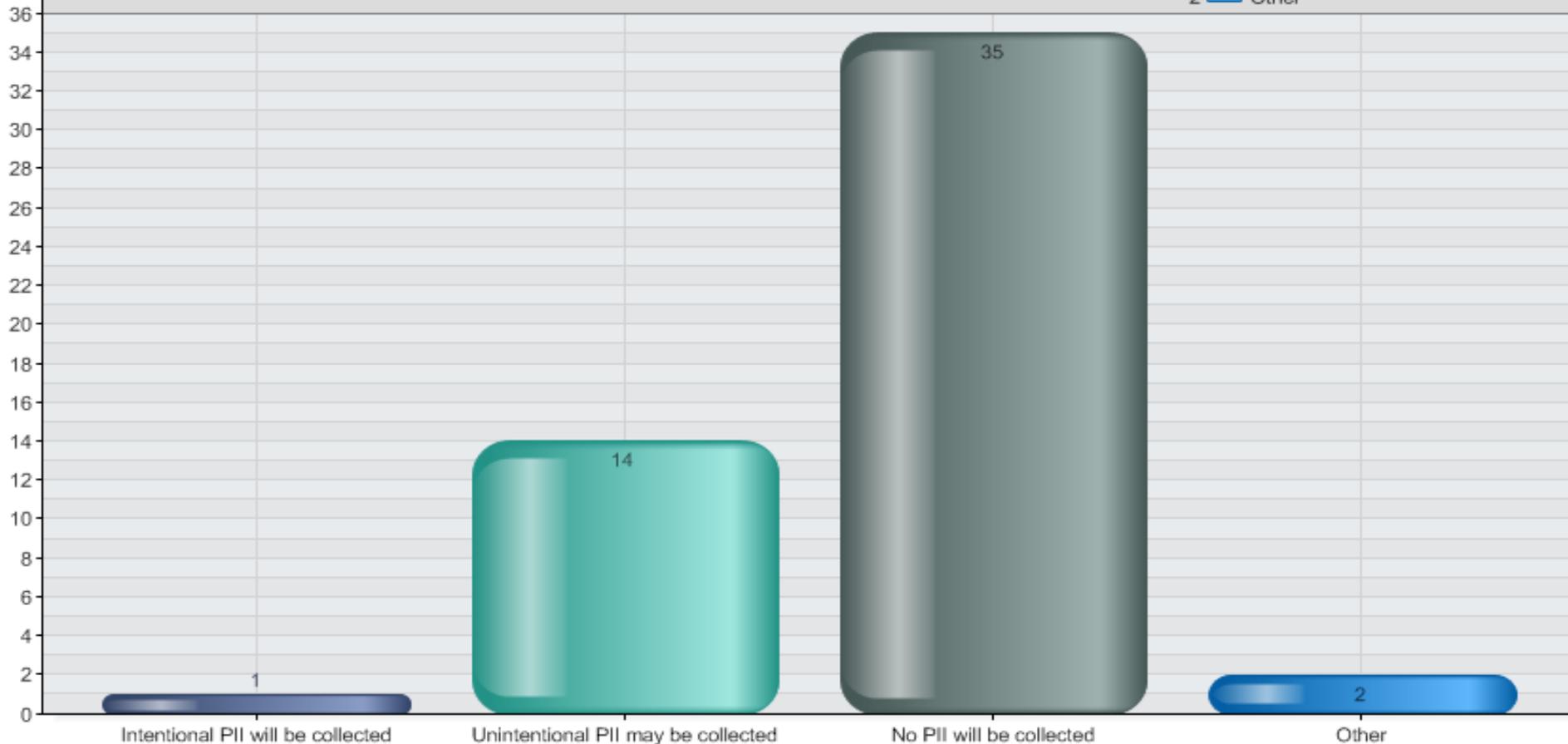
- Finalize the UAS Handbook
- Stand up UAS Safety Board under OMAO
- Finalize UAS Policies
  - UAS Privacy (OCIO)
  - UAS Data security (OCIO)
  - UAS Acquisitions (AGO)
  - UAS Contracts and Grants (AGO, GC)
  - UAS Property Management (CAO)
- How should OMAO be resourced to oversee UAS activities?



# Do you believe that Personally Identifiable Information (PII) may be collected?

Do you believe that Personally Identifiable Information (PII) may be collected? This would include collecting data that could potentially identify a specific individual or that can be used to distinguish one person from another, such as faces, boat names, personal residences, etc.

- 1 Intentional PII will be collected
- 14 Unintentional PII may be collected
- 35 No PII will be collected
- 2 Other



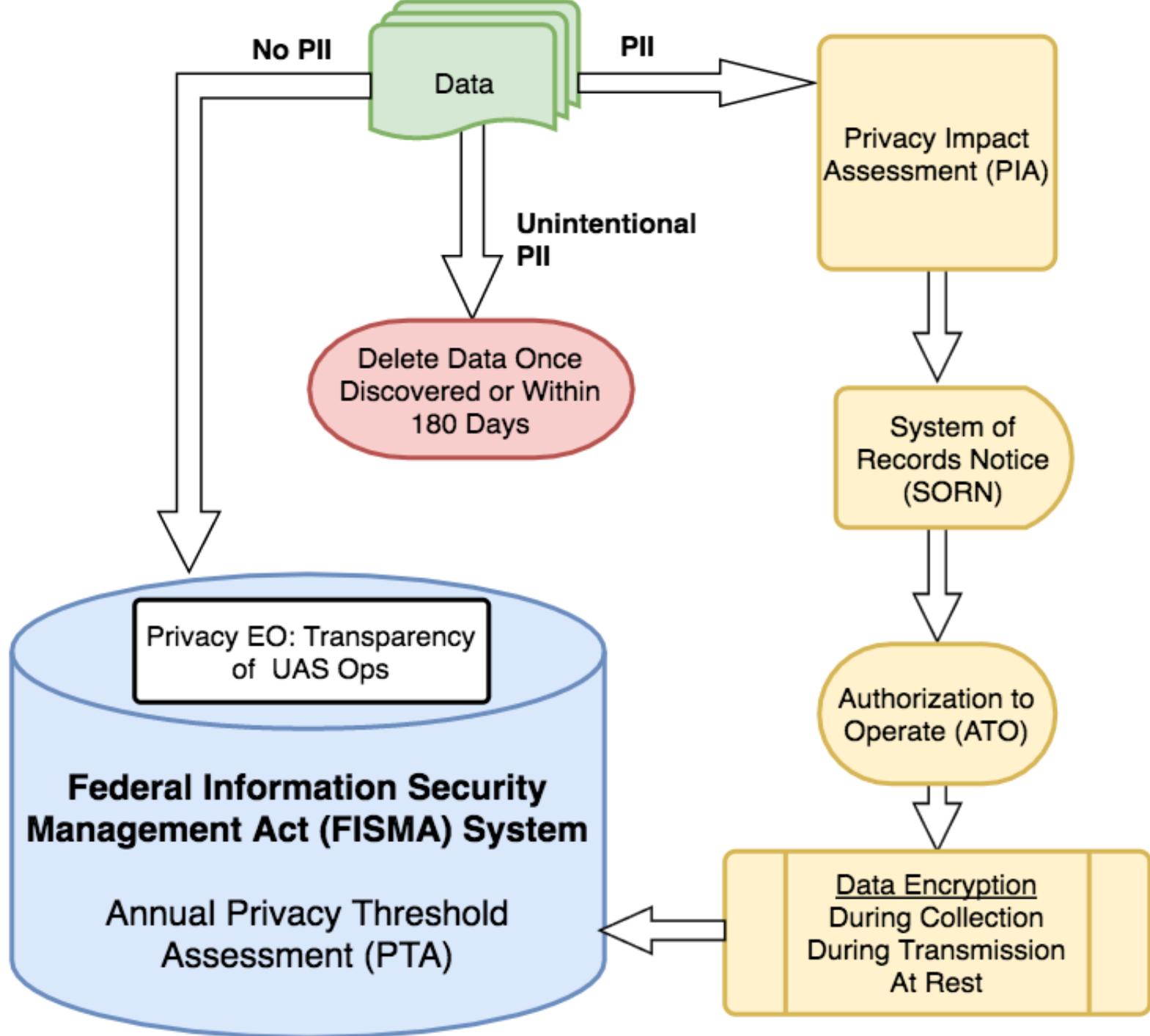


# UAS Privacy Policy



- Presidential Memorandum on Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems, dated February 15, 2015
- Federal Agencies:
  - UAS collected data must consistent with the Constitution, Federal law, and other applicable regulations and policies.
  - PII and Civil Rights
  - Government Accountability
  - Government Transparency
- Commercial and Private UAS
  - NIST Voluntary Best Practices for UAS Privacy, Transparency, and Accountability







# Cyber Security



## **DUSO All Hands Email on September 12, 2016**

- UAS systems that automatically upload telemetry data to a cloud based server must do so to an approved government system. This would exclude some popular foreign built UAS platforms that are often used for recreational purposes.

## **UAS Privacy Policy**

- No use, collection, or dissemination is allowed that violates existing law or DOC Policy, and no transmission of information collected utilizing UAS outside of NOAA is allowed without prior written approval by the Director of the Cyber Security Division.





# Cyber Security



- Other Vulnerabilities
  - Unsecured WiFi Links
  - GPS Spoofing





# Acquisitions & Property Management



- Individual Line Office Approval Process
- Buy American Statute
- Credit Card Holder and Approver Processes
- “Data Buys”
- Sunflower Property Database





# Contracts and Grants



- Operations Being Conducted on Behalf of NOAA
- OMAO/AOC will Review the Operations to Ensure:
  - FAA Authorization
  - Airspace Approval
  - Qualified Pilots
- Must have in place policies and procedures to safeguard individuals' privacy
- Must protect data security





# NOAA Contractors and Contract for UAS Services



- UAS operations work must be within the scope of the contract.
- Contractor may be required to have liability insurance.





# UxS Safety Board Roles and Responsibilities (Draft)



- Central Point in line office for UAS
- Review all line office UAS operations
- Review all line office UAS procurements
- Maintain the UAS Handbook





# UxS Safety Board



- CAPT Philip Hall (Chair)
- CDR Mike Ellis (OAR)
- Michael Gallagher (NMFS)
- CDR Mark Sweeney (NOS)
- Jim O'Sullivan (NWS)
- Ryan Wattam (NESDIS)
- LCDR Jonathan Neuhaus (OMAO/AOC)





# Part 107



The FAA agrees with NOAA that remote pilots operating a small UAS are responsible for complying with all applicable laws and regulations, not just the requirements of this rule. This rule does not authorize the harassment, harming, or killing of wildlife, and remote pilots of a small UAS remain subject to environmental and wildlife laws such as the ones cited by the commenters as well as any other laws applicable to the small UAS operation





# Part 107



With regard to marine wildlife, as discussed earlier, the FAA strongly recommends that remote pilots conducting operations near marine wildlife familiarize themselves with NOAA regulations and guidance, which can be found at: **<http://uas.noaa.gov/policy/>**.

However, with regard to the contents of this rule, the FAA defers to NOAA for the regulations and guidance regarding matters within NOAA's jurisdiction.





# Useful Links



<http://www.oma.noaa.gov/learn/aircraft-operations/aircraft/unmanned-aircraft-systems>

<https://uas.noaa.gov/>

<https://www.faa.gov/uas/>

[https://www.faa.gov/uas/getting\\_started/fly\\_for\\_work\\_business/becoming\\_a\\_pilot/](https://www.faa.gov/uas/getting_started/fly_for_work_business/becoming_a_pilot/)





# NOAA

SCIENCE. SERVICE. STEWARDSHIP.



CAPT Phil Hall  
Office of Marine and Aviation Operations  
Silver Spring, MD  
philip.g.hall@noaa.gov  
301-713-7611



# Backup





# UxS Executive Oversight Board Membership



- RDML Anita Lopez (OMAO) Co-Chair
- Dr. Gary Matlock (OAR) Co-Chair
- Dave Detlor NMFS
- David Holst NOS
- Helmut Portmann NWS
- Mark Paese NESDIS
- Robbie Hood OAR
- (vacant) OMAO
  
- CAPT Phil Hall (OMAO) Exec Sec

