

# COE CST FIRST ANNUAL TECHNICAL MEETING:

Develop an Accepted  
Framework to Capture the  
Body of Knowledge for  
Commercial Spaceport  
Operations Best Practices  
Through 2012

PI: Patricia C. Hynes, Ph.D.

November 9, 2011

**COE CST First Annual Technical Meeting (ATM1)**  
**November 9 & 10, 2011**



**Federal Aviation  
Administration**



# Overview

- Team Members
- Purpose of Task
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# Team Members

- **Pat Hynes**, PI, New Mexico State University
- **Herb Bachner**, Commercial Space Working Group, CSSI
- **Jim Hayhoe**, Spaceport America Consultants
- **Judy McShannon**, New Mexico State University
- **Paul Arthur**, Rear Admiral (Retired), Former Technical Director/Deputy Commander, White Sands Missile Range
- **Craig Day**, Director, Business Development, AIAA
- **Terri Alexander**, Project Manager, The Boeing Company
- **Robert Reuter**, Project Manager, The Boeing Company
- **Sandy Saunders**, Vice President Operations, Locked On, Inc.
- **Morgan McPheeters**, NMSU Graduate, Spring 2011



# Purpose of Task

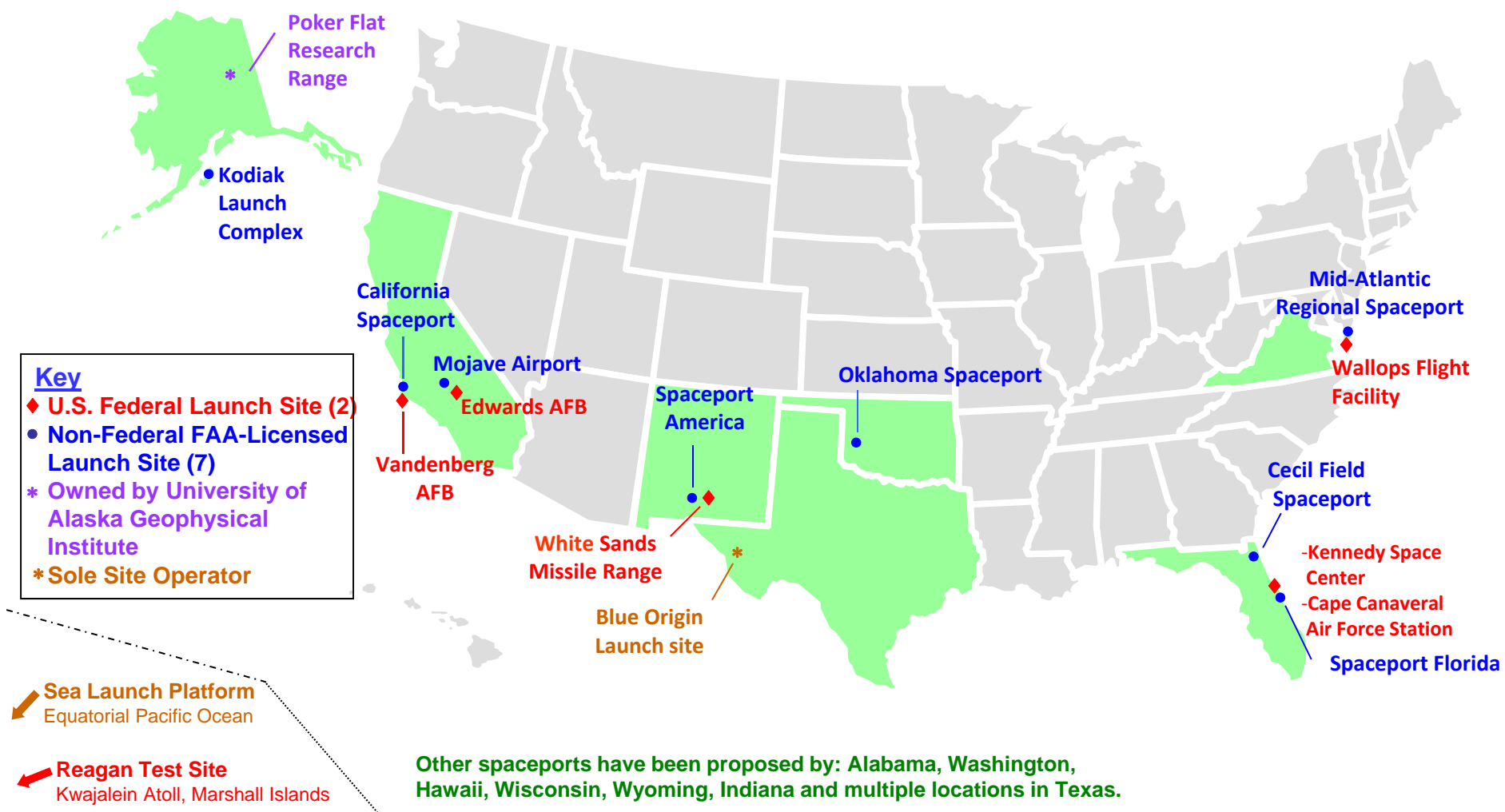
## **Task 1: Develop a Framework - Completed**

Prepare the framework in collaboration with spaceport directors

- February-2011
- Public meeting to discuss framework variables
- Update framework variables to account for public input
- Survey spaceport executive directors and selected range operators

# U.S. Spaceports

## Commercial/Government/Private Active and Proposed Launch Sites



# Research Methodology

- Develop a framework for spaceport operations and test the framework through the use of a survey of Spaceport Directors and military Range Commanders.
- Analyze the classification system for further categories until the results of general operations procedures and practices reflect a comprehensive body of knowledge of best practices for commercial spaceport operations.

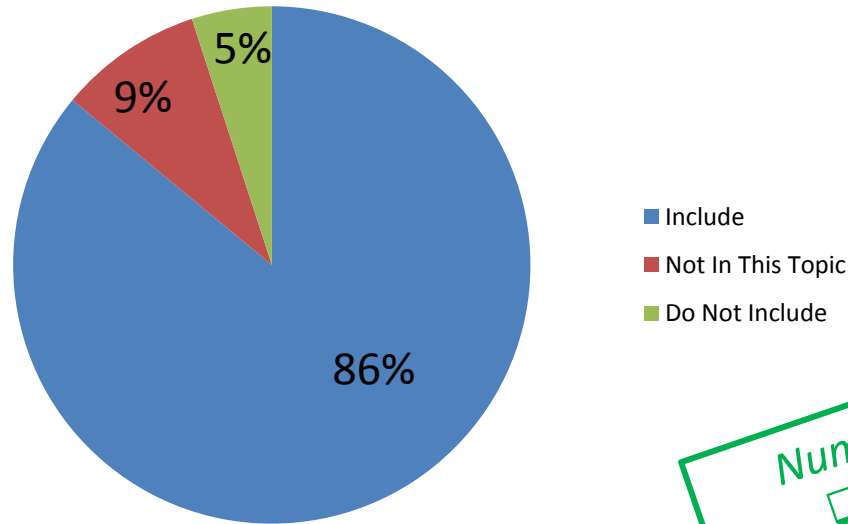


# Results

- Survey
  - **N=8** (spaceport directors and members of the Range Commanders Council who operate federal ranges)
  - **142** variables were surveyed



## Average Response Scores for COE Body of Knowledge



142 Survey Items (100%)

Numbers are notional:  
□ actual averages  
□ Total variables  
need to be determined from  
the data

### Broad Agreement Among Spaceport Operators





# Survey Results -sample

1.0	AIRFIELD AND LAUNCH OPERATIONS	Include	Do Not Include	Not in This Topic
1.1	OPERATIONAL INFRASTRUCTURE & ACTIVITIES			
1.1.1	Runways	87.5%	12.5%	0.0%
1.1.2	Terminal Facilities	75.0%	12.5%	12.5%
1.1.3	Aircraft Rescue & Fire Fighting Facilities	87.5%	0.0%	12.5%
1.1.4	Hazardous Materials Storage & Transfer Facilities	75.0%	0.0%	25.0%
1.1.5	Aircraft/Spacecraft Tie-Down Areas	75.0%	25.0%	0.0%
1.1.6	Hangar Facilities	75.0%	25.0%	0.0%
1.1.7	Mission Control Facilities	75.0%	25.0%	0.0%
1.1.8	Launch Control Facilities	75.0%	25.0%	0.0%
1.1.8.1	Launch Pad Safety	50.0%	0.0%	50.0%
1.1.8.2	Maintenance of Ground-Based Launch & Flight Safety Sys.	62.5%	25.0%	12.5%
1.1.9	Spaceflight Preparation Facilities	87.5%	12.5%	0.0%



# Next Steps

**Task 2:** Research into existing and applicable practices, documents and other relevant material related to framework classification areas:

The study will be conducted to capture documents related to existing practices and standards from all sources applicable to commercial spaceports. Task will start January 1 and will be **completed by December 31, 2012.**

# Next Steps (cont.)

## **Task 3: Gap Analysis:**

A gap analysis will be conducted to compare the variables in Framework of Task 1 with the existing practices, standards, policies and best practices documentation identified in Task 2.

Identify where gaps exist.

Task 3 will be **completed by the end of 2013.**

# COE CST Study Team Document Website

[http://aiaa.kavi.com/apps/org/workgroup/coe\\_st/?referring\\_url=%2Fkws](http://aiaa.kavi.com/apps/org/workgroup/coe_st/?referring_url=%2Fkws)



# Contact Information

- Pat Hynes, [pahynes@nmsu.edu](mailto:pahynes@nmsu.edu)
- Herb Bachner, [HBachner@cssiinc.com](mailto:HBachner@cssiinc.com)
- Jim Hayhoe, [jimhayhoe3@msn.com](mailto:jimhayhoe3@msn.com)
- Judy McShannon, [jmcshann@nmsu.edu](mailto:jmcshann@nmsu.edu)
- Paul Arthur, [paul.k.arthur@comcast.net](mailto:paul.k.arthur@comcast.net)
- Craig Day, [CraigD@aiaa.org](mailto:CraigD@aiaa.org)
- Terri Alexander, [terri.l.alexander@boeing.com](mailto:terri.l.alexander@boeing.com)
- Robert Reuter, [Robert.C.Reuter@boeing.ksc.nasa.gov](mailto:Robert.C.Reuter@boeing.ksc.nasa.gov)
- Sandy Saunders, [sandy@lockedon.biz](mailto:sandy@lockedon.biz)

