

Appendix A: North Carolina Airspace Integration Exercise Executive Summary

NCDOT Airspace Integration Exercise Series Purpose

NCDOT is leading the statewide safe integration of Unmanned Aircraft Systems (UAS) by sponsoring a series of Table Top Exercises (TTXs) through the NextGen Air Transportation Program (NGAT) at NC State University. These exercises are designed to support the transition of UAS capabilities into response preparedness planning, identify command and control requirements for UAS operations, provide potential users with situational experience with UAS, and provide test cases for evaluating policy and regulations related to UAS management at the state and local level.

Airspace Integration TTX Purpose:

- Provide an exercise environment to study UAS capabilities and benefits to public safety applications in a post-storm response context.
- Understanding the airspace integration challenges to enable UAS as a new capability to assist NCDOT, Law Enforcement and Emergency Managers in situational awareness and response activities during a major flood event such as Hurricane Matthew.
- Support the safe and responsible integration of UAS into the National Airspace System for use by public agencies across North Carolina.

Exercise Objectives:

1. Examine airspace integration issues when UAS are operated in the National Airspace System (NAS) with manned aircraft and other unmanned aircraft.
2. Develop policies and procedures to ensure the safe use of airspace while responding to natural and man-made disasters.
3. Use actual flooding and traffic management information collected during the aftermath of Hurricane Matthew as the ground scenario basis to examine UAS operations.
4. Examine how to best employ UAS to assist public safety officials during dynamic disaster events.
5. Examine the potential to integrate UAS into standard Search and Rescue (SAR) airspace management.
6. Develop guidelines for private and commercial UAS use in disaster response and recovery.
7. Examine and evaluate draft UAS Best Practices for Incident Response.

Exercise Highlights:

- 51 participants from NCDOT, NC Emergency Management, local Emergency Management and Law Enforcement organizations, industry, Virginia DOT and Emergency Management, and others.
- Participants were divided into three groups for scenario game play with an observer group and organizational group watching and injecting information into the exercise.
- A successful demonstration of airspace integration was performed using multiple aircraft, including a tethered aerostat, to evaluate UAS capabilities for Search missions and situational assessment of infrastructure integrity.
- A UAS Reference Guide, Best Practices, and Program Integration Recommendations Template are included as reference materials in the Final Report.