

Wildland Fire Unmanned Aircraft Systems Information and Mission Procedures

Background

Agency and contractor provided Unmanned Aircraft Systems (UAS) are utilized on wildland fires to provide mapping, situational awareness, and aerial ignition services.

Policy

The *NWCG Standards for Fire Unmanned Aircraft Operations* (PMS 515) contains operational procedures for fire UAS missions. Personnel participating in fire UAS operations must attend NWCG training (*UAS Incident Operations, S-373*) and complete a position task book prior to participating on federally managed incidents in a qualified UAS position.

Key Points:

- UAS personnel follow the Fire Traffic Area (FTA) protocol.
- All UAS are capable of maintaining an assigned altitude based on an altimeter setting.
- UAS do not have automated flight following (AFF).
- UAS operations originate within the FTA. Initial contact will be made with aerial supervision or on-scene aircraft prior to launch.
- UAS personnel coordinate with dispatch/helibase prior to all fire missions.
- UAS radios (FM and AM) are ground based. Communication may be difficult in certain terrain.

There are two types of fire UAS operations; Agency/fireline and contract/launch and recovery zone.

Agency/Fireline Operations

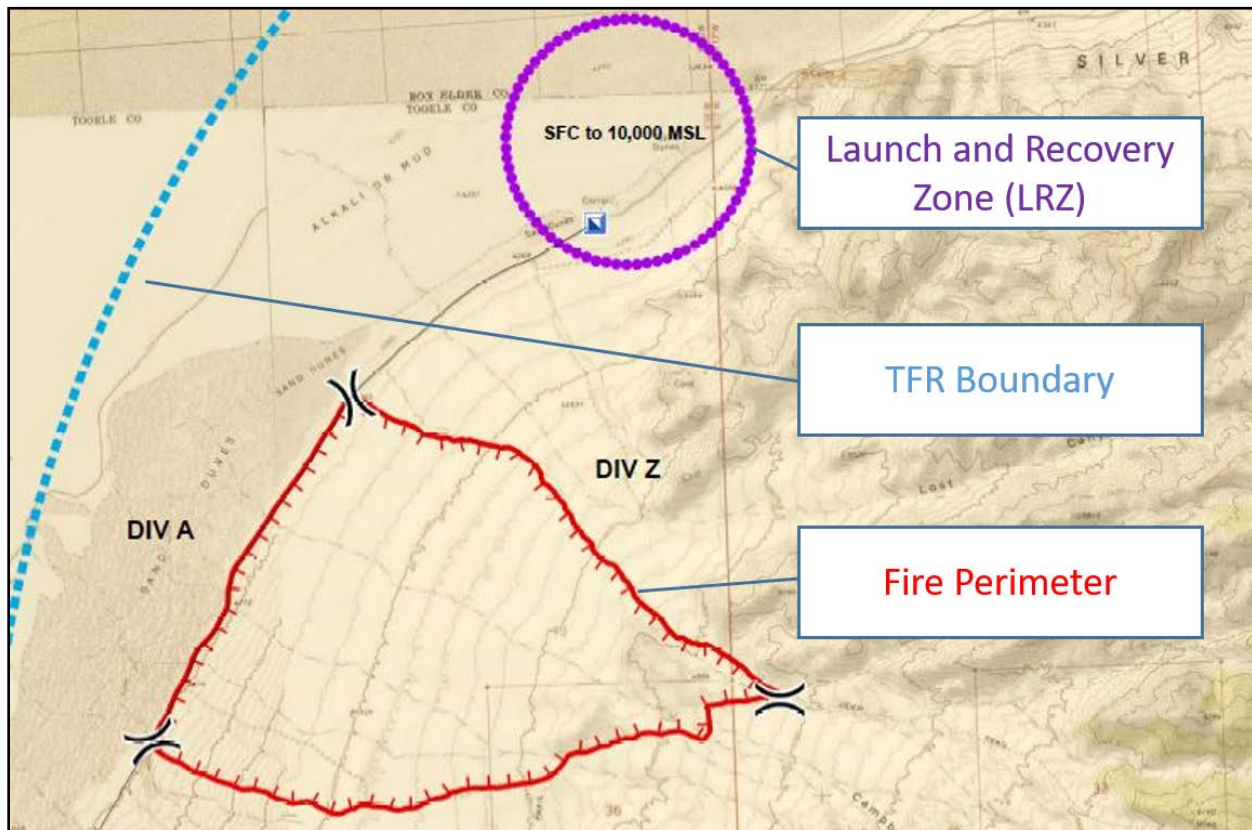
- Flights are conducted within line of sight and up to 400' above ground level (agl).
- Typically conducted by agency firefighters such as smokejumpers, hotshots, or single resource UAS Pilots (UASP).
- UAS are launched from multiple locations on the fireline based on situational awareness or mapping requirements.
- Remote pilots will pre-brief with air and ground personnel and coordinate with on-scene aircraft.
- Systems are small (<5 lb.) multirotors carrying a video/mapping payload.
- Aerial Ignition platforms weigh up to 35lbs.
- Communications are conducted on FM frequencies. **Fireline personnel will not have AM radios and will not be monitoring the air to air (Victor) frequency.**
- Fireline UAS are not equipped with transponders.



Fireline Operations with 3DR Solo Quadcopter

Contractor/Launch and Recovery Zone Operations

- Flights are conducted beyond visual line of sight (BVLOS) and at least 3,500' agl.
- Typically conducted by contractors in conjunction with a federal UAS Manager (UASM) and UAS Data Specialist (UASD).
- UAS is launched from a Launch and Recovery Zone (LRZ) within the TFR. **The LRZ is a pre-defined cylinder extending from the surface to the TFR ceiling and is designed to protect UAS during the takeoff and landing phases of flight.**
- The LRZ will be depicted on incident aviation maps.
- The UASM will pre-brief with air/ground personnel and coordinate with on-scene aircraft.
- The UASM will request clearance from aerial supervision if on-scene.
- The UASM will notify aerial supervision/on scene aircraft and helibase when the LRZ is hot (active) and cold (inactive).
- Communications are conducted on AM and FM radios. The UASM utilize/monitor the assigned air to air (Fixed Wing/TFR Victor) frequency and assigned FM frequencies.
- Contract UAS are equipped with transponders.



Example: UAS Launch and Recovery Zone (LRZ)

Additional Information: [Interagency Fire UAS Website:](#)

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