



Office of Aviation Services (OAS)

Briefing Paper – For Information



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Issue/Topic

Aerial Ignition UAS and Payload Development

Key Messages

- Aerial ignition is an important tool in [aggressively reducing fuels](#) and fighting wildfire.
- Aerial ignition accesses remote areas and terrain difficult to reach from the ground.
- Low-level flight, required in aerial ignition makes this a hazardous mission. Since [2005](#), [two helicopters](#) and [five people have been lost](#) in aerial ignition accidents.
- Fire experienced OAS staff and industry developed a first-ever UAS aerial ignition payload.
- OAS worked with industry to identify a capable, cost-effective UAS to carry the payload.
- Leveraging the OAS Director's extensive military experimental flight test experience, OAS developed a comprehensive test plan that assessed the identified platform and payload for suitability with DOI UAS cyber security, safety, performance, and mission requirements.
- Aircraft/payload operational testing is currently ongoing.
- UAS in aerial ignition will save lives, enhance fuels management, and wildland firefighting.

Background

Aerial ignition is an important tool in wildland firefighting. It reduces hazardous fuels through prescribed burning, combats wildfires through burnouts, and backfires. Aerial ignition accesses areas difficult to reach from the ground. Traditionally, helicopters conduct aerial ignition missions. This mission is hazardous due to the need to fly at low-level and low-speed, operating in what is referred to as the *"dead man's curve."* Since [2005](#), [two helicopters](#) crashed and [five people died](#) in this mission. OAS began seeking out UAS based aerial ignition solutions in 2015. In April 2016, a joint OAS-NPS-[University of Nebraska Lincoln](#) team conducted the [first proof of concept ignition mission](#) at the [Homestead National Monument](#).



IGNIS PAYLOAD

Current Status

OAS has procured two aerial ignition systems and has integrated them into test and development aircraft. These aircraft and the [Ignis](#) payload are deployed in support of fire suppression operations and available for [firing](#) operations as needed. Additional deployment in support of prescribed fire operations will occur during the fall of 2018.



LIVE FIRE TESTING – OAS BOISE

Point of Contact

Mark L Bathrick, Director, OAS:
mark_bathrick@ios.doi.gov