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SCIENTIFIC INFRASTRUCTURE TO SUPPORT MANNED AND UNMANNED AIRCRAFT, TETHERED BALLOONS, AND RELATED AERIAL ACTIVITES AT DOE ARM FACILITIES ON THE NORTH SLOPE OF ALASKA

Author: Mark Ivey, Sandia National Labs

The U.S. Department of Energy (DOE), through its scientific user facility, the Atmospheric Radiation Measurement (ARM) facilities, provides scientific infrastructure and data to the international Arctic research community via its research sites located on the North Slope of Alaska. DOE has recently invested in improvements to facilities and infrastructure to support operations of unmanned aerial systems for science missions in the Arctic and North Slope of Alaska. A new ground facility, the Third ARM Mobile Facility, was installed at Oliktok Point Alaska in 2013. Tethered instrumented balloons were used to make measurements of clouds in the boundary layer including mixed-phase clouds.

A new Special Use Airspace was granted to DOE in 2015 to support science missions in international airspace in the Arctic. Warning Area W-220 is managed by Sandia National Laboratories for DOE Office of Science/BER. W-220 was successfully used for the first time in July 2015 in conjunction with Restricted Area R-2204 and a connecting Altitude Reservation Corridor (ALTRV) to permit unmanned aircraft to operate north of Oliktok Point.

Small unmanned aircraft (DataHawks) and tethered balloons were flown at Oliktok during the summer and fall of 2015.

This poster will discuss how principal investigators may apply for use of these Special Use Airspaces, acquire data from the Third ARM Mobile Facility, or bring their own instrumentation for deployment at Oliktok Point, Alaska.

The printed poster will include the standard DOE funding statement.