KU CENTER FOR REMOTE SENSING OF ICE SHEETS
The University of Kansas

Special Temporary Authority to Test Radar Instrumentation

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A. Purpose of Operation and Need for License

The purpose of operation is to conduct airborne radar snow depth measurements. This flight will be a test flight to ascertain if the complete system is working prior to a full deployment in the Black Hills in late Jan/Feb 2019.

B. Locations of Proposed Operation

Project Summary: The project aims to conduct airborne radar snow depth measurements over a drainage basin in the Black Hills National forest. These measurements will be used in hydrological models for improved seasonal prediction of streamflow.

Proposed Locations: Measurements will be conducted within a .5 mile radius of (38°55'12.7"N 95°20'59.9"W). The KU Cessna C-172 will fly one 1-2 hour mission to test the radar. Ideally, all flights will be flown at 500 m above the highest terrain on the flight line, but we will coordinate this with the pilot. Assisting the pilot with flight line accuracy will be a radar engineer, using an existing GPS-based program and LED display.

Dates: 2 hours. Dec1-Jan 31st Exact date TBD

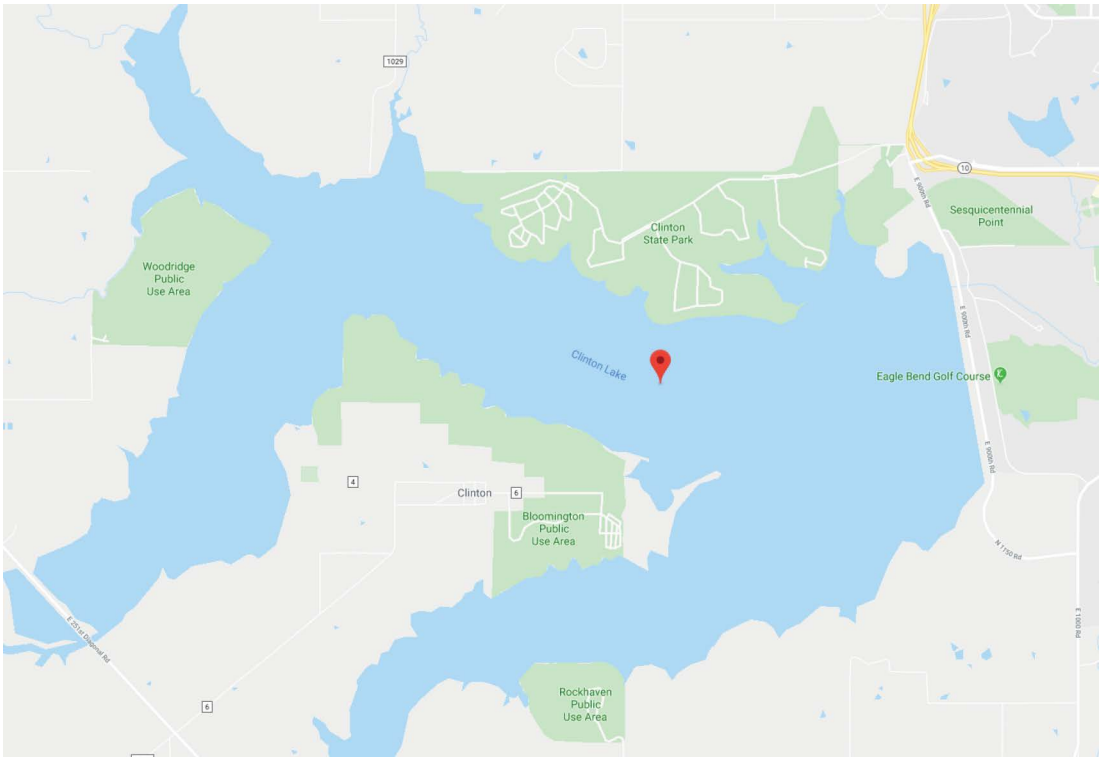

Image 1. Test area over Lake Clinton

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C. Technical Specifications

1. Frequency of Operation

CReSIS requests authorization to operate in 2-18 GHz bands.

2. Effective Radiated Power (ERP)

The effective radiated power (ERP) will not exceed 1 W

3. Modulation Signal Description and Emissions

The system is a frequency modulated continuous wave radar that emits a 2-18 GHz chirp. the chirp duration is 1 µs and the pulse repetition frequency is 2 kHz. The primary emission designator is 16GOMON/16GOGON

4. Antenna Information

The antenna used directive horn antenna mounted on the wing struts of a C-172.

5. Equipment Utilized

Equipment used for this system is custom built at CReSIS.

6. Station Class

This station will be Aeronautical Mobile in the areas described in section C, with a nominal altitude of 1500-4500 feet AGL.

E. Contact Information

For questions about this application or in the unlikely event interference concerns should arise, please contact:

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