



DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY
WRIGHT-PATTERSON AIR FORCE BASE OHIO

02 APR 2012

MEMORANDUM FOR COLONEL NOEL NICOLLE
GARRISON COMMANDER
10000 10th MOUNTAIN DIVISION DRIVE
FORT DRUM NY 13602

FROM: AFRL/RZP
1950 Fifth Street, Bldg 18
Wright-Patterson AFB OH 45433-7542

SUBJECT: Request for Small Unmanned Aerial System (SUAS) flight testing

1. SURGE-V (Small Unmanned Renewable enerGy long Endurance Vehicle) is a unique AFRL-funded program focused on demonstrating hybrid fuel cell power systems are viable to support long endurance SUAS operations. AFRL/RZ requests permission to evaluate this technology at the Fort Drum UAS facilities (aviation training area within restricted airspace 5201). The purpose of this testing would be to characterize and evaluate the performance of the integrated power system technology in a realistic environment, as well as demonstrate that this technology is both rugged and reliable for fieldable hand-launched SUAS operations. LM's selection of non-flammable Sodium Borohydride fuel cell technology provides a safe and efficient increase in small UAS endurance (up to 8 hours) to the war-fighter.

2. In an attempt to further lower the risk of the SURGE-V SUAS flight testing and overall system development, Lockheed Martin (LM) seeks to request flight range time to validate updates made to the avionics suite to accommodate fuel cell technology using their hand-launched SUAS family of systems (Desert Hawk III/EER, SURGE-V). The LM flight tests will be performed under separate and distinct IR&D-funded activities. It is understood that LM will use internal funds to procure test assets and to conduct tests under their own liability, with the understanding that LM shall not be responsible for U.S. Government representatives nor U.S. Government assets. If any U.S. Government representative will be flying LM assets, the U.S. Government shall be responsible for any third party liabilities associated with the U.S. Government representative's actions.

3. AFRL is in full support of LM's request as we see this having a direct impact to lowering overall risk of the Govt-funded program and at the same time helping to increase maturity of SUAS subsystem components necessary for flight operations.

4. AFRL will follow all procedures and regulations to conduct safety assessments on all Govt-funded SURGE-V assets. The AFRL Airworthiness Review Board has declared this program low risk. While AFRL will not directly oversee LM flight test protocol and procedures, we will be kept apprised of all plans, procedures, and results.

5. The POC for coordination of this effort is Mr. Michael Rottmayer, AFRL/RZPS, DSN 986-7228, michael.rottmayr@wpafb.af.mil.

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