

		ASN	2009-ESA-44-COA
		Case Status	EXPIRED
		Date Created	05/29/2009
		Date Submitted	06/19/2009
Proponent Organization		Sponsor	NASA LaRC
		Attn Of	(b) (6)
		Address	4 Langley Boulevard
		Address2	
		City	Hampton
		State	VA
		Postal Code	23681-2199
		Telephone	(757)864-5107
		Email	(b) (6)
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	(b) (6)
		Address	4 Langley Boulevard
		Address2	
		City	Hampton
		State	VA
		Postal Code	23681-2199
		Telephone	(757)864-5107
		Email	(b) (6)
Operational Description	Requested Effective Period	Beginning	
		End	
		Light out operation	No
		VFR operation	Yes
		IFR operation	No
		Day operation	Yes
		Night operation	No
		Program Executive Summary	The System Engineering Directorate (SED) of the NASA Langley Research Center desires to fly a 60 pound turbine powered generic Unmanned Aircraft System (UAS) at the 31VA Aberdeen Airfield Smithfield, Virginia. This project activity is provided to the NASA Aviation Safety Program (AvSP) Office for developing an Airborne Subscale Transport Aircraft Research (AirSTAR) generic aircraft test bed for conducting experiments. The AirSTAR UAS will be flown at 31 VA Aberdeen Airfield in support of the Control Upset Prevention and Recovery (CUPR) element of the AvSP. The typical flight agenda at 31VA Aberdeen Airfield will consist of takeoff, traffic pattern maneuvers, and landing. All flight operations will be conducted in day and VFR "see and avoid" conditions within the confines of the airfield property. A letter of agreement dated January 1, 2004 between NASA Langley Research Center and Smithfield Foods, Inc. is in existence authorizing NASA to use the privately owned airfield. The AirSTAR Project UAS will be flown in a manner consistent with the applicable letter of agreement. Flight operations can easily be accomplished at altitudes between surface and 1,200 feet AGL and 2.5 mile radius of the airfield. A Notice to Airmen (NOTAM) will be filed with the Leesburg Flight Service in accordance with controlled airspace. The closest operational airfields are Newport News Williamsburg Airport (PHF), Newport News, Virginia and Felker Army Airfield (FAF) of Fort Eustis, Virginia. The AirSTAR Project UAS vehicle is utilized specifically for development of safety pilot skills. These skills require pilot proficiency to fly UAS vehicle configurations with a maximum weight of 60 pounds and with wing loads up to 144 ounces per square foot. These skills are required for the AirSTAR Project Control Upset research testing that will be conducted at Wallops Flight Facility (WFF), Goddard Space Flight Center. This vehicle has passed numerous design and flight readiness reviews (including extensive fail safe analysis and evaluations) to ensure safe ground and flight operations.
		Operational Summary	
	Location	State	VA
		County	Isle of Wight
		Nearest Airport	ABERDEEN FIELD
		AOR	Virginia
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	Yes
		Class-G	Yes
System Description		Aircraft Type	102154741 - AirSTAR
		Aircraft Type And Model Description Attachment	2
		Control Station Attachment	1
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	1
Performance Characteristics		Climb Rate (feet/Minute)	800

		Descent Rate (feet/Minute)	1200	
		Turn Rate (Degrees/Second)	40	
	Cruise Speed	Maximum	150	
		Minimum	15	
		Approach Speed	45	
	Operating Attributes	Maximum MSL	1500	
		Minimum MSL	0	
		Gross Takeoff Wt	60.0	
		Launch/Recovery Attachment	1	
Airworthiness		FAA Type Certificate		
		If No FAA Certificate (Public Aircraft Only) Attachment	3	
Procedures		Lost Link/Mission Procedures Attachment	1	
		Lost Communications Procedures Attachment	2	
		Emergency Procedures Attachment	3	
Avionics/Equipment		Equipment Suffix Type	X	
		GPS	Yes	
		Moving map indicator (Command Station)	Yes	
		Tracking capability	Yes	
		TCA/MCAS	No	
		ELT	No	
		Transponder	Transponder On	No
			Off	
		Standby		
		Ident		
	Mode S			
	Mode C			
		Transponder Retuneable in Flight		
Lights		Landing	No	
		Position/Navigation	No	
		Anti-collision	No	
		Infrared (IR)	No	
Spectrum Analysis Approval		Data Link	Yes	
		Data Link Attachment	0	
		Control Link(s)	Yes	
		Control Link Attachment	0	
		Operations utilizing Radio Control (R/C) frequencies as described in Title 47 CFR 95	Yes	
		NTIA/FCC Authorization Attachment	3	
ATC Communications	Transmitter VHF Band	VHF Band	Yes	
		Quantity	2	
		In-Flight Retunable	No	
	Transmitter UHF Band	UHF Band	No	
		Quantity		
		In-Flight Retunable	No	
	Transmitter HF band	HF Band	No	
		Quantity		
		In-Flight Retunable	No	
	Receiver VHF Band	VHF Band	No	
		Quantity		
		In-Flight Retunable	No	
Receiver UHF Band	UHF Band	No		
	Quantity			
	In-Flight Retunable	No		

	Receiver HF band	HF Band	No
		Quantity	
		In-Flight Retunable	No
	Guard (Emergency) Frequencies VHF Band	VHF Band	Yes
		Quantity	1
	Guard (Emergency) Frequencies UHF Band	UHF Band	No
		Quantity	
	Instantaneous Two-Way Voice	Direct to pilot	Yes
		SATCOM	No
		Relay via aircraft	No
Electronic Surveillance/ Detection Capability		EO/IR	No
		Terrain detection	No
		Weather/icing detection	No
		Radar	No
		Other Attachment	0
		Electronic detection systems	No
		Electronic detection systems attachment	0
		Radar observation	No
		NAS Operational Capability Attachment	1
Visual Surveillance/ Detection Capability	Maximum Distance from UA	Vertical	1200 Feet
		Horizontal	2.5 Nautical Miles
		Airborne based (Chase Aircraft)	No
		Ground based	No
		Visual observation from one or more ground sites	Yes
		Forward or side looking cameras	No
		Attachment for All	2
Aircraft Performance Recording		Flight data recording	Yes
		Control station recording	Yes
		Voice Recording	No
Flight Aircrew Qualifications	Pilots	Private (Written)	Yes
		Private (Certified)	Yes
		Instrument	Yes
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	All NASA UAS pilots have, as a minimum, passed the Private Pilot written exam. Four of the five hold Private Pilot Land
		DOD certified/trained	No
		Other Certified Training	No
		Trained on FAR Part 91 Requirement	Yes
		Medical Certification Class (FAA or DOD equivalent)	1,2
		Currency Status	All NASA UAS pilots have current class 2 or class 1 medical certificates
		Duty Time Restrictions	none
		Single UAS Control	Yes
		UAS Description	
		Total Numbers of UAS Controlled	1
	Observers	Private (Written)	Yes
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No

		Unique Trained Pilot	No
		Unique Trained Pilot Description	All NASA UAS observers have passed the written Private Pilot written exam.
		DOD certified/trained	No
		Other Certified Training	No
		Trained on FAR Part 91 Requirement	Yes
		DOD Certified Training Attachment	0
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	All NASA UAS observers have current class 2 medical certificates.
		Duty Time Restrictions	none
		Single UAS Control	Yes
		UAS Description	
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	