

		ASN	2010-ESA-10-COA
		Case Status	EXPIRED
		Date Created	02/25/2010
		Date Submitted	03/11/2010
Proponent Organization		Sponsor	US Army - Aviation Applied Tech Directorate
		Attn Of	(b) (6)
		Address	BLDG 401
		Address2	Lee Blvd
		City	Fort Eustis
		State	VA
		Postal Code	23604-5577
		Telephone	(757) 878-3773
		Email	(b) (6) @us.army.mil
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	(b) (6)
		Address	Bldg 401
		Address2	Lee Blvd
		City	Ft Eustis
		State	VA
		Postal Code	23604-5577
		Telephone	(757) 878-3773
		Email	(b) (6) @us.army.mil
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	Request a renewal of Certificate of Authorization (COA) certificate (2008-ESA-49) signed April 17, 2009. The US Army Aviation Applied Technology Directorate, under the US Army Research, Development and Engineering Command, is requesting a continuation of the Certificate of Authorization for the Vigilante Vertical Take off and Landing (VTOL) Unmanned Aerial System (UAS). AATD has been conducting flight operations with the Vigilante VTOL UAV at Felker Army Airfield (FAF) in Ft. Eustis, VA, since 2003, and has logged hours at many other locations including Ft. Pickett, Aberdeen Proving Grounds, Yuma Proving Grounds, and West Point Municipal Airport (prior to COA requirements). The Vigilante VTOL UAV is a 1100 lbs class Rotorcraft UAS acquired by AATD to use as a testbed for demonstrations of various UAS technologies. To date, those technologies have included 2.75" rocket launches, various imaging packages, and an upcoming test for an autonomous sniper rifle turret. All flights at Felker are issued an Airworthiness Release from an AATD Safety of Flight Review Board, and strict rules of operations are issued in these releases. The COA is being requested to conduct currency flights on the Vigilante UAS, as well as demonstration flights on the aircraft to demonstrate various UAS technologies and payloads. These demonstrations permit quicker and lower cost fielding of the various UAS technologies being demonstrated by providing a readily available test asset to fly on at a relatively low cost compared to Army Program of Record Aircraft.

		Operational Summary	Vigilante operations will occur at Ft. Eustis on at least a monthly basis to maintain operator and aircraft currency. Currency flights will last approximately 2 hours, during which time, the ATC will issue a Notice to Airmen (NOTAM) the operations area as closed to all other traffic. The operations area for the Vigilante UAV is basically the Flight Pattern area South of the Runway at FAF (See section 15 for more detail) at or below 500'. Vigilante operations occur during daylight hours on a test-by-test basis to demonstrate various UAS technologies planned for integration on the Vigilante UAS. These operations will be issued Airworthiness Releases. Depending on the system being demonstrated, the operations can last anywhere from a couple of hours, to several hours a day for several weeks.
	Location	State	VA
		County	Newport News
		Nearest Airport	FELKER AAF
		AOR	Virginia
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	Yes
		Class-E	
		Class-G	
System Description		Aircraft Type	
		Aircraft Type And Model Description Attachment	1
		Control Station Attachment	1
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	0
Performance Characteristics		Climb Rate (feet/Minute)	500
		Descent Rate (feet/Minute)	300
		Turn Rate (Degrees/Second)	20
	Cruise Speed	Maximum	65
		Minimum	0
		Approach Speed	20
	Operating Attributes	Maximum MSL	500
		Minimum MSL	0
		Gross Takeoff Wt	1140 0
		Launch/Recovery Attachment	1
Airworthiness		FAA Type Certificate	
		If No FAA Certificate (Public Aircraft Only) Attachment	1
Procedures		Lost Link/Mission Procedures Attachment	1
		Lost Communications Procedures Attachment	1
		Emergency Procedures Attachment	1

Avionics/Equipment		Equipment Suffix Type	U
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	No
		TCA/MCAS	No
		ELT	No
	Transponder	Transponder	Yes
		On	Yes
		Off	Yes
		Standby	Yes
		Ident	Yes
		Mode S	Yes
		Mode C	Yes
		Transponder Retuneable in Flight	No
Lights		Landing	No
		Position/Navigation	Yes
		Anti-collision	Yes
		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	No
		NTIA/FCC Authorization Attachment	0
ATC Communications	Transmitter VHF Band	VHF Band	Yes
		Quantity	3
		In-Flight Retunable	Yes
	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	Yes
		Quantity	3
		In-Flight Retunable	Yes
	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	No
		Quantity	
	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	Yes
		Terrain detection	Yes
		Weather/icing detection	No
		Radar	No
		Other Attachment	1
		Electronic detection systems	No
		Electronic detection systems attachment	0
		Radar observation	No
		NAS Operational Capability Attachment	0
Visual Surveillance/Detection Capability	Maximum Distance from UA	Vertical	2500 Feet
		Horizontal	1.0 Nautical Miles
		Airborne based (Chase Aircraft)	No
		Ground based	No
		Visual observation from one or more ground sites	Yes
		Forward or side looking cameras	Yes
		Attachment for All	1
Aircraft Performance Recording		Flight data recording	Yes
		Control station recording	Yes
		Voice Recording	No
Flight Aircrew Qualifications	Pilots	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	Pilots are trained in accordance with Army / DOD standards.
		DOD certified/trained	Yes
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes

		Medical Certification Class (FAA or DOD equivalent)	3
		Currency Status	Pilots maintain currency in accordance with Army / DOD standards.
		Duty Time Restrictions	8 hours
		Single UAS Control	Yes
		UAS Description	Only one UAV operating at a time is permitted in the designated airspace.
		Total Numbers of UAS Controlled	0
	Observers	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	Observers are trained in accordance with Army / DOD standards.
		DOD certified/trained	Yes
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		DOD Certified Training Attachment	0
		Medical Certification Class (FAA or DOD equivalent)	3
		Currency Status	Observers maintain currency in accordance with Army / DOD standards.
		Duty Time Restrictions	8 hours
		Single UAS Control	Yes
		UAS Description	Observer duties include watching for unexpected air and ground traffic, unexpected flight maneuvers, and flight operations heading out of bounds. Observer is responsible for notifying test director & UAV operator of issues. Equipped with handheld radios for Comms w/ Test Team, and Cell Phones for back-up comms. Only one UAV operating at a time is permitted in the designated airspace.
		Total Numbers of UAS Controlled	0
Special Circumstances		Special Circumstances	COA is a renewal. Operation are conducted at or below 500'.

#### Flight Operations Area/Plan

Type	User Define Area ID	Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceiling	MSL Floor	Maximum Speed	Minimum Speed	Radius	SUA Description
DEPARTURE		37-08-06.00N		76-36-46.00W	500	0	60	0		1.0			

Total Map Attachment 1