

		ASN	2011-ESA-74-COA
		Case Status	APPROVED
		Date Created	11/04/2011
		Date Submitted	11/04/2011
Proponent Organization		Sponsor	Headquarters US Army Garrison Command Fort Knox
		Attn Of	(b) (6)
		Address	Headquarters, US Army Garrison Command
		Address2	
		City	Fort Knox
		State	KY
		Postal Code	40121-5720
		Telephone	(502) 624-2647
		Email	(b) (6)
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	(b) (6)
		Address	Headquarters, US Army Garrison Command
		Address2	
		City	Fort Knox
		State	KY
		Postal Code	40121-5720
		Telephone	(502) 624-2647
		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	Fort Knox request Certificate of Authorization (COA) to operate the RQ-7B Shahttps://ioeaaa.faa.gov/oeaaa/images/calendar.gifdow Unmanned Aircraft System (UAS) between Godman Army Airfield and Restricted Area R3704. COA is in support of Army training and certification of UAS crew members for combat deployments. Training allows access to unencountered training areas within R3704. Certification requires operators to become familiar with procedures and terrain features which enables them to develop intelligence gathering techniques. Training will enhance real world mission support of deploying units.
		Operational Summary	Operations of Shadow UAS within Godman AAF Class D Surface Area will be conducted at or below 3100' MSL. Godman AAF will be utilized for launch and recovery procedures only. UAS will launch and recover to/from Godman AAF and transition to/from R3704. Route of flight will avoid populated areas. UAS training will be conducted within R3704. UAS operations will be intermittent, sunrise to sunset, 7 days a week.
	Location	State	KY
		County	Hardin
		Nearest Airport	GODMAN AAF
		AOR	Kentucky
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	Yes
		Class-E	
		Class-G	
System Description		Aircraft Type	102154768 - Shadow
		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)	600
		Turn Rate (Degrees/Second)	6.0
	Cruise Speed	Maximum	118
		Minimum	60
		Approach Speed	70
	Operating Attributes	Maximum MSL	15000
		Minimum MSL	0
		Gross Takeoff Wt	375.0

		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	A
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	Yes
		TCA/MCAS	No
		ELT	No
	Transponder	Transponder	Yes
		On	Yes
		Off	Yes
		Standby	Yes
		Ident	Yes
		Mode S	No
		Mode C	Yes
		Transponder Retuneable in Flight	Yes
Lights		Landing	Yes
		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	1
ATC Communications	Transmitter VHF Band	VHF Band	Yes
		Quantity	4
		In-Flight Retunable	Yes
	Transmitter UHF Band	UHF Band	Yes
		Quantity	4
		In-Flight Retunable	Yes
	Transmitter HF band	HF Band	No
		Quantity	
		In-Flight Retunable	No
	Receiver VHF Band	VHF Band	Yes
		Quantity	4
		In-Flight Retunable	Yes
	Receiver UHF Band	UHF Band	Yes
		Quantity	4
		In-Flight Retunable	Yes
	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	Yes
		Quantity	1
	Instantaneous Two-Way Voice	Direct to pilot	Yes
		SATCOM	No
		Relay via aircraft	No
Electronic Surveillance/ Detection Capability		EO/ R	Yes
		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	0
Visual Surveillance/ Detection Capability	Maximum Distance from UA	Vertical	3100 Feet
		Horizontal	1.0 Nautical Miles
		Airborne based (Chase Aircraft)	No
		Ground based	Yes
		Visual observation from one or more ground sites	Yes
		Forward or side looking cameras	Yes
		Attachment for All	0
Aircraft Performance Recording		Flight data recording	Yes
		Control station recording	Yes
		Voice Recording	Yes
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	UAS Crew Members are trained and certified in accordance with DOD and Army Regulations.
		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	UAS Crew Members maintain currency in accordance with DOD and Army Regulations.
		Duty Time Restrictions	Duty time restrictions are maintained in accordance with DOD and Army Regulations.
		Single UAS Control	Yes
		UAS Description	Crew members are responsible for the safe operation of one UAS per mission.
		Total Numbers of UAS Controlled	1
	Observers	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	UAS Crew Members are trained and certified in accordance with DOD and Army Regulations.
		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	UAS Crew Members maintain currency in accordance with DOD and Army Regulations.
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		Single UAS Control	Yes
		UAS Description	Crew members are responsible for the safe operation of one UAS per mission.
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	UAS operations are not authorized when ATC is closed. This is a clone of previously approved case 2010-ESA-39-COA with an updated AWR. Launch and recovery take place on helicopter landing strip 05/23 which is marked with large H's on both ends. Attached is the diagram of the layout.

Flight Operations Area/Plan

Type	User Defin Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceilin
SUA							

Total Map Attachment 1

MSL Floor	Maximum	Minimum	Radius	SUA Description
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Restricted

area - 3704A: BEGINNING AT LAT. 37-59-0N, LONG. 85-45-0W; TO LAT. 37-47-30N, LONG. 85-45-

0W; TO ALONG US HWY 31-W (BEGIN GIS POINTS COMMON TO R-3704B) TO ALONG WILSON

ROAD (BEGIN GIS POINTS COMMON TO R-3704B) TO LAT. 37-55-17N, LONG. 85-56-46W; TO LA

AT. 37-55-17N, LONG. 85-57-16W; TO LAT. 37-56-4N, LONG. 85-57-33W; TO ALONG WILSON ROA

.D (BEGIN GIS POINTS COMMON TO R-3704B) TO ALONG THE ILLINOIS CENTRAL RAILROAD (E

BEGIN GIS POINTS COMMON TO R-3704B) TO LAT. 37-59-0N, LONG. 85-57-0W; TO ALONG KEN

TUCKY ROUTE 44 (BEGIN GIS POINTS COMMON TO R-3704B) TO LAT. 38-0-30N, LONG. 85-52-C

OW; TO LAT. 37-59-0N, LONG. 85-52-0W; TO THE POINT OF BEGINNING.