

		ASN	2011-CSA-80-COA
		Case Status	APPROVED
		Date Created	07/11/2011
		Date Submitted	12/05/2011
Proponent Organization		Sponsor	Ohio Army National Guard - Camp Ravenna Joint Military Training Center
		Attn Of	(b) (6)
		Address	1438 State Route 534 Southwest
		Address2	
		City	Newton Falls
		State	OH
		Postal Code	44444-8503
		Telephone	(614) 336-6193
		Email	(b) (6)
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	(b) (6)
		Address	1438 State Route 534 Southwest
		Address2	
		City	Newton Falls
		State	OH
		Postal Code	44444-8503
		Telephone	(614) 336-6793
		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	Camp Ravenna Joint Military Training Center (CRJMTC) requests a Certificate of Authorization (COA) in order to allow Ohio Army National Guard units to conduct Raven RQ-11B UAS operations. The Ohio Army National Guard currently has 15 Raven systems assigned to various units throughout the state; however, Ohio has no training areas with airspace suitable for UAS operations. In order to maintain currency and proficiency in operating the Raven, CRJMTC provides units a safe training area over 22,000 acres of government-leased (military training) land. The ability to train at CRJMTC will enhance the Ohio Army National Guard's readiness to employ the Raven world-wide in support of combat and humanitarian missions.
		Operational Summary	Operations of the Raven UAS in Class "G" airspace at or below 1200 feet AGL. Operations will launch/recover from several designated cleared areas within the designated CRJMTC Raven UAS training area. Training flights will be no longer than 60 minutes in duration and the times will be intermittent during daylight, VMC, per training unit's request. Anticipated frequency is less than 4 training days per month. All Raven UAS operations will be de-conflicted with other flight traffic by extensive planning and notification. 2-way instantaneous communication between CRJMTC Range Control and the UAS ground control station will be maintained throughout all Raven operations with cell phone back-up. Ground observers will not be more than 1 nautical mile from the aircraft during operations and will also maintain radio communication (w/cell phone backup)with the ground control station. In the event of an equipment failure where the aircraft exits the designated UAS training area, the Cleveland Center ARTCC will be notified immediately. All other risk mitigation procedures are outlined in the CRJMTC UAS Standard Operating Procedure.
	Location	State	OH
		County	Portage
		Nearest Airport	BOSSOW
		AOR	Ohio
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	
		Class-G	Yes
System Description		Aircraft Type	1988 - RQ-11A/B - Raven
		Aircraft Type And Model Description Attachment	0
		Control Station Attachment	1
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	0
Performance Characteristics		Climb Rate (feet/Minute)	800
		Descent Rate (feet/Minute)	600

		Turn Rate (Degrees/Second)	15 0
	Cruise Speed	Maximum	50
		Minimum	17
		Approach Speed	20
	Operating Attributes	Maximum MSL	15000
		Minimum MSL	0
		Gross Takeoff Wt	4.4
		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	X
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	Yes
		TCA/MCAS	No
		ELT	No
	Transponder	Transponder	No
		On	
		Off	
		Standby	
		Ident	
		Mode S	
		Mode C	
		Transponder Retuneable in Flight	
Lights		Landing	No
		Position/Navigation	Yes
		Anti-collision	Yes
		Infrared (IR)	Yes
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	2
ATC Communications	Transmitter VHF Band	VHF Band	No
		Quantity	
		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	No
		Quantity	
	Guard (Emergency) Frequencies UHF Band	UHF Band	No
		Quantity	
	Instantaneous Two-Way Voice	Direct to pilot	No
		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	3000 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	No
		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	A All Raven UAS operators and observers are trained and certified according to TRADOC Standards for MOS Qualification.
		DOD certified/trained	Yes
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	No
		Medical Certification Class (FAA or DOD equivalent)	3
		Currency Status	All UAS operators and/or observers hold a minimum of a military equivalent medical third class certificate. UAS operators and/or observers will receive annual Class III flight duty medical evaluations (FDME).
		Duty Time Restrictions	The maximum length of duty for the operator/observer will not exceed 8 hours.
		Single UAS Control	Yes
		UAS Description	
		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	A All Raven UAS operators and observers are trained and certified according to TRADOC Standards for MOS Qualification.
		DOD certified/trained	Yes
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	No
		DOD Certified Training Attachment	1
		Medical Certification Class (FAA or DOD equivalent)	3
		Currency Status	All UAS operators and/or observers hold a minimum of a military equivalent medical third class certificate. UAS operators and/or observers will receive annual Class III flight duty medical evaluations (FDME).
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		Single UAS Control	Yes
		UAS Description	
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	Attached is the MOA/SOP for the Raven flight area. Each operator will control only one UAS. Two UAS may operate at the same time, each in a separate flight area (Areas A & B). They will be separated by a minimum of 300 meters. The 300 meter buffer is shown on the flight operations presentation. All flights will be VMC, day only.

Flight Operations Area/Plan

Type	User Defin Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceilin
USER DEFINED ARE	Raven Flt Area A		1				
			2				
			3				
			4				
USER DEFINED ARE	RAven Flt Area B		1				
			2				
			3				
			4				

Total Map Attachment 2

<u>MSL Floor Maximum</u>	<u>!Minimum</u>	<u>SRadius</u>	<u>SUA Description</u>	
	41-12-19.85N		81-07-58.77W	2200
	41-13-17.37N		81-06-00.78W	2200
	41-09-59.56N		81-05-56.18W	2200
	41-09-59.43N		81-07-58.49W	2200
	41-13-17.37N		81-06-00.78W	2200
	41-13-15.82N		81-04-17.70W	2200
	41-10-29.47N		81-04-17.51W	2200
	41-09-59.58N		81-05-56.18W	2200

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