

		ASN	2008-WSA-39-COA
		Case Status	EXPIRED
		Date Created	10/05/2007
		Date Submitted	07/17/2008
Proponent Organization		Sponsor	NASA ARC
		Attn Of	Mark Sumich
		Address	Aviation Management Office
		Address2	Mail Stop 158-1
		City	Moffett Field
		State	CA
		Postal Code	94035
		Telephone	(650) 604-6193
		Email	msumich@mail.arc.nasa.gov
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	Stanley Herwitz
		Address	UAV Collaborative
		Address2	NASA Research Park MS 18-2
		City	Moffett Field
		State	CA
		Postal Code	94035
		Telephone	(650)604-2192
		Email	sherwitz@arc.nasa.gov
Operational Description	Requested Effective Period	Beginning	
		End	
		Light out operation	Yes
		VFR operation	Yes
		IFR operation	No
		Day operation	Yes
		Night operation	No
		Program Executive Summary	The objective of our research is to study the cooperative control of 1 to 3 Rascal UAS. Data acquired from the payload of each Rascal will be processed and used to modify the UAS flight path. These modifications are intended to improve the effectiveness of the mission by exercising collaboration among the UAS.
		Operational Summary	During spring and summer, operations are conducted twice a month for a duration of one day. During fall and winter, operations are conducted once a month for a duration of one day. On each flight day, 2 to 6 flights will be conducted with one to three Rascal UAVs being aloft for each of the flights. The duration of each flight will be from 20 minutes to 1.5 hours.
	Location	State	CA
		County	Stanislaus
		Nearest Airport	CROWS LANDING
		AOR	California - Northern
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	Yes
		Class-G	Yes
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)	330
		Descent Rate (feet/Minute)	660
		Turn Rate (Degrees/Second)	15
	Cruise Speed	Maximum	48
		Minimum	38
		Approach Speed	35
	Operating Attributes	Maximum MSL	2500
		Minimum MSL	0
		Gross Takeoff Wt	27.0
		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	X
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	Yes
		TCA/MCAS	No
		ELT	No
		Transponder	No
		On	
		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	No
		NTIA/FCC Authorization Attachment	0
ATC Communications	Transmitter VHF Band	VHF Band	Yes
		Quantity	1
		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	Yes
		Quantity	1
		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	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	0		
Visual Surveillance/ Detection Capability	Maximum Distance from UA	Vertical	1000 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	No		
		Attachment for All	1		
Aircraft Performance Recording		Flight data recording	Yes		
		Control station recording	Yes		
		Voice Recording	No		
Flight Aircrew Qualifications	Pilots	Private (Written)	Yes		
		Private (Certified)	No		
		Instrument	No		
		Commercial	No		
		Air Transport	No		
		Unique Trained Pilot	No		
		Unique Trained Pilot Description	N/A		
		DOD certified/trained	No		
		Other Certified Training	No		
		Trained on FAR Part 91 Requirement	Yes		
		Medical Certification Class (FAA or DOD equivalent)	2		
		Currency Status	Current.		
		Duty Time Restrictions	None.		
		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	N/A				
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	Current.				
Duty Time Restrictions	None.				
Single UAS Control	Yes				
UAS Description					
Total Numbers of UAS Controlled	1				
Special Circumstances				Special Circumstances	None.

Flight Operations Area/Plan

Type	User Defin	Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceilin
USER DEFINED ARE		Crows Landing		1				

Total Map Attachment 1

<u>MSL Floor</u>	<u>Maximum</u>	<u>Minimum</u>	<u>S Radius</u>	<u>SUA Description</u>	
		37-24-27.76N		121-06-34.34W	1000

0

48

38

2.0