

		ASN	2008-WSA-56-COA
		Case Status	EXPIRED
		Date Created	09/05/2008
		Date Submitted	09/17/2008
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	mark.sumich@nasa.gov
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	Dr. James R. Smith
		Address	1930 Central Ave.
		Address2	STE A
		City	Boulder
		State	CO
		Postal Code	80301
		Telephone	(303) 443-3389
		Email	jim@aosinc.net
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	AOS has a NASA SBIR Phase II grant to develop and prove an Unmanned Airborne Vehicle Platform with on board Carbon Dioxide Instrumentation. The AOS UAV with CO2 Payload will be proven at Crow's Landing, CA flight facility.
		Operational Summary	AOS will conduct flight missions with a frequency as high as 5 times per week, 1 week per month. Flights will be conducted throughout the year and will vary with the given frequency, averaging around 120 flights per year. Each flight test date will consist of multiple flights. Each flight has a maximum duration of 90 minutes.
	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)	1000
		Descent Rate (feet/Minute)	2000
		Turn Rate (Degrees/Second)	35
	Cruise Speed	Maximum	65
		Minimum	55
		Approach Speed	25
	Operating Attributes	Maximum MSL	2500
		Minimum MSL	0
		Gross Takeoff Wt	57.0
		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	No
		Moving map indicator (Command Station)	No
		Tracking capability	No
		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	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	1
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	2500 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	0
Aircraft Performance Recording		Flight data recording	No
		Control station recording	No
		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	Manual R/C control by pilot.
		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	Pilot is current.
		Duty Time Restrictions	None.
		Single UAS Control	Yes
	Observers	UAS Description	
		Total Numbers of UAS Controlled	1
		Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	Ground-based observers.
		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	Observers are current.
		Duty Time Restrictions	None.
		Single UAS Control	Yes
		UAS Description	
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	

Flight Operations Area/Plan

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

Total Map Attachment 1

MSL Floor	Maximum	Minimum	S Radius	SUA Description	
	37-24-46.00N		121-06-42.00W		2500

0

65

25

1.0