

		ASN	2011-CSA-58-COA
		Case Status	APPROVED
		Date Created	06/20/2011
		Date Submitted	06/30/2011
Proponent Organization		Sponsor	NMSU-PSL
		Attn Of	Stephen B. Hottman
		Address	21st Century Aerospace
		Address2	PO Box 30002 Mail Stop 3548 NMSU
		City	Las Cruces
		State	NM
		Postal Code	88003
		Telephone	(575) 646-9202
		Email	shottman@psl.nmsu.edu
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	Dennis Zaklan
		Address	NMSU/PSL 21 Century Aerospace
		Address2	PO Box 30002 Mail Stop 3548 NMSU
		City	Las Cruces
		State	NM
		Postal Code	88003
		Telephone	(575) 646-9417
		Email	dzaklan@psl.nmsu.edu
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	Program objectives are to demonstrate small UAS (sUAS) to persons attending the TAAC UAS Conference in December 2011. Many of the conference participants focus has been on the medium and large UAS and they don't not have an understanding of the sUAS operations and the significant differences between the various classes of UAS. This demonstration of sUAS of fixed wing and VTOL sUAS will provide all parties with a better understanding for the discussion and working groups at the conference to address UAS issues and potential solutions.
		Operational Summary	SUAS Air show demonstration. 3 Fixed wing, Waswp III, Raven V & Puma AE and 1 VTOL, AR100B participants. All flight belwo 1000' AGL. All flights will be below 700'AGL with a 300' buffer for flight safety. Spectrum Checks will be accomplished before all flights. All flights will be daylight VFR/VMC. Flights will be limited to 15 minutes for launch, flight and recover. Discussions and coordinate has occurred between NMSU/TAAC and the Albuquerque FSDO and the Enroute Center Air Space office.
	Location	State	NM
		County	Sandoval
		Nearest Airport	PRICE'S DAIRY
		AOR	New Mexico
	Class Of Airspace	Class-A	
		Class-B	
		Class-C	
		Class-D	
		Class-E	Yes
		Class-G	
System Description		Aircraft Type	102154739 - Other
		Aircraft Type And Model Description Attachment	4
		Control Station Attachment	4
		Communications System Attachment	4
		List Certified Components (TSO) Attachment	1
		Other Attachment	0
Performance Characteristics		Climb Rate (feet/Minute)	300
		Descent Rate (feet/Minute)	300
		Turn Rate (Degrees/Second)	30
	Cruise Speed	Maximum	45
		Minimum	17
		Approach Speed	30
	Operating Attributes	Maximum MSL	15000
		Minimum MSL	0
		Gross Takeoff Wt	19.7
		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	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	1
ATC Communications	Transmitter VHF Band	VHF Band	Yes
		Quantity	1
		In-Flight Retunable	Yes
	Transmitter UHF Band	UHF Band	Yes
		Quantity	1
		In-Flight Retunable	Yes
	Transmitter HF band	HF Band	No
		Quantity	
		In-Flight Retunable	No
	Receiver VHF Band	VHF Band	Yes
		Quantity	1
		In-Flight Retunable	Yes
	Receiver UHF Band	UHF Band	Yes
		Quantity	1
		In-Flight Retunable	Yes
	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/IR	Yes
		Terrain detection	No
		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	1000 Feet
		Horizontal	0.5 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)	Yes
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	All UAS PICs will meet at least the minimum standards as prescribed by FAA 08-01 and be certified by the manufacturer on each UAS to flown by them.
		DOD certified/trained	No
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	All UAS PIC's will have at minimum class II medical to perform as UAS PIC in the air show.
		Duty Time Restrictions	For this Air Show PIC will be limited to less the two hours maximum flight time.
		Single UAS Control	Yes
		UAS Description	One PIC will be for each UAS.
		Total Numbers of UAS Controlled	1
	Observers	Private (Written)	No
		Private (Certified)	No
		Instrument	No
		Commercial	No
		Air Transport	No
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	The Primary Observer will meet at lest the minimum standards as prescribed by FAA 08-01 and have passed the NMSU Observer Training Course.
		DOD certified/trained	No
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		DOD Certified Training Attachment	0
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	Primary observer will have a current class II medical to perform observer duties at the air show.
		Duty Time Restrictions	For the air show, primary observer will have less than two hours of observer time.
		Single UAS Control	Yes
		UAS Description	One Primary Observer will be located with the UAS PIC and TAAC Mission Commander
		Total Numbers of UAS Controlled	1

Special Circumstances		Special Circumstances	<p>The TAAC UAS Conference sUAS Air Show will be the first sUAS air show in the NAS (non-segregated airspace). This COA request for the UAS portion of the air show is submitted as per discussions at the TAAC Conference of December 2010 and discussions/guidance of the FAA Unmanned Aircraft Program Office since the initial discussions.</p> <p>As understood, this COA is being submitted in June to allow for the coordination to take place within the FAA as it is a first time for this procedure. It is understood that questions may arise or additional information may be required. This "on-line" COA application is the first of two applications for COA. The second COA request will be forwarded through the appropriate air show COA channels, and a soft copy will be sent via email to the UAPO to provide them with a copy and to assist in the process.</p> <p>As discussed with the UAPO TAAC ASI Oversight Representative (Marcello Mirabelli) and team lead Jim Parker, NMSU/TAAC has interfaced with the Albuquerque FSDO ASI (Tamara Bell) and also with the Albuquerque (ARTCC) Support Manager for Airspace and Procedures (Leonie San Miguel). This coordination was suggested by the UAPO and was conducted to address as many issues as possible during the submission of the COA requests. Both the Albuquerque FSDO and the Enroute Center have been extremely helpful in providing information, coordination, and guidance for this process. Part of the process is the wrap-up in which further discussions are planned to provide a lessons learned document from the NMSU/TAAC to the FSDO and the UAPO for possible FAA use in developing procedures for future UAS demonstrations in the NAS.</p> <p>Attached is the Pueblo of Santa Ana Permit to use their property for this sUAS air show, and the TAAC Air Show Plan.</p>
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Flight Operations Area/Plan

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

Total Map Attachment 4

Maximum	Minimum	Radius	SUA Description		
	35-20-36.00N		106-32-43.73W	6065	5065

45

17

0.5