

		ASN	2012-CSA-19-COA
		Case Status	APPROVED
		Date Created	02/01/2012
		Date Submitted	02/21/2012
Proponent Organization		Sponsor	NMSU-PSL
		Attn Of	Steve 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	swhottman@psl.nmsu.edu
Declaration		Declaration(a)	Yes
		Declaration(b)	Yes
Point of Contact		Representative	Dennis Zaklan
		Address	MSC PSL
		Address2	P.O. Box 30002
		City	Las Cruces
		State	NM
		Postal Code	88003-8002
		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	Yes
		Day operation	Yes
		Night operation	No
		Program Executive Summary	The objectives of the UAS flight operations that will be performed under the Certificate of Authorization (COA) that NNSU is seeking are defined in the Cooperative Research and Development Agreement (CRDA) between the FAA and NMSU. There are two key elements to the CRDA; (1) NMSU will perform UAS research and development activity, including test, evaluation, and validation of as many categories of UAS as possible, including a diverse variety of UAS with different operational capabilities, and (2) collect analyze, and record data related to UAS characteristics and operational capabilities and then submit the data to the FAA to facilitate the development of standards and regulations that will allow UAS flight in the NAS. UAS flight operations will normally be performed on a weekly basis. The volume and category of actual UAS flight operations each week will vary and is dependent on the availability of UAS proponents that are interested in working with NMSU in the Research and Development effort.
		Operational Summary	<p>"Takeoffs and landings for the UAS flight operations that require hard or relatively smooth dirt runways will be performed from several airport that are located within the boundaries of the NMSU UFTC Operations Airspace. These airports include the Las Cruces Airport, Hatch Airport, Lordsburg Airport, Socorro Airport, Playas Airport, College Ranch/Jornado Research Station, and private field north of I-10, all located within the State of New Mexico. Additionally, NMSU will obtain land owner permission for other private airfields or desert used for UAS operation, and it will be reviewed by AFS 407 prior to flights. Selection of a particular airport or location for takeoff and landings of each UA will be based on the maturity and proven operational capabilities of that UAS. Most small UAS (sUAS) will be flown from open desert areas east, north and west of Las Cruces, New Mexico. There will be no flight operations over other than sparsely populated surface areas.</p> <p>The NMSU UAS program as a part of its CRDA research and development and test and evaluation efforts has a need to operate sUAS during night time hours. All of the night time sUAS operations will be performed within UFTC Airspace Delta four. No flight will be higher than 2,500feet AGL. UFTC Airspace Delta Four is located immediately adjacent to WSMR Restricted Area R-5107B (surface to unlimited) that is active continuously. The likelihood of any manned aircraft flights operations in the majority portion of UFTC Airspace Delta is very unlikely.</p> <p>Flight routes and altitudes within all of the UFTC Airspace areas will vary depending on mission objectives. During launch (takeoff) and subsequent recovery (landing) the UAS will operate within Class G airspace when basically below 1,200 feet AGL (700 feet AGL in the vicinity of Las Cruces). During the mission phase of the flight the vast majority of flight activity will be in Class E airspace under VFR. However, when UAS proponents are developing UAS that are planned to fly under IFR some IFR flight operations will be conducted, provided the UAS is capable of complying with all 14 CFR 91 Instrument Flight Rules criteria. Some IFR flight may be performed within Class A airspace, as high as FL250, as approved by and in accordance with procedures specified by Albuquerque ARTCC.</p> <p>No flight operations will be conducted within any restricted area or Military Operations Area (MOA) without the prior approval of the using or controlling authority.</p> <p>"</p>
	Location	State	NM
		County	Doña Ana
		Nearest Airport	WAIDS AIRPARK
		AOR	New Mexico
	Class Of Airspace	Class-A	Yes
		Class-B	
		Class-C	
		Class-D	
		Class-E	Yes
		Class-G	Yes
System Description		Aircraft Type	102154739 - Other

		Aircraft Type And Model	
		Description Attachment	1
		Control Station Attachment	1
		Communications System Attachment	1
		List Certified Components (TSO) Attachment	1
		Other Attachment	1
Performance Characteristics		Climb Rate (feet/Minute)	200
		Descent Rate (feet/Minute)	200
		Turn Rate (Degrees/Second)	30.0
	Cruise Speed	Maximum	150
		Minimum	20
		Approach Speed	25
	Operating Attributes	Maximum MSL	25000
		Minimum MSL	0
		Gross Takeoff Wt	400.0
		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	C
		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	Yes
		Position/Navigation	Yes
		Anti-collision	Yes
		Infrared (IR)	Yes
Spectrum Analysis Approval		Data Link	Yes
		Data Link Attachment	1
		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	Yes
		Quantity	1
		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	Yes
		Quantity	1
		In-Flight Retunable	No
	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/IR	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	4000 Feet
		Horizontal	1.5 Nautical Miles
		Airborne based (Chase Aircraft)	Yes
		Ground based	Yes
		Visual observation from one or more ground sites	Yes
		Forward or side looking cameras	Yes
		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	Yes
		Commercial	Yes
		Air Transport	Yes
		Unique Trained Pilot	Yes
		Unique Trained Pilot Description	All UAS pilots will meet the requirements as set forth in 08-08, 8130.24B or newer FAA guidance.
		DOD certified/trained	Yes
		Other Certified Training	Yes
		Trained on FAR Part 91 Requirement	Yes
		Medical Certification Class (FAA or DOD equivalent)	2
		Currency Status	All UAS pilots will have at minimum the requirements as set forth in 08-01, 8130.24B or newer FAA guidance.
		Duty Time Restrictions	All UAS pilots will have at minimum the requirements as set forth in 08-01, 8130.24B or newer FAA guidance.
		Single UAS Control	Yes
		UAS Description	UAS pilots will control only one UAS during a mission unless the FAA (UAPO/ATO) has authorized an exception to the UAS FTC COA for a specific test(s).
		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	All observers will meet the Medical and other FAA guidance as described in 08-01, 8130.24B or newer FAA guidance.
		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)	2
		Currency Status	All UAS pilots will have at minimum the requirements as set forth in 08-01, 8130.24B or newer FAA guidance.
		Duty Time Restrictions	All UAS pilots will have at minimum the requirements as set forth in 08-01, 8130.24B or newer FAA guidance.
		Single UAS Control	Yes
		UAS Description	Visual Observers will only perform duties for one UAS during a mission unless the FAA (UAPO/ATO) has authorized an exception to the UAS FTC COA for a specific test(s).
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	NMSU UAS FTC is currently the only UAS FTC operating in the NAS with FAA approval (ATO/UAPO).

Flight Operations Area/Plan

Type	User Defin Point	Loc ID	Degree	Distance	Latitude	Longitude	MSL Ceilin	MSL Floor
USER DEFINED ARE D1	Walds Pvt Airport	1	1					
USER DEFINED ARE D2	Shoestring	1	1					
USER DEFINED ARE D3		1	1					
USER DEFINED ARE UFTC	Echo	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
		6	6					
		7	7					
USER DEFINED ARE UFTC	Foxtrot	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
		6	6					
		7	7					
		8	8					
		9	9					
		10	10					
		11	11					
		12	12					
USER DEFINED ARE UFTC	Golf	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
		6	6					
USER DEFINED ARE UFTC	Charle	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
USER DEFINED ARE UFTC	Bravo	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
		6	6					
USER DEFINED ARE UFTC	Alpha	1	1					
		2	2					
		3	3					
		4	4					
		5	5					
		6	6					
		7	7					
		8	8					
		9	9					
		10	10					

USER DEFINED ARE UFTC D4

1

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Total Map Attachment 1

Maximum	Minimum	Radius	SUA Description		
	32-30-00.00N	106-41-12.00W	1500	0	
	32-26-35.00N	106-40-47.00W	1500	0	
	32-23-49.00N	106-41-29.00W	1500	0	
	32-36-00.00N	106-06-02.00W	17999	0	
	32-36-00.00N	106-00-02.00W	17999	0	
	32-27-40.00N	106-00-02.00W	17999	0	
	32-28-00.00N	106-02-02.00W	17999	0	
	32-15-00.00N	106-10-02.00W	17999	0	
	32-15-00.00N	106-12-00.00W	17999	0	
	32-24-48.00N	106-09-02.00W	17999	0	
	33-27-00.00N	108-04-00.00W	25000	18000	
	33-27-00.00N	106-49-00.00W	25000	18000	
	33-13-00.00N	106-52-02.00W	25000	18000	
	32-30-00.00N	106-42-00.00W	25000	18000	
	32-19-30.00N	106-39-32.00W	25000	18000	
	32-18-00.00N	106-34-02.00W	25000	18000	
	32-11-00.00N	106-34-00.00W	25000	18000	
	32-04-00.00N	106-48-00.00W	25000	18000	
	31-47-24.00N	107-00-00.00W	25000	18000	
	31-47-24.00N	108-15-00.00W	25000	18000	
	31-20-00.00N	108-15-00.00W	25000	18000	
	31-40-00.00N	109-00-00.00W	25000	18000	
	34-17-00.00N	107-11-00.00W	25000	18000	
	34-17-00.00N	106-40-32.00W	25000	18000	
	33-27-00.00N	106-40-00.00W	25000	18000	
	33-27-00.00N	106-49-00.00W	25000	18000	
	33-27-00.00N	108-04-00.00W	25000	18000	
	34-09-00.00N	107-11-00.00W	25000	18000	
	34-17-00.00N	107-11-00.00W	17999	0	
	37-17-00.00N	106-40-32.00W	17999	0	
	33-27-00.00N	106-49-00.00W	17999	0	
	33-27-00.00N	108-04-00.00W	17999	0	
	34-09-00.00N	107-11-00.00W	17999	0	
	33-27-00.00N	108-04-00.00W	17999	0	
	33-27-00.00N	106-49-00.00W	17999	0	
	33-13-00.00N	106-52-02.00W	17999	0	
	32-30-00.00N	106-42-00.00W	17999	0	
	32-30-00.00N	109-00-00.00W	17999	0	
	32-40-00.00N	109-00-00.00W	17999	0	
	32-30-00.00N	109-00-00.00W	17999	0	
	32-30-00.00N	106-42-00.00W	17999	0	
	32-19-30.00N	106-39-32.00W	17999	0	
	32-18-00.00N	106-34-02.00W	17999	0	
	32-11-00.00N	106-34-00.00W	17999	0	
	32-04-00.00N	106-48-00.00W	17999	0	
	31-47-24.00N	107-00-00.00W	17999	0	
	31-47-24.00N	108-15-00.00W	17999	0	
	31-20-00.00N	108-15-00.00W	17999	0	
	31-20-00.00N	109-00-00.00W	17999	0	

32-37-00.00N

106-44-30.00W

1500

1

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2.0  
2.0  
2.0

5.0