

		ASN	2012-ESA-70-COA
		Case Status	APPROVED
		Date Created	08/17/2012
		Date Submitted	08/17/2012
Proponent Organization		Sponsor	NMSU-PSL
		Attn Of	Stephen B. Hottman
		Address	21st Century Aerospace
		Address2	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	PO Box 30002
		Address2	
		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	The objectives of these UAS flight operation which will be performed under this COA is for NMSU to perform research, development, test, and evaluation (RDT&E) of UAS procedures for recovery use following natural disasters or major storms. The primary focus will be on powerline or grid infrastructure damage determination in urban and rural settings. This information will be shared with the FAA, DHS, and FEMA.
		Operational Summary	Flight operations for the Adaptive Flight Hornet Maxi will be within the designated box from ground to 2000' AGL and within 1 mile of the PIC and ground control station. Visual observers will be used for see and avoid and be in locations able to see any other participating or non-participating aircraft with direct radio communications to the PIC. The primary areas for these flights will be in the SETAC site location, an old USAF radar site which is currently being used for testing. It contains buildings, an old housing area, and only one building has personnel which would be part of the testing. A letter of authorization from the SETAC and surrounding property landowner is attached.
	Location	State	AL
		County	Barbour
		Nearest Airport	WEEDON FIELD
		AOR	Alabama
	Class Of Airspace	Class-A	
		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	0
Performance Characteristics		Climb Rate (feet/Minute)	(b)
		Descent Rate (feet/Minute)	(b)
		Turn Rate (Degrees/Second)	(b)
	Cruise Speed	Maximum	31
		Minimum	0
		Approach Speed	0
	Operating Attributes	Maximum MSL	9000
		Minimum MSL	0
		Gross Takeoff Wt	30 0
		Launch/Recovery Attachment	1
Airworthiness		FAA Type Certificate	
		If No FAA Certificate (Public Aircraft Only) Attachment	2

Procedures		Lost Link/Mission Procedures Attachment	1
		Lost Communications Procedures Attachment	1
		Emergency Procedures Attachment	1
Avionics/Equipment		Equipment Suffix Type	A
		GPS	Yes
		Moving map indicator (Command Station)	Yes
		Tracking capability	Yes
		TCA/MCAS	No
		ELT	No
	Transponder	Transponder	Yes
		On	Yes
		Off	Yes
		Standby	No
		Ident	Yes
		Mode S	Yes
		Mode C	Yes
		Transponder Retuneable in Flight	No
		Landing	No
Lights		Position/Navigation	No
		Anti-collision	No
		Infrared (IR)	No
Spectrum Analysis Approval		Data Link	No
		Data Link Attachment	0
		Control Link(s)	No
		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/ 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	2000 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)	Yes
		Instrument	Yes
		Commercial	Yes
		Air Transport	No
		Unique Trained Pilot	No
		Unique Trained Pilot Description	All NMSU UAS pilots have at minimum PP certificates and factory or certified instructor training on the Adaptive Flight Hornet Maxi.
		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 pilots will maintain currency according to FAR Part 61. In addition each pilot will maintain currency on the Hornet Maxi VTOL by performing at least 3 launch and recovery operations with maneuvering within the preceding 90 days. If the 90 days elapses the pilot will gain currency by logging the 3 launch and recovery operations with a qualified instructor operator on the Adaptive Flight Hornet Maxi.
		Duty Time Restrictions	All flights will be less than three hours in duration, and no more than 8 hours flight time in a 24 hour period.
		Single UAS Control	Yes
		UAS Description	Adaptive Flight Hornet Maxi Pilots will only operate one Hornet Maxi UAS at a time using the GCS.
		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 used by NMSU have FAA Class II medical and have been through the NMSU observer training course which has been reviewed and approved by the UAS Integration Office.
		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	All pilots will maintain currency according to FAR Part 61. If it has been more than 90 days since being involved with operation the PIC/Operator will ensure the observer is thoroughly briefed on the standard operating procedures of the operation and any recent changes to operation protocol.
		Duty Time Restrictions	All flights will be less than eight hours in duration in a 24 hour period.
		Single UAS Control	Yes
		UAS Description	
		Total Numbers of UAS Controlled	1
Special Circumstances		Special Circumstances	

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