FAA FORM 8130-6, APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE

Form Approved O.M.B. No. 2120-0018
09/30/2007

U.S. Department of Transportation
Federal Aviation Administration

APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE

INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete Sections II, VI and VII as applicable.

I. AIRCRAFT DESIGNATION

1. REGISTRATION MARK	2. AIRCRAFT BUILDER'S NAME (Make)	3. AIRCRAFT MODEL DESIGNATION	4. YR. MFR.	FAA CODING
N207SH	AAI Corporation	Shadow 200B	2005	06/001G 8
5. AIRCRAFT SERIAL NO.	**6. ENGINE BUILDER'S NAME (Make)**	**7. ENGINE MODEL DESIGNATION**		63350
242	UEL	1100		
8. NUMBER OF ENGINES	**9. PROPELLER BUILDER'S NAME (Make)**	**10. PROPELLER MODEL DESIGNATION**	**11. AIRCRAFT IS (Check if applicable)**	
1	Sensenich	W29FN2L-21	IMPORT	

II. CERTIFICATION REQUESTED

APPLICATION IS HEREBY MADE FOR: *(Check applicable items)*

A	1		STANDARD AIRWORTHINESS CERTIFICATE *(Indicate Category)*		NORMAL		UTILITY		ACROBATIC		TRANSPORT		COMMUTER		BALLOON		OTHER
B		✓	SPECIAL AIRWORTHINESS CERTIFICATE *(Check appropriate items)*														
	7		PRIMARY														
	9		LIGHT-SPORT *(Indicate Class)*		AIRPLANE		POWER-PARACHUTE		WEIGHT-SHIFT-CONTROL		GLIDER		LIGHTER THAN AIR				
	2		LIMITED														
	5		PROVISIONAL *(Indicate Class)*	1		CLASS I											
				2		CLASS II											
	3		RESTRICTED *(Indicate operation(s) to be conducted)*	1		AGRICULTURE AND PEST CONTROL		2		AERIAL SURVEY		3		AERIAL ADVERTISING			
				4		FOREST *(Wildlife Conservation)*		5		PATROLLING		6		WEATHER CONTROL			
				0		OTHER *(Specify)*											
	4		EXPERIMENTAL *(Indicate operation(s) to be conducted)*	1	✓	RESEARCH AND DEVELOPMENT		2		AMATEUR BUILT		3		EXHIBITION			
				4		AIR RACING		5	✓	CREW TRAINING		6	✓	MARKET SURVEY			
				0		TO SHOW COMPLIANCE WITH THE CFR		7		OPERATING *(Primary Category)* KIT BUILT AIRCRAFT							
				8		OPERATING LIGHT-SPORT	8A		Existing Aircraft without an airworthiness certificate & do not meet § 103.1								
							8B		Operating Light-Sport Kit-Built								
							8C		Operating light-sport previously issued special light-sport category airworthiness certificate under § 21.190								
	8		SPECIAL FLIGHT PERMIT *(Indicate operation(s) to be conducted, then complete Section VI or VII as applicable on reverse side)*	1		FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE											
				2		EVACUATION FROM AREA OF IMPENDING DANGER											
				3		OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT											
				4		DELIVERING OR EXPORTING		5		PRODUCTION FLIGHT TESTING							
				6		CUSTOMER DEMONSTRATION FLIGHTS											
C	6		MULTIPLE AIRWORTHINESS CERTIFICATE *(check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable)*														

III. OWNER'S CERTIFICATION

A. REGISTERED OWNER *(As shown on certificate of aircraft registration)* — IF DEALER, CHECK HERE →

NAME	ADDRESS
AAI Corporation	124 Industry Lane Hunt Valley, MD 21030

B. AIRCRAFT CERTIFICATION BASIS *(Check applicable blocks and complete items as indicated)*

AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET *(Give No. and Revision No.)* N/A	AIRWORTHINESS DIRECTIVES *(Check if all applicable AD's are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application)*
AIRCRAFT LISTING *(Give page number(s))* N/A	SUPPLEMENTAL TYPE CERTIFICATE *(List number of each STC incorporated)* N/A

C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS

✓	CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR Section 91.417	TOTAL AIRFRAME HOURS 403	3	EXPERIMENTAL ONLY *(Enter hours flown since last certificate issued or renewed)* 0

D. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.

DATE OF APPLICATION	NAME AND TITLE *(Print or type)*	SIGNATURE
02/21/07	Karen Taylor, Senior Manager,UAS Engineering Sup	Karen F. Taylor

IV. INSPECTION AGENCY VERIFICATION

A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: *(Complete the section only if 14 CFR part 21.183(d) applies.*

2		14 CFR part 121 CERTIFICATE HOLDER *(Give Certificate No.)*	3		CERTIFICATED MECHANIC *(Give Certificate No.)*
5		AIRCRAFT MANUFACTURER *(Give name or firm)*	6		CERTIFICATED REPAIR STATION *(Give Certificate No.)*

DATE	TITLE	SIGNATURE

V. FAA REPRESENTATIVE CERTIFICATION

(Check ALL applicable block items A and B)

A. I find that the aircraft described in Section I or VII meets requirements for — X THE CERTIFICATE REQUESTED; 4 AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE

B. Inspection for a special permit under Section VII was conducted by: FAA INSPECTOR; CERTIFICATE HOLDER UNDER; FAA DESIGNEE; 14 CFR part 65; 14 CFR part 121 OR 135; 14 CFR part 145

DATE	DISTRICT OFFICE	4	DESIGNEE'S SIGNATURE AND NO.	1	FAA INSPECTOR'S SIGNATURE
2/22/2007	PHOENIX M100				Bradley Rpon BRADLEY RPON

VI. PRODUCTION FLIGHT TESTING

A. MANUFACTURER

NAME	ADDRESS

B. PRODUCTION BASIS *(Check applicable item)*

- ☐ PRODUCTION CERTIFICATE *(Give production certificate number)* ——→
- ☐ TYPE CERTIFICATE ONLY
- ☐ APPROVED PRODUCTION INSPECTION SYSTEM

C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS

DATE OF APPLICATION	NAME AND TITLE *(Print or Type)*	SIGNATURE

VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCTION FLIGHT TEST

A. DESCRIPTION OF AIRCRAFT

REGISTERED OWNER	ADDRESS
BUILDER *(Make)*	MODEL
SERIAL NUMBER	REGISTRATION MARK

B. DESCRIPTION OF FLIGHT — CUSTOMER DEMONSTRATION FLIGHTS ☐ *(Check if applicable)*

FROM	TO	
VIA	DEPARTURE DATE	DURATION

C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT

☐ PILOT ☐ CO-PILOT ☐ FLIGHT ENGINEER ☐ OTHER *(Specify)*

D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:

E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION: *(Use attachment if necessary)*

F. CERTIFICATION – I hereby certify that I am the registered owner (or his agent) of the aircraft described above; that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is safe for the flight described.

DATE	NAME AND TITLE *(Print or Type)*	SIGNATURE

VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE use only)

X	A. Operating Limitations and Markings in Compliance with 14 CFR Section 91.9, as applicable.		G. Statement of Conformity, FAA Form 8130-9 *(Attach when required)*
X	B. Current Operating Limitations Attached		H. Foreign Airworthiness Certification for Import Aircraft *(Attach when required)*
X	C. Data, Drawings, Photographs, etc. *(Attach when required)*		I. Previous Airworthiness Certificate Issued in Accordance with 14 CFR Section _____ CAR _____ (Original Attached)
X	D. Current Weight and Balance information Available in Aircraft		
	E. Major Repair and Alteration, FAA Form 337 *(Attach when required)*	X	J. Current Airworthiness Certificate Issued in Accordance with 14 CFR Section 21.191(a)(c) & (e) *(Copy Attached)*
X	F. This inspection Recorded in Aircraft Records		K. Light-Sport Aircraft Statement of Compliance, FAA Form 8130-15 *(Attach when required)*

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

SPECIAL AIRWORTHINESS CERTIFICATE

A	CATEGORY/DESIGNATION	Experimental (Unmanned Aircraft)		
	PURPOSE	Research and Development, Crew Training, and/or Market Survey		
B	MANU-FACTURER	NAME N/A		
		ADDRESS N/A		
C	FLIGHT	FROM N/A		
		TO N/A		
D	N- 207SH		SERIAL NO. 242	
	BUILDER AAI Corporation		MODEL Shadow 200B	
E	DATE OF ISSUANCE February 22, 2007		EXPIRY February 21, 2008	
	OPERATING LIMITATIONS DATED 02/22/07		(ARE) PART OF THIS CERTIFICATE	
	SIGNATURE OF FAA REPRESENTATIVE Bradley Roon		DESIGNATION OR OFFICE NO. Phoenix MIDO NM-50	

Any alteration, reproduction or misuse of this certificate may be punishable by a fine not exceeding $1,000 or imprisonment not exceeding 3 years, or both. THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT IN ACCORDANCE WITH APPLICABLE TITLE 14, CODE OF FEDERAL REGULATIONS (CFR).

FAA Form 8130-7 (07/04) *SEE REVERSE SIDE* *NSN: 0052-00-693-4000*

A	This airworthiness certificate is issued under the authority of Public Law 104-6, 49 United States Code (USC) 44704 and Title 14 Code of Federal Regulations (CFR).
B	The airworthiness certificate authorizes the manufacturer named on the reverse side to conduct production fight tests, and only production flight tests, of aircraft registered in his name. No person may conduct production flight tests under this certificate: (1) Carrying persons or property for compensation or hire: and/or (2) Carrying persons not essential to the purpose of the flight.
C	This airworthiness certificate authorizes the flight specified on the reverse side for the purpose shown in Block A.
D	This airworthiness certificate certifies that as of the date of issuance, the aircraft to which issued has been inspected and found to meet the requirements of the applicable CFR. The aircraft does not meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention On International Civil Aviation. No person may operate the aircraft described on the reverse side: (1) except in accordance with the applicable CFR and in accordance with conditions and limitations which may be prescribed by the Administrator as part of this certificate; (2) over any foreign country without the special permission of that country.
E	Unless sooner surrendered, suspended, or revoked, this airworthiness certificate is effective for the duration and under the conditions prescribed in 14 CFR, Part 21, Section 21.181 or 21.217.

U.S. Department
of Transportation
Federal Aviation Administration

Phoenix Manufacturing Inspection District Office
13951 N. Scottsdale Rd. #123
Scottsdale, AZ 85254

EXPERIMENTAL - OPERATING LIMITATIONS

RESEARCH AND DEVELOPMENT, MARKET SURVEY and/or CREW TRAINING.

REGISTERED OWNER NAME: AAI CORPORATION **REGISTERED OWNER ADDRESS:** 124 INDUSTRY LANE, HUNT VALLEY, MD 21030 **AIRCRAFT DESCRIPTION:** UNMANNED, FIXED WING **AIRCRAFT REGISTRATION:** N207SH	**AIRCRAFT BUILDER:** AAI CORPORATION **YEAR MANUFACTURED:** 2005 **AIRCRAFT SERIAL NUMBER:** 242 **AIRCRAFT MODEL DESIGNATION:** SHADOW 200B **ENGINE MODEL(S):** UEL AR741-1100/1101 **PROPELLER MODEL:** SENSENICH W29FN2L-21

The following conditions and limitations apply to all AAI Corporation, Shadow 200B, Unmanned Aircraft System (UAS) flight operations, while operating in the National Airspace System (NAS). These conditions and limitations must be accessible to the pilot in command at all times. Flight operations are contingent upon prior approval of the airport modifications AAI must implement to operate the Shadow 200B UAS from the Benson Municipal Airport. Approval must be received from the Benson Municipal Airport Manager and must comply with applicable regulatory guidance.

1. GENERAL:

a. For the purposes of this **Special Airworthiness Certificate and Operating Limitations**, the Shadow 200B UAS owned and operated by AAI is considered to be an integrated system. The system is composed of the Shadow 200B aircraft, S/N 242, unmanned aircraft (UA) pilot(s), UA control station(s) (fixed or mobile), telemetry, navigation and communications equipment to include ground and airborne equipment that is used for control of the Shadow 200B UA. The

ground equipment used for communication with the chase aircraft and Air Traffic Control during UAS operations is considered part of the UAS.

b. Unless otherwise specified in this document, the UA Pilot-in-Command (PIC) and AAI shall comply with all applicable sections and parts of 14 CFR including, but not limited to, parts 61 and 91.

c. No person may operate this UA for other than the purpose of Research and Development, Market Survey and/or Crew Training, to accomplish the flight operations outlined in AAI Program Letter dated 2/20/07 which describes compliance with § 21.193(d), and has been made available to the pilot in command of the UA. In addition, this UA must be operated in accordance with applicable air traffic and general operating rules of part 91, and all additional limitations herein prescribed under the provisions of § 91.319(e).

d. The UA PIC must determine that the UAS is in a condition for safe operation and in a configuration appropriate for the purpose of the intended flight.

e. No person may operate this UAS for commercial purpose or to carry property for compensation or hire.

f. This UA must be identified with its U.S. Registration number in accordance with 14 CFR part 45 or exemption thereto.

g. This UA must display the word "EXPERIMENTAL" in accordance with § 45.23(b) or exemption thereto.

h. Prior to conducting initial flight operations, AAI must forward a copy of the Shadow 200B Program Letter, Special Airworthiness Certificate, and Operating Limitations to:

1) Debra Trindle FAA Air Traffic Representative, Luke and Davis-Monthan Air Force Base, AZ, (623) 856-9596, FAX: (623) 856-8339, email, debra.trindle@luke.af.mil.

2) Roger Trevino, Airspace Specialist, FAA Central Enroute Service Area, Operations Branch, AJO-2C2, roger.trevino@faa.gov, FAX: 817-222-5547.

i. Section 47.45 requires that the FAA Aircraft Registry must be notified within 30 days of any change in the aircraft registrant's address. Such notification is to be made by submitting AC Form 8050-1 to AFS-750 in Oklahoma City, Oklahoma.

2. PROGRAM LETTER: The Shadow 200B Program Letter, dated 2/20/07, shall be used as a basis for the determination of the operating limitations prescribed in this document. All flight operations must be conducted in accordance with the provisions of this document.

3. AUTHORIZED FLIGHT OPERATIONS AREA:

a. The base of operations for the UAS shall be:

Benson Municipal Airport (E95)
West Aviation Drive
Benson, AZ 85602

b. The flight operations area authorized for the UA is depicted graphically below. This area shall be referred to as the "Primary Containment Area." Should the UA venture beyond the boundaries (e.g., spill out) of the Primary Containment Area, AAI is responsible for notifying the FAA of the breach.

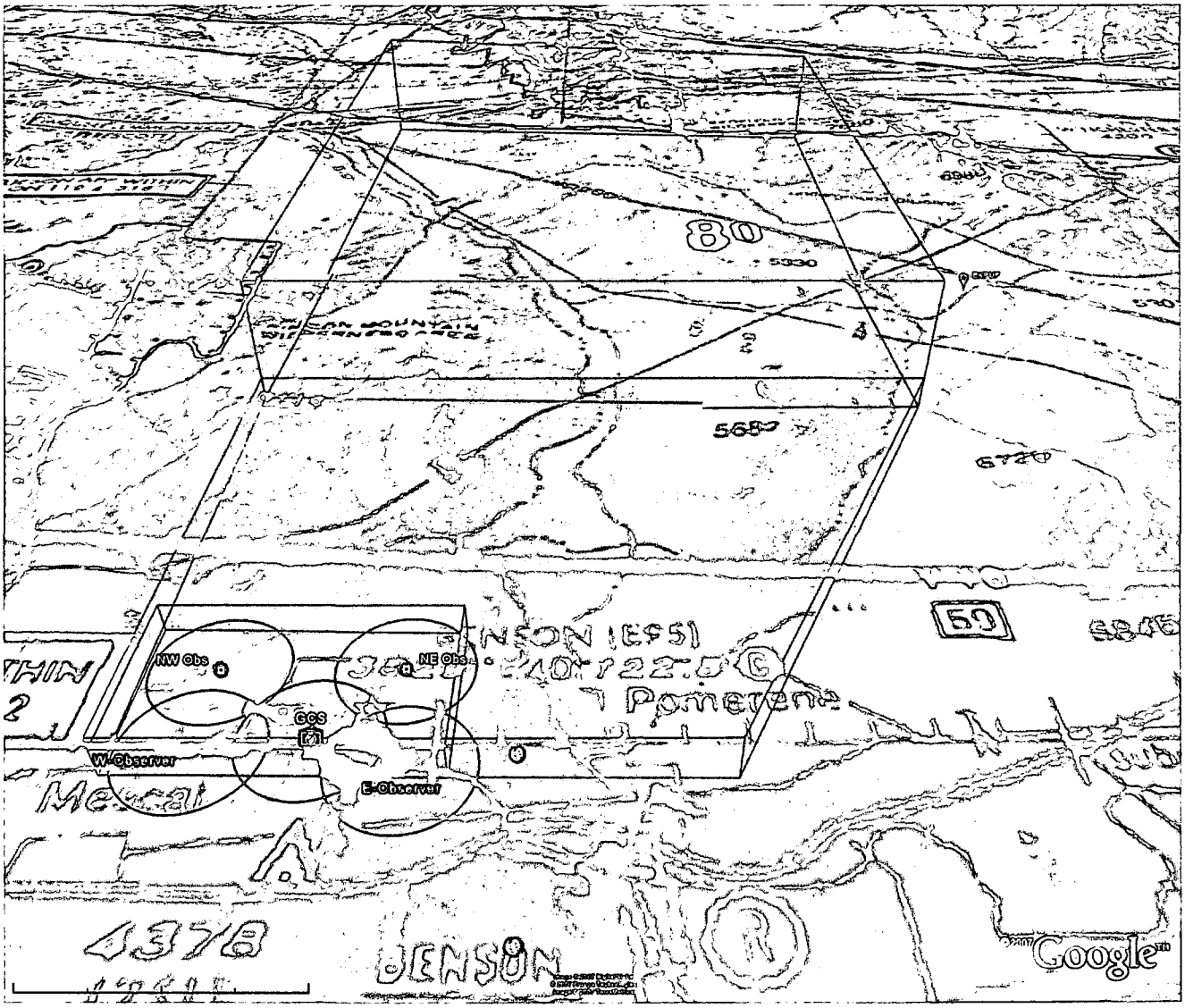

Figure 1. Benson Airport Operations Area Perspective

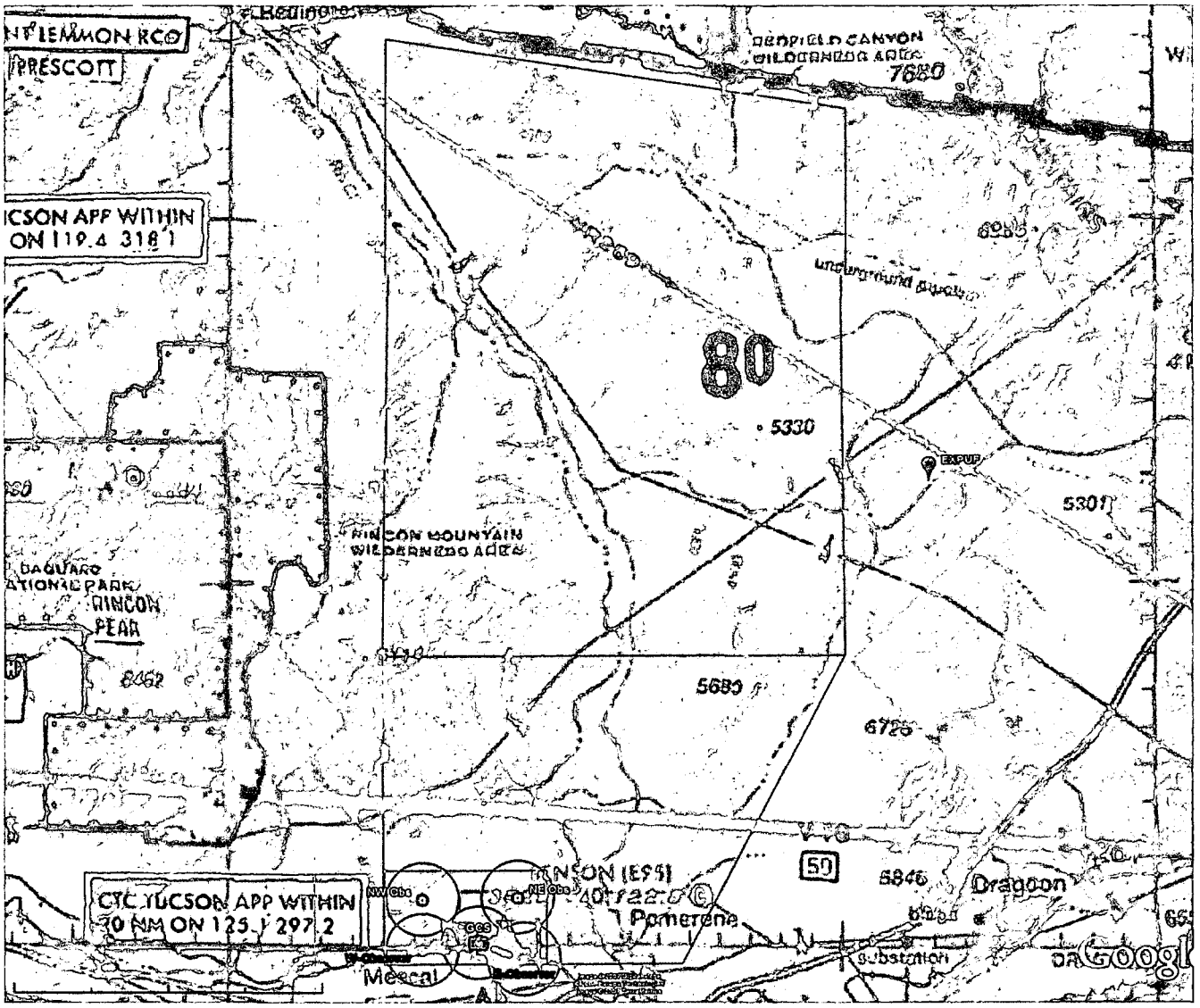

Figure 2. Benson Airport Operations Area Limits

The Primary Containment Area will consist of 3 sections designated Airspace 1, 2, and 3.

Airspace 1

Local flight, within visual range of trained observers will be conducted within Airspace 1, but always within 1 nm of an observer and below 3,000 feet AGL.

Within this Airspace is the Benson Municipal Airport (E95). Depending on the profile of the planned flight, observers will be posted such that at least one of them will be able to observe any traffic, either airborne or on the ground that may come into the planned flight areas. Also within this airspace will be planned return home orbit points that will be positioned such that all points on the orbit will be within Airspace 1 and within visual range of at least one observer at all times.

Placement of observers and orbit points will be made so that there is adequate margin for other traffic to be observed and de-conflicted.

The co-ordinates of Airspace 1 are:

-110.414, 31.990 to
-110.414, 32.033, to
-110.326, 32.033, to
-110.326, 31.990, and back to
-110.414, 31.990.

The ceiling of this airspace is 3000 feet AGL.

Airspace 1 is fully contained within Airspace 2 and shares parts of the West and South boundary.

Airspace 2

Airspace 2 extends to the North of E95 to an east/west line 4nm past Victor 16. It is limited to 8000 feet MSL. The intent is to stay below IFR traffic on that airway.

The co-ordinates of Airspace 2 are:

-110.414, 31.990 to
-110.414, 32.132, to
-110.1643, 32.132, to
-110.2521, 31.990, back to
-110.414, 31.990,0

Airspace 2 shares a North boundary with Airspace 3.

Airspace 3

Airspace 3 extends to the north of Airspace 2 along the same N-S boundaries. The East boundary was chosen to remain clear of the IAF EXPUF for the GPS-A approach to P33. The ceiling of this airspace is 18,000 MSL. The Southern boundary was chosen to be 4 nm N of the Victor airway V16 as noted above. The North boundary was chosen to stay clear of the wildlife area.

The co-ordinates of Airspace 3 are:

-110.414, 32.132,0 to
-110.414, 32.416,0 to
-110.1643, 32.382,0 to
-110.1643, 32.132,0 back to
-110.414, 32.132,0

Airspace 3 shares a South boundary with Airspace 2.

NOTE: UNTIL AIR-200 RECEIVES APPROVAL FROM AIR TRAFFIC, THE SHADOW 200B IS LIMITED TO OPERATIONS IN AIRSPACE 1.

e. Because the Shadow 200B system lacks independent functionality to the extent that it can be concluded that a fly-away is improbable, the following flight restrictions are imposed:

1) Fuel shall be limited to what would be required for one hour of flight plus reserve required by 14 CFR 91.151;

2) The flight operations area shall be limited to Airspace 1 and 2 until independent functionality is added to the system;

3) Flight Operations are limited to120 days unless independent functionality is integrated to the system. The integration of this independent functionality shall be considered a major modification to the system. AAI shall notify AIR-200 prior to implementation of this modification.

f. The UA PIC shall ensure that all UA flight operations remain within the lateral and vertical boundaries of the Primary Containment Area. Furthermore, the UA PIC shall take into account all factors that may affect the capability of remaining within the Primary Containment Area. This includes, but is not limited to, considerations for wind, gross weight, and glide distances.

g. Any flight operation that transgresses the lateral or vertical boundaries of the Primary Containment Area shall be immediately concluded, and Air Traffic Control notified of the flight status. AAI shall, at the conclusion of the flight, immediately notify the Unmanned Aircraft Program Manager AIR-160, of any flight operation that transgresses the lateral or vertical boundaries of the Primary Containment Area. The point of contact is Mr. Doug Davis. Mr. Davis can be reached at 202-385-4636 or email kenneth.d.davis@faa.gov.

h. Further flight operations shall not be conducted until the incident is reviewed by AIR-160, and authorization to resume operations is received.

4. UA PILOTS and OBSERVERS:

a. All flight operations shall have a designated UA Pilot-In-Command (PIC). Any additional UA pilot(s) assigned to a crew station during UA flight operations shall be considered a Supplemental UA Pilot. The UA PIC shall have responsibility over each flight conducted and be held accountable for the UA flight operation.

b. The UA PIC is responsible for the safety of the UA as well as persons and property along the UA flight path. This includes, but is not limited to, collision avoidance and the safety of persons and property in the air and on the ground. The UA PIC shall avoid densely populated areas (§ 91.319) and exercise increased vigilance when operating within or in the vicinity of published airway boundaries.

c. The UA PIC shall hold, at a minimum, an FAA Private Pilot certificate, with an Airplane category, Single or Multiengine class ratings, or military equivalent, and have it in his/her possession.

d. The Supplemental Pilot need not be a certificated pilot. If the supplemental pilot is not a certificated pilot, the supplemental pilot must have successfully completed a recognized Private Pilot ground school or successfully completed the private pilot written test.

e. The UA PIC shall have operational override capability over any Supplemental Pilot, regardless of position.

f. The UA PIC shall have a Flight Review in manned aircraft every 24 calendar months in accordance with § 61.56.

g. The UA PIC shall maintain currency in manned aircraft in accordance with § 61.57.

h. All UA Pilots shall maintain currency in unmanned aircraft in accordance with Unmanned Aerial Vehicle Aircrew Training Manual, RQ-7A/B Shadow Tactical Unmanned Aerial Vehicle (TUAV) dated 3/22/05.

i. All UA pilots shall have a Flight Review in unmanned aircraft every 24 calendar months in accordance with AAI company procedures.

j. All flight operations conducted in the Primary Containment Area shall have an Observer to perform traffic avoidance and visual observation to fulfill the "see and avoid" requirement of § 91.113.

k. All UA Observers shall have successfully completed training required by AAI Observer Qualification Training dated 11/01/06.

l. The UA PIC and Observer(s) must have in their possession a valid third class (or higher) airman medical certificate that has been issued under 14 CFR part 67.

m. UA Pilots and Observers shall perform crew duties for only one UA at a time. When the Observer is located in a chase aircraft, the Observer's duties shall be dedicated to the task of observation only. Concurrent duty as pilot is not authorized.

n. All Observers must be thoroughly trained, familiar with, and possess, operational experience with the equipment being utilized for observation and detection of other aircraft for collision avoidance purposes as outlined in the AAI Program Letter.

o. Observer Responsibilities: The task of the Observer is to provide the UA pilot(s) with instructions to maneuver the UA clear of any potential collision with other traffic. Observer duties require continuous visual contact with the UA at all times in such a manner as to be able to discern UA attitude and trajectory in relation to conflicting traffic. To satisfy these requirements:

1) At no time shall the Observer permit the UA to operate beyond line-of-sight necessary to ensure that maneuvering information can be reliably determined.

2) At no time shall Observers conduct their duties more than one (1) nautical mile laterally or 3000 feet vertically from the UA. The small size of this particular UA may not allow for adequate observation at the 1 mile limit. It should be understood that this limit is the maximum

range allowed and that a practical distance may be something less, with the determination of such at the discretion of the applicant. Therefore, until an onsite validation of observer distance is conducted by the FAA, it will remain the responsibility of the applicant to insure the safety of flight and adequate visual range coverage to mitigate any potential collisions.

3) Observers must maintain continuous visual contact with the UA.

4) Observers may be positioned in a chase aircraft. When a chase aircraft is utilized, it must maintain a reasonable proximity, and shall position itself relative to the UA in such a manner as to reduce the hazard of collision in accordance with § 91.111.

5. COMMUNICATIONS:

a. AAI shall contact Air Traffic Control prior to flight operations. AAI shall squawk transponder code 1200 unless otherwise directed by local Air Traffic Control.

b. Appropriate Air Traffic frequencies shall be monitored during flight operations.

c. All UAS crew positions must maintain two-way communications with each other during all operations. If unable to maintain two-way communication, the UA will be expeditiously returned to its base of operations while remaining within the Primary Containment Area, and conclude the flight operation.

d. Spectrum used for operation and control of the UA must be approved by the Federal Communications Commission or other appropriate government oversight agency prior to operations being conducted.

6. FLIGHT CONDITIONS:

a. All flight operations must be conducted during daylight hours in visual meteorological conditions (VMC), including cloud clearance minimums as specified in § 91.155. Flight operation in instrument meteorological conditions (IMC) is not permitted.

b. The UA is prohibited from aerobatic flight, that is, an intentional maneuver involving an abrupt change in the UA's attitude, an abnormal acceleration, or other flight action not necessary for normal flight (§ 91.303).

c. Flight operations must not involve carrying hazardous material or the dropping of any objects or external stores.

d. The UA and chase aircraft shall be equipped with operable strobe/anti-collision lights and shall be illuminated during operations.

e. The UA must be equipped with, and operate, an approved Mode C altitude encoding transponder during all flight operations.

f. The chase aircraft transponder must be on standby while performing chase operation flight with the UA. In the event of UA transponder failure, the chase aircraft will operate the transponder in Mode C.

g. In the event of transponder failure on either the UA or the chase aircraft, the UA must conclude all flight operations and expeditiously return to its base of operations within the prescribed limitations of this authorization.

h. AAI must request the issuance of a Notice to Airman (NOTAM) through the Prescott Automated Flight Service Station at least twenty-four (24) hours prior to flight operation.

7. FLIGHT TERMINATION & LOST LINK PROCEDURES:

a. AAI shall comply with the requirements contained in the Shadow 200 Unmanned Aircraft Systems, Benson Municipal Airport Operations document dated 2/22/07.

a. In accordance with AAI Program Letter, dated 2/20/07 flight termination must be initiated at any point that safe operation of the UA cannot be maintained.

b. In the event of lost link, the UA must provide a means of automatic recovery that ensures airborne operations are predictable and that the UA remains within the Primary Containment Area. The chase aircraft/Observer will be immediately notified of the lost link condition and the expected UA response.

8. MAINTENANCE:

a. The Shadow 200B must not be operated unless it is inspected and maintained in accordance with the Shadow 200 TUAV System Operator/Maintenance Manual dated 5/31/06, or later FAA-accepted revision. Revisions must be submitted to the Scottsdale Flight Standards District Office at least 30 days prior to implementation for FAA review. If no response is received within 30 days, the revisions are considered acceptable until such notice is received

b. No person may operate this UAS unless it has been inspected in accordance with FAA-accepted, Shadow 200 TUAV System Operator/Maintenance Manual dated 5/31/06, or later FAA-accepted revision and was found to be in a condition for safe operation. This inspection will be recorded in the UAS maintenance records.

c. Only those individuals authorized by AAI Corporation established procedures, who are certificated persons as authorized by 14 CFR Part 65, may perform inspections required by these operating limitations.

d. Inspections of the UAS must be recorded in the UAS maintenance records showing the following, or a similarly worded, statement: "I certify that this UAS has been inspected on [insert date] in accordance with (insert type inspection) from the Shadow 200 TUAV System Operator/Maintenance Manual dated 5/31/06, and was found to be in a condition for safe operation." The entry will include the UAS's total time-in-service, and the name and signature of the person performing the inspection and the date the inspection was performed.

e. UAS instruments and equipment installed must be inspected and maintained in accordance with the requirements of the Shadow 200 TUAV System Operator/Maintenance Manual dated 5/31/06. Any maintenance or inspection of this equipment must be recorded in the UAS maintenance records.

f. No person may operate this UAS unless the altimeter system and transponder have been tested within the preceding 24 calendar months in accordance with 14 CFR § 91.411 and § 91.413 respectively. These inspections will be recorded in the UAS maintenance records.

9. EQUIPAGE:

a. The UAS shall be equipped with an operable Mode-C transponder.

b. The Shadow 200B Ground Control Station will be equipped with two-way communications equipment allowing for communications between the UA pilot, chase aircraft, observer(s), and Air Traffic Control.

10. REVISIONS and OTHER PROVISIONS:

a. The Experimental Certificate, the AAI Corporation, FAA-accepted Program Letter, and Operating Limitations cannot be reissued, renewed, or revised without application being made to the Phoenix Manufacturing Inspection District Office (MIDO), and coordinated with the Production and Airworthiness Division, AIR-200. AIR-200 will be responsible for headquarters internal coordination with the Aircraft Certification Service, Flight Standards Service, Air Traffic, Office of Chief Council, and Office of Rulemaking.

b. No Certificate of Waiver or Authorization may be issued in association with this Experimental Certificate unless coordinated with the Phoenix MIDO and the Production and Airworthiness Division, AIR-200.

c. All revisions to Shadow 200 TUAV System Operator/Maintenance Manual dated 5/31/06, must be reviewed and accepted by the Scottsdale Flight Standards District Office (FSDO). The FSDO can be reached at telephone number is 480-419-0111.

Bradley Roon

Bradley Roon
Aviation Safety Inspector
Phoenix Manufacturing Inspection District Office
13951 N. Scottsdale Rd. #123
Scottsdale, AZ 85254

Date: February 22, 2007

The Special Airworthiness Certificate and accompanying Operating Limitations expire on February 21, 2008.

I certify that I have read and understand the operating limitations, and conditions, that are a part of the Special Airworthiness Certificate; FAA Form 8130-7 issued on February 22, 2007, for the purpose of Research and Development, Market Survey and/or Crew Training.

This Special Airworthiness Certificate is issued for the AAI Corporation , UA model "Shadow 200B" serial number 242, registration number N207SH.

Applicant: **Date: February 22, 2007**

Name: Terry Erickson

Title: Unmanned Aircraft Business Development Program Manager I

Company: AAI Corporation, Inc.

AAI Corporation
124 Industry Lane
Hunt Valley, Maryland 21030-0126
410-666-1400
www.aaicorp.com

February 20, 2007

Federal Aviation Administration
Production & Airworthiness Division, AIR-200
800 Independence Ave., S.W.
Washington, DC 20591

Mr. Frank Paskiewicz,

AAI requests a Special Airworthiness Certificate for Experimental Purposes for our Shadow 200B Unmanned Aircraft System (UAS). Attached is a revised Program Letter for the Shadow 200B UAS, Registration Number N207SH. It is derived from the earlier submitted program letter and integrates comments received from the FAA. Please replace the Program Letter dated October 19, 2006 with the enclosed.

It is requested that the Federal Aviation Administration process this Program Letter.

AAI stands ready to address any questions you might have. Please feel free to contact me at 410-628-3965, or Karen Taylor at 410-628-6713.

Sincerely,

Thomas Bachman
Director, Advanced Technologies
AAI Corporation

General Configuration for Shadow 200