AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
See Block #2	1 of 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ.NO.	5. PROJECT NO. *(If applicable)*
0002	24 JUN 2004		

6. ISSUED BY ESC/GAK CODE FA8708

ELECTRONIC SYSTEMS CENTER
AIR FORCE MATERIEL COMMAND, USAF
75 VANDENBURG DRIVE, BUILDING 1630
HANSCOM AFB, MA 01731-2119
LANO BALULESCU 781-377-9011

Lano.Balulescu@hanscom.af.mil

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

CODE FACILITY CODE

(X) X

9A. AMENDMENT OF SOLICITATION NO. FA8730-04-R-0001

9B. DATED *(SEE ITEM 11)*

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [ ] is extended, [X] is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 0 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by tele gram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATION OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *( )* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

FMS case PL-D-DAQ, attachment 2 is replaced with 23 June 2004 version.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (*Type or print*).		16A. NAME AND TITLE OF SIGNER *(Type or print)* JEFFERY L. EMMONS	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ *(Signature of person authorized to sign)*		BY_____ *(Signature of Contracting Officer)*	

DOCUMENT	PGS	DATE	TITLE
ATTACHMENT 2	2	23 JUN 2004	SYSTEM REQUIREMENTS (SRD), MOBILE GCA

Attachment 2
(23 June 2004)
System Requirements

Mobile GCA

Poland FMS Case PL-D-DAQ

Mobile GCA Minimum System Requirements:

References:

- NATO STANAG 3374, Flight Inspection of NATO Radio/Radar Navigation Aids and Approach Aids, AEtP-1(B), Edition 4, 24 Sep 96
- ICAO Annex 10
- ICAO Document 8071"Manual on the Performance Testing of ATC Radar Systems"
- ISO 9000

General Requirements

The Mobile GCA shall meet the following general requirements. The GCA shall include: a Primary Surveillance Radar (PSR), Secondary Surveillance Radar (SSR); Precision Approach Radar (PAR); and VHF and UHF radio communications capabilities as defined herein. The GCA and all associated equipment comprising the system shall be transportable by truck (alternatively trailer or self-propelled), helicopter or C-130 aircraft. Specific performance requirements are listed by subsystem following the General Requirements. The intent of these general and specific requirements is to call attention to elements of particular interest supporting system deployment in Poland. It is not intended that these specifications be complete. Similarly, the requirements contained herein are not intended to solicit re-development activity.

1. All shelters shall provide power distribution panels, and air conditioner/heater, vent fan, interior lighting, telephone connections for both communications and remote monitoring, and convenience power outlets.
2. The GCA shall accept and operate from 220-240 volt, 50 Hz single-phase, or 380 volt, 50 Hz three-phase (with WYE connection) power supplied commercially or from a field generator.
3. If integral to the design of the mobile GCA, an electric power generator shall be provided. When connected to commercial power, the generator shall be automatically activated upon failure of the primary power.
4. Battery backup (non-interruptible Power Source – UPS) shall be provided for all electronics. The battery backup (UPS) shall provide sufficient electrical power to operate the GCA electronic equipment (radars, radios, and processors) and emergency lighting for a minimum of 30 minutes. Environmental conditioning equipment is not part of the electronics.
5. The GCA operations shelter shall provide at least two (2) local operator positions with workstations for display of PSR/SSR and PAR data. Flat panel displays (e.g., Liquid Crystal Display (LCD) are preferred.
6. The GCA shall incorporate Built-In Test (BIT) equipment (BITE) to assess continuously equipment/system status, identify out-of-tolerance parameters, and assist field-level personnel in identifying appropriate LRUs for replacement. BITE shall isolate to a single failed LRU with >95 percent probability.
7. The GCA shall be produced in an ISO 9000 or equivalent qualified facility.
8. Required system testing will include Factory Acceptance (FAT), site I&SAT, and initial Commissioning Flight Test (latter to require only Contractor technical assistance during testing).
9. Display recording shall capture and make available for playback PSR, SSR, and PAR data.

Primary Surveillance Radar (PSR)

A PSR is a radar system that detects objects by means of reflected radio signals, intended to provide data describing the air situation in the immediate vicinity of an airfield for air traffic control. PSR data shall be displayed on a computer screen. Required Minimum Performance Parameters for the PSR are listed in Table SRD 1.

Secondary Surveillance Radar (SSR)

The SSR is a radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on transponder-generated signals rather than signals reflected from the aircraft, as in primary surveillance radar, it offers increased range and positive identification. This system requires an interrogator capable of modes 1, 2, 3/A and C, and must be upgradeable for Modes S, 4 and 5. Required Minimum Performance Parameters for the SSR are listed in Table SRD 1. SSR data shall be displayed on a computer screen and the system shall provide the capability to display overlayed PSR and SSR data.

Precision Approach Radar (PAR)

The PAR is a high-definition, short-range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy for the purpose of assisting the pilot in executing an approach and landing. The PAR allows a controller to provide precision lateral and vertical guidance instructions to a pilot during the approach and landing. The PAR provides information on a computer display scene. Required Minimum Performance Parameters for the PAR are listed in Table SRD 1.

Communications

Radio transceivers support voice communications between pilots and controllers for air traffic control and coordination. There shall be a minimum of three (3) VHF/UHF Transceivers (ground to air radios). The VHF capability must include 8.33 kHz and 25 kHz channel spacing, operator selectable, and the UHF capability must include 25 kHz channel spacing. The VHF/UHF radio capability shall provide growth to Havequick I/II ECCM capabilities in the UHF band, preferably through reprogrammable software. The system shall include a communication switch, a voice recorder, antennas, cabling, and additional ancillary equipment to support communications.

Table SRD 1

Parameter	PSR (ASR)	SSR	PAR
Operating Frequency (GHz)	2.7 to 2.9 (or 9.0 to 9.2)	1.030 & 1.090	9.0 to 9.2
Azimuth Coverage (degrees)	360	360	30 (±15)
Elevation Coverage (degrees)	-	-	8 (e.g. -1 to +7)
Minimum Altitude Coverage (k ft.)	8	20	-
Minimum Range (nmi)	25 (clear weather)	60	10 (clear weather)
Minimum Range Resolution (m)	250	125	150
Minimum Range Accuracy (m) (whichever is greater)	125 (or 2% of range)	50	30 (or 2% distance to touchdown)
Minimum Azimuth Accuracy (deg.)	2.8	.8	0.34
Minimum Azimuth Resolution (deg.)	4	7.2	1.2
Minimum Target Capacity	150	400	22
System Availability Target	97%		
BIT Isolation to LRU	95%		