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27 August 2007

DOCUMENT

WGNT/ADP(INFRA)WP(2007)0017

WGNT/COM(INFRA)WP(2007)0018

**INFRASTRUCTURE COMMITTEE
WORKING GROUP OF NATIONAL TECHNICAL EXPERTS**

NC3A

**PROJECT 2007/5VA30403 – "CIS SUPPORT FOR NEW HQ ISAF JOINT CIS
CONTROL CENTRE (JCCC)"**

WORKING PAPER

Note by the Secretary

Reference: NC3A Letter dated 27 July 2007

1. Enclosed please find the subject TBCE, developed by Host Nation NC3A, that will be screened at the upcoming Joint WGNT/COM(INFRA) meeting 12-13 September 2007.

(Signed)

M. FUSTER

Enclosure 1: NC3A - TBCE - CIS Support for New HQ ISAF Joint CIS Control Centre (JCCC)

1 Enclosure

Action Officer: M. FUSTER
Original: English

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Enclosure 1

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NATO Consultation, Command and Control Agency

Agence de consultation, de commandement et de contrôle de l'OTAN

NC3A/NPL/2007/100

NC3A/RF(2007)613

27 July 2007

To: NATO Office of Resources
Management and Implementation Branch
Attn: Deputy Branch Chief
NATO HQ

Supreme Headquarters Allied Powers Europe
Attn: J4 and J6
B-7010 SIIAPE

Information: See Distribution

Subject: **Project 2007/5VA30403-0/9 – CIS Support for New ISAF JCCC-
Request for Authorization**

Reference: A. SHAPE 6100/SHJ41.EX/100/06-200092 dated 28 Nov 06
B. AC/4-D(2007)0003 AOM ICB

1. Enclosed herewith please find the Project Price Proposal for Project 2007/5VA30403-0/9 "CIS Support for New ISAF JCCC".
2. The project will be carried out under the Agency Consolidated Programme of Work within IPT3.
3. The Agency Project Price Proposal at Enclosure 1 outlines the NC3A Project Service Costs and the total project expenditure profile in the format agreed by the IC. The price proposal is valid for 3 months from the date of submission.
4. SHAPE is requested to confirm that the yearly Operations and Maintenance costs of €2,657,500 in 2008; €9,511,700 in 2009, and €9,559,300 from 2010 are affordable.
5. In view of the urgent operational need for this capability, the Host Nation proposes to use the procurement method as detailed in reference B Annex 2. It is intended to run one competition for hardware/software and the related installation activity. A separate competition also in accordance with reference B Annex 2 will be performed for the 1 year full time contracted positions. Authorization to deviate from the referenced acquisition procedure is requested for a few items as explained in enclosure 2 paragraph 10.

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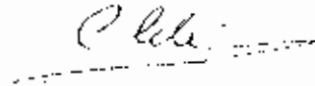
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6. The Host Nation requests a waiver from the 2 Stage authorization process for all procurements except the 1 year full time contracted manpower, which has a cost of 10,172,500 € including contingencies.
7. The project will utilise existing in-place equipment from the IIQ ISAF JCCC and add equipment to meet the minimum CIS requirement of the newly formed JCCC.
8. The Management and Implementation Branch is requested to screen the enclosed Project Price Proposal and submit the request for scope authorization in the amount of €15,978,382 (C14,943,484 Investment Cost + €1,034,898 Project Service Cost) to the Infrastructure Committee.
9. The Host Nation requests Stage one fund authorization in the amount of €5,805,882 (C4,770,984 Investment Cost + C 1,034,898 Project Service Cost).

FOR THE GENERAL MANAGER



C. Ulriksen
NSIP Programme Executive

Enclosures:

- (1) Project Price Proposal for project 2007/5VA30403-0/9
- (2) TBCE for project 2007/5VA30403-0

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PROJECT PRICE PROPOSAL**“CIS Support for ISAF JCCC”****I. NSIP DATA**

Urgent CRO project

Project 2007/SVA30403-0/9

II. Project Cost Estimate

Investment Costs

14,943,484€

NC3A Project Service Cost

1,034,898€**Project Authorization Request****15,978,382€****III. Expenditure Profile**

Expenditure profile	Stage 1 Investment Cost	Stage 2 Investment Cost	NC3A Project Service Cost	Total Cost
2007 – 2 nd Half	€4,770,984	€709,952	€316,052	€5,796,988
2008 - 1 st Half	0	€6,783,285	€326,782	€7,110,067
2008- 2 nd Half	0	€2,679,263	€326,781	€3,006,044
2009	0	0	€9,512	€9,512
2010	0	0	€55,771	€55,771
TOTAL	€4,770,984	€ 10,172,500	€1,034,898	€15,978,382

IV. REQUIREMENTS

For the JCCC to become fully operational, an integrated suite of CIS monitoring, management and configuration tools is required in the new JCCC building (requested with PSR Engr. 092) to allow the remote management and control of in-theatre communications systems, networks and software applications. Only when these tools are delivered can C2 of CIS within the ISAF Joint Operations Area (JOA) be devolved as agreed by SIIAPF, NC3A and JFC-B. The tool set is prescribed in detail to ensure commonality with those tools used in NATO Network Management Centre (NNMC), which would provide the Alternate CIS C2 node in the event of catastrophic system failure/hostile action rendering the JCCC untenable.

All existing monitoring tools in the Signal Support Group (SSG) must be integrated into the final design, and the provided systems and environment must be robust, resilient and have adequate redundancy. Additionally, it is essential that a structured cabling environment be created in the new JCCC build in order to host the NCSA CIS Toolset and to form the working CIS environment. These two aspects of the project are complementary and represent the essential initial requirement. In addition to this, other CIS capabilities and features are also required. They are essential to ensure business continuity within the NATO CIS environment in the ISAF JOA. None of the capabilities requested in this project are duplicated in other CIS PSRs, specifically PSR CIS 033 – the CIS Buffer.

V. DELIVERABLES

Submit URR	□ 3Q07
Achieve Authorisation	□ 3Q07
Release IFB's & RFQ's	□ 4Q07
Contract Awards	□ 4Q07
Achieve IOC	□ 1Q08
Achieve FSA	□ 4Q08
Achieve JFAI	□ 1Q09
Close Project	□ 4Q10

VI. EXPECTED USE

The building infrastructure required for the JCCC was authorized by the IC on 25 Apr 06. The scope of this project is to provide the CIS support required by the JCCC to become fully operational as a NATO CIS Network control centre for the ISAF Joint Operations Area (JOA).

ISAF IX has experienced a period of significant CIS transformation as the following key events occur: mission expansion (Stage 3 & 4 JOA), 'Split System' C2 using ISAF CIS and CENTRIXS, CIS expansion under the FOC+ project, including the contracting of NATO/ISAF services, and a major increase in the number and complexity of C2IS applications and systems.

In previous ISAFs, key CIS stakeholders were not integrated into a single CIS C2 structure. The NATO Signal Battalions provided the Signal Support Group (SSG), and centralised control has traditionally been exercised over strategic and operational networks by NCSA, resulting in Service Level Agreements not being responsive to urgent operational requirements. The constant rotation of CJ6 Ops and SSG personnel has resulted in an incoherent CIS evolution, which reinforces the benefits to be obtained through the conducting JCCC functions and services using contracted manpower. While the current C2 state was appropriate for Stage 2 transition, it is no longer considered suitable for mission expansion, where a greater level of delegated CIS C2 authority and devolved network management capability is required to meet the operational requirements of a higher tempo environment.

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In order to meet these increased demands of CIS management, and to provide an effective C16 Operations organisation that is capable of delivering robust and resilient CIS to support COMISAFs intent, it is essential that a fully functioning JCCC is established. Authorisation of this project is required to realise the JCCC concept.

Without the capabilities contained in this proposal, ISAF C16 will be unable to exercise effective C2 over in-Theatre CIS networks, and will not act in support of commanders' operational requirements.

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Price Proposal for Project Service Costs (2007/5VA30403-9)

NC3A PROJECT SERVICE COST PROPOSAL FOR:
Project Serial n°: 2007/5VA30403-9
MIS code: NISPO040368-01

CIS Support to ISAF JCCC
NISPO040368-01

	2007	2008	2009	2010	2011	2012
	EUR	EUR	EUR	EUR	EUR	EUR
Man-Days	Man-Days	Man-Days	Man-Days	Man-Days	Man-Days	Man-Days
DIRECT COSTS:						
Net Civilian Manpower	150,240	240,432	348,788	32,680	60,83	6,00
A-6		158,21	128,17	10,00	10,00	0,00
A-4		40,98	303,42	2,34	2,34	0,00
A-2		5,20	85,38	1,04	1,04	0,00
B-6		16,80	18,20	35,34	35,34	0,00
B-4		24,63	18,20	1,06	1,06	0,00
B-2			142,50	15,20	15,20	0,00
Net Military Manpower		40,82				
Net On-Site Consultants Cost	812	22,789				
Net On-Site Consultants Cost	2,316	46,000	6,028	6,006		
Travel	3,045	3,294				
Total Direct	302,887	420,633	6,886	34,586	66,23	0,00
Indirect Cost Recovery (Civ. + Mil.)	111,397	230,849	2,506	21,486		
Indirect Cost Recovery (Consultants)	82	2,211				
Total Indirect Cost Recovery	193,486	233,060	2,646	21,106		
Total Project Cost	316,373	653,693	9,532	55,771	86,23	0,00
INDIRECT COSTS:						
Net Civilian Manpower						
A-6		1,387				
A-4		0,00				
A-2		0,00				
B-6		0,00				
B-4		0,00				
B-2		0,00				
Net Military Manpower						
Net On-Site Consultants Cost						
Net On-Site Consultants Cost						
Travel						
Total Indirect						
Indirect Cost Recovery (Civ. + Mil.)						
Indirect Cost Recovery (Consultants)						
Total Indirect Cost Recovery						
Total Project Cost						

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TYPE "B" COST ESTIMATE

Provide CIS Support for ISAF HQ JCCC



URGENT CRO PROJECT
PROJECT 2007/5VA30403-0

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1. REFERENCES

- A. SHAPE OPLAN 10302 REV 1 approved January 06
- B. PSR LING 092 Provision of the Combined Communications Control Centre and Associated Engineering Capability dated 1 March 06
- C. 1610.16 - HQ ISAF IX JCCC Directive dated 28 March 06
- D. NCSA - ISAF JCCC Tool Set (Draft Version 1) dated 9 May 06
- E. NCSA JCCC Draft Concept Of Operations Joint CIS Control Centre (JCCC) dated 4 June 07
- F. ISAF PSR CIS 050 FOC+
- G. ISAF PSR CIS 016/16A Air C2 Radio
- H. SHAPE 6100/STIJ4LEX/100/06-200092 dated 28 November 06

2. BACKGROUND

2.1 Recent experience of full spectrum operations by NATO Member Nations has confirmed the need for delegated CIS C2 authority and devolved network management capabilities, within an overall system of systems C2 architecture where appropriate NATO network control still remains centralized. CIS is a key enabler and hence the rapid exploitation of this capability is critical to meeting commanders' intent. To date NATO CIS C2 has relied upon a rear based centralized network management approach. Whilst the early period of ISAF operations were very well served by this centralist and relatively static approach to C2 of CIS, this has increasingly constrained the Commander's freedom of maneuver since Stage 2 expansion. As the implications of Stage 3 and 4 expansion have been researched it is clear that a significant amount of System C2 must be delegated.

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2.2 On transition from ISAF VIII to ISAF IX, IIQ ISAF CJ6 established an Interim JCCC capability with the following Mission:

"The JCCC is to provide robust and resilient NATO/ISAF CIS networks and systems within the Afghanistan JOA (Joint Operations Area), in order to facilitate effective C2 over eligible ISAF forces in accordance with operational priorities and COMISAF's Intent."

2.3 In hierarchical terms the JCCC is an integral part of HQ ISAF CJ6, responsible for CIS 'Execute' functions within ISAF. The Plan, Plan-Refine and Projects responsibilities will exist as other functions within HQ ISAF CJ6. The JCCC Concept of Operations is specified in Reference 1.4, which represents the JCCC IOC CONOPs. To achieve FOC, the JCCC requires specialized management and configuration control systems, which mirror the capabilities of the NNMC. Selected functions, posts and services within the JCCC have been studied by NCSA and were determined to require fill using contracted manpower. This PPP includes those contracted manpower requirements. The CIS hardware and software system build portion of the project is complementary to but not dependant on the contracted posts.

3. IMPLEMENTATION

3.1 All items to be procured either for data and voice network expansion shall adopt the same standard and specifications in use in ISAF. For interoperability, it is necessary that all new equipment be compatible with that equipment which is already fielded. If not, the receiving commands will not have the capability to interface with the required parties. To reach the mandated level of compatibility, it is essential to procure type-specific equipment (as outlined under Annex A) that is equal to the ISAF HQ. In addition to the generic equipment listed in Annex A several items are identified by manufacturer and nomenclature to ensure interoperability and in order to achieve compatibility with current equipment employed in the NATO Network Management Control Centre, which would act as the back-up to the JCCC in the event of catastrophic failure or hostile action.

3.2 SATCOM, Transmission Layer Management & Control tools Voice communications. In order to ensure end to end situational awareness of the data transmission path as well as oversight of the FOC + provided services the following equipment is required: Harris PRC-117 radios, UHF, SHF, and Ku band spectrum analyzers as well as UIIF and Ku band receivers. These tools shall be compatible with

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and in addition to existing monitoring capabilities provided through the FOC+ contract.

3.2.1 TACSAT Radio ancillaries. Each TACSAT radio must be complete with a full range of ancillaries, including mains power and batteries (as back up, and for isolated employment), loudspeakers, headsets, and cryptography fill devices and without risking its system security, rugged remote facilities up to 500 meters over fiber or copper wire. To provide the secure data facility, High Performance Waveform (HPW) Software and a Laptop is required on each of the requested radios.

3.3 WAN Layer Management & Control tools. The PSR has identified a requirement to obtain a NETMS system consisting of 1 network server and 2 workstations to be installed in the JCCC. A specialized server is a key component critical to the effective operation of the entire NETMS system.

3.4 NU and NS routing elements (WAN). The routing elements on the NS and NU will be managed and controlled both from the ISAF HQ JCCC and NCSA. The standard management and control set will be used as planned on the NGCS PTC consists of rack mounted server configurations listed in Annex A.

3.5 PABX. The NATO PABX's installed throughout ISAF are all based on the Siemens Hipath family, 4000, 3500, 3700 series. They are managed with an element manager called "Hipath Manager" currently located at NCSA HQ. The NCSA HQ Hipath manager also covers the NCN network. An additional Hipath Manager is needed for the JCCC in order to manage the NATO PABX's in ISAF in case ISAF is isolated from the strategic network. Annex A provides the details for the Hipath manager and two workstations required.

3.6 SHOUT. SHOUT is an IP/ISDN platform that allows full protocol conversion and acts as the interface between national PABX's and the NATO network in ISAF. The SHOUT is controlled and Managed through an application called SHOUT Watch (monitoring) and the SHOUT Builder. The application runs on a standard XP platform. Annex A lists the equipment required to manage the SHOUT capability in ISAF. SHOUT Watch and SHOUT builder will run on the same hardware as the PABX Hipath manager reducing project costs while conserving JCCC building space.

3.7 LAN and Applications. For the JCCC building to act as a full spectrum network management center the building will require significant power and network wiring to accommodate high power and bandwidth consumption. A layered network

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using medium capability switches and routers will be required for each of the three networks (NU, NS, IS). This network connectivity will need to be installed by contracted manpower in order to ensure the entire JCCC build works as a seamless system. Additionally, the quantity of management and monitoring equipment along with the training center resources and JCCC staff requirement, it will be necessary to perform an upgrade to the buildings power capability. As part of the building upgrade, building air conditioning will need to be improved in order to protect valuable hardware and create a satisfactory working environment.

3.8 Firewalls. NCSA/SMD centrally manages BPD (Firewall and Mailguard), the key element is a tool: Checkpoint Provider-1, a security management solution designed to meet the unique challenges of service providers and large enterprises. For service providers, it consolidates customer security policies into a centralized policy management architecture that scales to support thousands of customers while minimizing investment in hardware and labour. For a large enterprise, Provider-1 simplifies a complex security policy by segmenting it into more manageable sub-policies to match geographic, functional, or other logical groupings.

3.8.1 NCSA is currently licensed for 25 Provider-1 enforcement modules. In order to support ISAF new operations, the Agency will have to purchase a new pack of licenses, since the limit of the first pack has been reached. Checkpoint Provider-1 is located at the SHAPE/ NCSA server rooms. The JCCC requires an upgrade to Checkpoint Provider-1 in High availability mode requiring two CPPR-MDS-C-50 Provider-1 MDS Container 50 gateways.

3.8.2 To provide Control Centers with visual monitoring tools, "Smartview Monitor" is required. Access to the tool will be provided to any Control Center using one of their existing workstations. Central Checkpoint Provider-1 will have to be upgraded to enable that full monitoring featuring and requires two CPPR-PRO-50 Provider-1 MDS Pro Add-ons 50 gateways.

3.8.3 Tools and licensing needed to support ISAF is limited to software no additional hardware is required. The cost of these licenses is included in Annex A.

3.9 Network Security. The NITC will centrally manage the INFOSEC services. The JCCC capability is the secondary capability, strengthening the JCCC autonomy in case of disconnect from NCSA HQ. For the JCCC NS, IS and NU infrastructure the following is required for each network:

3.9.1 Host Based IDS (H-IDS) management infrastructure (ISS SiteProtector) + H-IDS on all critical servers.

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- 3.9.2 Network Based IDS (N-IDS) management infrastructure (Juniper).
- 3.9.3 Anti-virus Management infrastructure (McAfee ePO). This works with the AV that is part of the standard configuration for all workstations and servers.
- 3.9.4 Reporting capability to NCIRC SIMS (Security Management System) feeding to Aresight via VPN.
- 3.9.5 In support of security inspections the following is required: 3 laptop computers, upgrade of the existing HarrisStat license to Enterprise version, and an online Vulnerability Assessment Tool.
- 3.9.6 A network discovery tool sensor (IPSonar) per network is required.
- 3.9.7 Each network requires an Automatic Patching System (Microsoft WSUS).
- 3.9.8 DiskNetPro management infrastructure (in accordance with WAC project standards - P35) is required along with the DiskNetPro tool as part of all deployed workstations configurations.
- 3.9.9 McAfee AntiSpyware module is required on each workstation and server.

3.10 ISAF Command Net (ICN) Management Tools. To fill a CIS management capability gap in the implementation of the ICN network, the following is required:

3.10.1. A network connected workstation with monitoring software is required to enable remote monitoring of the Harris Microstar DLOS network.

3.10.2. A network connected workstation with monitoring software is required to enable monitoring of ICN RAD Modems for connectivity of the modems to an ISAF data domain and to perform remote monitoring and isolation of ICN faults at HQ ISAF, KAIA, KMNB and hilltop sites.

3.11 Specialized Cabling. To support the move of existing monitoring equipment and the installation of the NCSA CIS Management Toolset, specialized cable infrastructure is required to provide the backbone and horizontal, structured cabling within the planned JCCC infrastructure. This structured cabling will be contracted to ensure interoperability of the entire system within the JCCC and with existing ISAF CIS infrastructure. Existing user terminal equipment that will be moved to the JCCC will be connected to the LAN by ISAF personnel.

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3.12 FOC+ Network Monitoring. In conjunction with the FOC(+) Contractor's monitoring and configuration facilities under PSR CIS 050, the JCCC requires a FOC(+) network-overview monitoring tool to identify network faults in real time to provide Quality Assurance (QA) of contractually delivered performance, and ensure operational priorities are met by the contractor. This capability is also required to ensure end to end network availability and to isolate network faults regardless of where they occur in the network.

3.13 Air C2 Management Tool. A remote monitoring tool is necessary to identify failure on remote Air C2 sites over the network. This fills a key capability gap in the delivery of the Air C2 radio system.

3.14 Trouble Ticketing Systems. Both the Helpdesk and the JCCC System Control (SYSCON) require Trouble Ticketing systems to provide automated and auditable, through-life management of faults. For SYSCON, this system should ideally be linked to the monitoring tools so that trouble tickets are automatically generated in the event of network failure to specify the nature of the fault. The software should have a simple web interface, capable of being customized, to enable users to input faults and allow user-tracking of tickets. The system must also be able to audit the whole domain for software and hardware configuration data.

3.15 Terminal Equipment. Terminal equipment is required in the SYSCON to host the monitoring tools requested. This equipment should provide large, split screen displays providing multiple management capability from single, hands-free positions. Data back-up facilities are required for all monitoring and configuration tools. Terminal equipment for JCCC staff is not required as this will be recycled from existing resources. This terminal equipment identified in Annex A is in addition to the specialized hardware required to make specific systems operate.

3.16 Training. JCCC personnel working in the SYSCON will require specialist training on monitoring tools and applications. Pre-delivery training is required for ISAF X personnel, and should be conducted in Theatre. Pre-deployment training will be required for ISAF XI personnel, and should be coordinated by JFC-B using NATO training facilities. This will be an enduring requirement for subsequent rotations of ISAF. Exact training requirements will be dependant on the technical solutions implement. Training manpower will be contracted.

3.17 Power. All delivered equipment will use locally provided power as a primary and secondary source. However, critical equipments must have appropriate UPS

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capable of providing 60 minutes battery back-up power in the event of primary and secondary power failure. The most cost effective way to accomplish this is through installing a single building UPS to provide back-up to the entire building. Structured cabling will be installed to connect equipment to the building UPS. This cabling will be done in conjunction with the installation of the CIS structured cabling environment in order to reduce project cost. The building will require a power connectivity upgrade in order to accommodate the quantity of high power consuming equipment to be installed.

3.18 Communications Management Network. In order that the management and monitoring of the active networks does not degrade the performance of the managed networks it is imperative to build a management network parallel to the operational networks. Additionally it is self defeating for the management and monitoring function to be dependant on the operational network in order to manage the operational network. To install, and integrate the communications management network 9000 metres of fibre cable along with the appropriate connectors and patch cables will be required. Existing switching devices will be used at the core of the network requiring additional gigabit interface converter (GBIC) transceivers to be installed at each attached switch and server connection.

3.19 The Host Nation shall coordinate technical implementation efforts of all the contractors in accordance with INFOSEC provided security rule sets for the networks.

4. INTEGRATION

This project is required to deliver coherent integrated capability, rather than 'piece meal' components (accepting that some capability will be contractor provided). While HQ ISAF personnel may assist with some specific tasks, responsibility for installation, integration and testing of the system as a whole as well as the building LAN will be contracted within the scope of this project.

5. SECURITY ACCREDITATION AND SYSTEMS MANAGEMENT

5.1 Maintenance of Current Capability. The implementation of this project must not interfere with the current delivery of Signal Support Group's (SSG) capability. Continuity of current ICS and CIS C2 capability must be maintained throughout the implementation phase.

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5.2 Compliance. The equipment to be procured has to comply with all current NATO standards, including NATO INFOSEC requirements. All software must receive AFPL approval before procurement.

5.3 Environmental. Environmental conditions in Afghanistan are extremely harsh due to extreme temperature fluctuations, airborne dust particles and heavy winds. All delivered capability must be able to continue to operate effectively within these conditions for an extended period. All external units must be weather proof and be self-contained for environmental conditioning. It should be assumed that all internal units would be housed in an environmentally controlled room provided by the local host organization.

5.4 Information Security. All equipment used for storing or processing unprotected classified information ('red equipments') must be capable of being stored in a secure manner when not in use. This may be by way of removing key components (such as hard drives), removing keying materials or other classified data or by being able to place the equipment in a suitable and approved security container.

5.5 Size and Footprint. Real estate and working space at IIQ ISAF is at a premium. It is therefore essential that all provided equipment has as small a footprint as practicable. In particular, all network components should be easily mounted in appropriate 19" racking with contiguous air circulation. To achieve this 19" 42U racks will be acquired to house servers, switching devices, and routing devices.

5.6 Transportability. All equipment provided must be capable of being transported to Afghanistan, on pallets, on military tactical aircraft.

6. LIFE CYCLE SUPPORT CONCEPT

6.1 The Host Nation intends to provide equipment with either a one or three-year warranty, as appropriate. The software to be procured will be obtained with the standard warranty and be added to the holdings of the existing licenses with standard maintenance support applied to it.

6.2 CIS support personnel in ISAF provide maintenance of locally installed components under the direction of the NCSA Network Control Centre (and the future JCCC). Procurement and replacement of consumable items are the responsibility of the using unit with NCSA coordination.

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6.3 Equipment failing under the terms of any warranty will be serviced under the direction of the Host Nation Logistics Support Team agreements.

6.4 Spare Parts. A limited amount of spare equipment will be provided to ensure continuity of operations in such case of equipment failure requiring vendor repair. The spares will be managed by the senior user at a site near the JCCC. Initial spare equipment of 10 percent of the total hardware cost is required to maintain the required performance and reliability. Spare parts to replace any of the spares used during the lifetime of the equipment will be provided through the yearly O&M budget.

6.5 Training. Management and monitoring system as well as JCCC operations training will be needed in order to ensure the effective use of the JCCC, the CIS system and all sub-systems. This training will cost an estimated five percent cost of the total hardware costs initially and five percent of the total hardware and software annually as turnover in ISAF is at a high rate.

6.6 Documentation. Full system and application documentation must be provided on all hardware and software to enable JCCC personnel to carry out 1st & 2nd Line O&M duties in accordance with NCSA Logistic Support Policy and Operating and Support Instructions.

6.6.1 The following documentation will be requested: as built documentation, system/sub-system documentation, O&M documentation, COTS documentation, and training documentation.

6.7 Usability. Standard COTS products, routinely used by NATO CIS operators/maintainers, are to be used to the greatest extent possible. Equipment/architectures which require specialist training, such as Sun Unix Servers, will be avoided where feasible. When the proper management or monitoring tools requires specialized knowledge to operate, training will be provided as part of this project.

7. RISK MANAGEMENT

The objectives of risk management are to identify, analyze and give priorities to risk items before they become either threats to successful project completion or major

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sources of rework, to establish a balanced and integrated strategy for eliminating or reducing the various sources of risk, and to monitor and control the execution of this strategy. Identified project related risks are described in below table:

Risk Management Table

Type of Risk	Probability of Occurrence	Impact Occurrence	Risk Mitigation Measures	Risk owner
Unrealistic Schedules	High	Medium	Streamlined acquisition processes, Planning and Control	NC3A, JFC Brunssum & IS
Unrealistic Budget	Medium	High	Planning and Control	NC3A & IS
Inappropriate Requirements	Medium	High	Requirement Screen	JFC Brunssum
Accreditation	Medium	High	Planning, control, use of integration contractor	NC3A
Equipment Theft	Low	High	Physical Security	ISAF
Interdependency	Low	Medium	Planning and Control, use of integration contractor	NC3A/ NC3A
Shortfalls in externally supplied components and services	Low	High	Planning and Control	NC3A

Table 1. Risk Management

8. SCHEDULE

The primary milestones for this project are shown in the table immediately below. This schedule reflects the Host Nation's proposal to provide the required capabilities to meet the NATO operational requirements for ISAF:

Milestone Description	Date
Authorization	3Q/2007
IFB/RFQ releases	4Q/2007
Contracts awards	4Q/2007
Site installation	3Q/2008
FSA	4Q/2008
JFAI Request	1Q/2009
Project Closure	4Q/2010

Table 2. Major Project Milestones and Dates

9. REQUIRED RESOURCES (FUNDS AND MANPOWER)

The estimated cost of contracted manpower, CIS hardware, software, local area networking equipment, TACSAT radio terminals and ancillary materials, as well as the costs of initial operational support, and spares are detailed in Table 3:

COST ELEMENT	COST (€ 0)
Contracted Manpower	9,250,000
Prime Mission Equipment (hardware)	2,381,000
Prime Mission Equipment (software)	474,500
Initial Spares (10% of hardware)	238,100
Start-Up tools and supplies (1% of hardware)	23,810
Training (5% of hardware)	119,050
Installation	870,000
Transportation to CLD Bruussum (6% of hardware)	142,860
Documentation (3% of hardware and software)	85,665
Contingencies (10% of project costs)	1,358,499
COSTS TOTAL	14,943,484

Table 3. Estimated Project Acquisition Costs

9.1 Annex A provides, for each cost element, a table showing the components and their related costs.

9.2 O&M Costs. The O&M costs associated with this project result from the need to provide contracted manpower, replacement parts, software license renewal and replenishment support. The amount of contracted manpower is significant as the project provides for a bridging arrangement to future CE as the ISAF X CE is fixed. The table in Annex B identifies the estimated O&M costs.

9.3 All equipment will be covered by either a one or three year advanced replacement warranty. Follow-on O&M costs will be covered by the MBC.

The supportability concept is described in Table 4:

Level	Responsibility	Remarks
1st Line	JCCC (SSG)	
2nd Line	JCCC (SSG)	Basic Hardware
	Contractor	Basic Hardware
		Software/Major Hardware
3rd Line	Contractor	Through NCSA/NC3A

Table 4: Supportability Concept

9.4 Additional manpower will be required to support the JCCC concept both in and outside theatre. Analysis of the required capability in comparison to the agreed ISAF X CF clearly indicates the need for the following posts which should be staffed using contracted manpower to maintain continuity of knowledge and experience. It will prove impossible to maintain this expertise using NCSA or national military manpower as military personnel rotate into and out of theatre. These posts should be funded through this project for one year, with funding provided by NCSA thereafter. A single contract should be let to provide the appropriate level of service. Table 5 shows the functions in theatre that are to be covered by this contract.

2 nd Line Hardware Support	QTY	IS Support	Quantity	Staff Support	QTY	Depot 26 & 3 rd Line Support	QTY
Radio Systems Operator and Maintainer	3	LAN/WAN Management	2	CIS Training	4	Repair/ Exchange Spec/ Receipt & Dispatch Supervisor	3
PABX Tech	2	ADP Sys Admin	4	Help Desk	6	Hardware Tech	1
Comms Specialist/ BME Tech	3	Database Admin	4	ISAF Configuration Management	1		
Air C2 Network Tech	2					Total positions	37
VSAT Tech	2						

Table 5: Contracted JCCC support positions

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9.5 The contractors required will ensure greater expertise, specialization and continuity in theatre and will adjust accordingly the future CE.

9.6 Air C2 Network Tech. These positions will be responsible for the support, maintenance and management of the Air C2 Network located throughout ISAF. Also they will diagnose equipment or system faults and perform user maintenance of equipment and links. This area will require shift duty. Two contractors for SSG ISAF HQ are required.

9.7 PABX Tech. This area will cover the responsibility for local installation, set-up, configuration, and connectivity of Public Access Branch Exchanges (PABX) and connected communications systems. It will include the maintenance of configuration schemes in order to improve future set-ups and installation procedures. This area will require shift duty. Two contractors for SSG ISAF HQ are required.

9.8 Radio Systems Operator and Maintainer. An area that needs to cover support to the Radio Section which provides operational and strategic radio based communications with SHF Line of Sight, SII/UHF Satellite, HF, and UHF tetra systems. Two contractors for SSG ISAF HQ and one contractor for KMNB MCM team are required.

9.9 Comms Specialist/BME Technicians. This area will cover the responsibility for local installation, set-up, configuration, and connectivity of Bandwidth Management Equipment (BME) and connected communications systems. It will include the maintenance of configuration schemes in order to improve future set-ups and installation procedures. This area will require shift duty. To fulfil this requirement 3 contractors will need to be hired for SSG ISAF HQ.

9.10 VSAT Tech. This area will cover the technical control, system engineering and installation of the increasing amount of VSAT equipment being installed in theatre. It will include diagnosis of equipment or systems faults and performing user maintenance in ISAF AOO. Two contractors are required for SSG ISAF HQ.

9.11 LAN/WAN Management. These contractors will operate and maintain the ISAF Local and Wide Area Networks (LAN/WAN) to include sites throughout the ISAF Theatre. Additionally they support policy and procedures production that will ensure the performance and integrity of the LAN/WAN, and ensures proper

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implementation. Other tasks include installing and maintaining of active equipment (routers and switches), performing fault and problem management to ensure services are being maintained according to requirements. Also they monitor, prioritize and mitigate problems to ensure network services are maintained. This area will also support Network Configuration Documentation and Design. This area requires shift duty. Two contractors are required for SSG at ISAF HQ.

9.12 ADP Systems Admin. These contractors are responsible for monitoring of the ADP systems and all ADP Security related areas. Also they will implement necessary ADP Security settings into the ADP System, as well as, install, operate and maintain network components (e.g. Servers, Switches, Routers). They will be responsible for all networking support beyond the capabilities of the Helpdesk section, including support in installation, operation and maintenance (IOM) of the NATO-Support Functional Area Services (FAS). This includes installation of workstations, relevant software images, creation and monitoring of user accounts. Additionally they will conduct data back up and data recovery actions, maintain configuration data including domain information, settings and changes. They are responsible for the ADP equipment and Server Room including inventory, maintenance and cleaning. Also they will update & account for crypto. They will also implement new software and support user training in ADP matters. This area will require shift duty. Three contractors for SSG ISAF IIQ and one contractor for the KMNB MCM team is required.

9.13 Database Administration. The expansion of the ISAF mission has resulted in a large increase in the size the ISAF headquarters community. This has generated an additional requirement for IS support staff. Programs such as JOINS, iGLEOSit and C2PC require a large amount of support to keep them functioning effectively. The database administrator will be responsible for the monitoring and maintenance of the ISAF operational databases, the applications which use them, and the servers they run on. Additionally they coordinate and implement upgrades to the ISAF databases in close coordination with the Chief System Administrator and the Chief IS. Also they conduct the day to day operations on the databases, produce SOPs and User Guides for the Management and use of the operational databases. The database administrator also assists the Helpdesk with installation of software related to the client-end of the databases and supports user training when required. Four contractors for SSG ISAF IIQ are required.

9.14 CIS Training. SSG will have a training responsibility for composite headquarters as they rotate through the ISAF role. Experience prior to the ISAF IX deployment has shown that it is not possible to carry out all necessary training prior to deployment. Staff and operators will require training in a wide variety of

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communication systems and IS applications. Refresher training will also be required. Two contractors system related, for SSG ISAF HQ and two contractors application related, for SSG ISAF HQ are required.

9.15 Help Desk. The current level of Help Desk Manning is inadequate to support 24/7 manning. From TOA Stage 3 onwards the operational tempo has, and will continue to increase markedly and the CJOC and staff branches will be fully operational 24/7. This is the primary point of contact for the staff users in any CIS related problems. Contractors will deploy images for workstation, and support production of images for new hardware. They will be responsible for first level user support. The contractors in the area will also support Depot 26 in the installation of new PCs. This area will require shift duty. Although still insufficient to meet the total needs of ISAF an absolute minimum of six contractors for SSG ISAF HQ are required.

9.16 ISAF Configuration Management. The ISAF Configuration Management Officer (CMO) post is an integral and essential requirement in the CIS management process within ISAF. The CMO will provide effective configuration management (CM) and control of all CIS systems within the NS, MS, and NU environments. The duties encompass not only CM but also quality control and performance measurement. The CMO is the in-theatre representative of the NCSA Configuration Management and Quality Management (CMQC) Branch within the Systems Management Division (SMD). He is the POC for all matters relating to the day-to-day management of the fielded CIS operational baselines, change management, patch management and software license management of the in-theatre systems. As such, he is required to interface with operational staff, NCSA HQ and NC3A Field Office staff on a daily basis. One contractor for SSG ISAF HQ is required for this responsibility.

9.17 Hardware Tech. This contractor will perform depot level maintenance, repair and upgrade of data communication and voice switching systems and its peripherals as well as computers, mainly PCs, such as stand alone PC workstations and servers. Repair of peripheral equipment down to component level such as modem, printer and facsimile is also required. This person will perform when required work assignment, equipment inventory and regular status checks of tools and test equipment as well as ensure replenishment of bench stock and office supplies. The contractor will establish and maintain a maintenance cleaning schedule for all CIS equipment. Additionally this person will perform daily administration duties of the NATO Depot Support System (NDSS) server and network. Also the contractor will receive/send NDSS Data transmissions. One contractor at Depot 26 ISAF HQ is required.

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9.18 Repair / Exchange Specialist / Receipt & Dispatch Supervisor. These contractors are responsible for accounting for ISAF owned Communications and Information System (CIS) property at HQ ISAF, Kabul Multi National Brigade (KMNBB) and Kabul International Airport (KATA) in accordance with NCSA instructions. They are responsible for the correct receipt, storage, issue, ordering and stock control of the total supply inventory including repairable and non-repairable communications equipment within the three ISAF locations. Additionally they are responsible for tracking all equipment submitted to the repair cycle. They will produce accurate input of information to the NATO Depot Support System (NDSS) computer in order that Equipment Maintenance Requests (EMR) are processed in accordance with current procedures. They supervise the operation, care and servicing of material handling equipment. They are responsible for preparing manifests and coordinating shipments to and from Depot 26. Three contractors at Depot 26 ISAF HQ are required for these responsibilities.

10. PROCUREMENT STRATEGY

10.1. Due to the short time frame for the requirement of equipment stated in the PSR as 31 December 2006 and in order to meet the urgent provision of capability, Host Nation recommends using the Alliance Operations and Missions (AOM) ICB Procedure as laid out in Annex 2 of AC/4-D(2007)0003 for the following requirements:

- 10.1.1 Contracted manpower
- 10.1.2 Hardware (with exceptions listed at 10.2 to 10.6), all non-Windows Software and associated testing, installation and integration.

10.2. For the various Microsoft Software License and Work Station Operating System Software, NC3A requests exemption from ICB and authorization to procure via sole source through the NATO Enterprise Agreement.

10.3. Cabling installation: NC3A requests exemption from ICB and recommends Sole Source authorization to use the winning contractor from a recent BOA PLUS competition for ISAF IIQ - Additional Cabling (CO-11813-OPL, Unisys Corporation, USA) to allow the same team to work on this project. This will reduce overall costs as they will be already familiar with the ISAF HQ layout.

10.4. For the controlled PRC-117H TACSAT radios, NC3A requests exemption from ICB and authorization to procure via Sole Source through a United States Government Federal Military Sales (USG FMS) case. A separate USG FMS case will be required to acquire the fill devices needed to support use of the radios.

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10.5 Air C2 Management Tools: Project 2005/5VA30284 "Provide Radio Network for AIR Operations in Support of Stage 1 and 2 of ISAF Expansion" is providing this service throughout theatre via a contract CO-11646-OPL awarded to SurCom International, NL. In order to maintain commonality and to reduce the overall costs of the project, authorization is sought to procure the Air C2 Management tools via Sole Source to this contract.

10.6 For the Network Security items listed in Annex A, LIN 2.7, NC3A requests exemption from ICB and authorization to procure via sole source through amendment of contract CO-9973-OPL awarded to Telindus NV (Belgium).

The procurement method for each type of equipment required is outlined in Table 6:

<u>Equipment Type</u>	<u>Procurement Method</u>
ICCC hardware, non-Windows Software, contracted manpower	Alliance Operations and Missions ICB
Cable Installation	Sole source to winner of BOA PI US competition CO-11813-OPL, Unisys, USA
Air C2 Management Tools	Sole source to winner of contract CO-11646-OPL, SurCom, NL
Windows Software	Sole source to NATO Microsoft enterprise agreement
TACSAT radio equipment	PRC117 radio and ancillaries- Sole source to USG FMS , COMSEC fill devices- Sole source to USG FMS
Network Security	Sole source to winner of contract CO-9973-OPL, Telindus NV, BE

Table 6. Equipment Procurement Method

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COST BREAKDOWN

LIN	Requirement Description	Item	Brand name required	QTY	Unit Cost in C	Total Cost in €
1.	<u>Manpower</u>	Full Time Contracted Position (1 year)		37	250,000	9,250,000
2.	<u>Hardware</u>					
2.1	SATCOM, Trans Layer Manage & Control tools					
2.1.1		PRC-117 Radio (on the pause ancillaries)	Harris	4	75,000	300,000
2.1.2		Spectrum Analyzer (1 per band at JCCC, 2 at NCSA)		5	12,000	60,000
2.1.3		UHF Signal analysis SD/W and PC		2	10,000	20,000
2.1.4		Wideband receivers		5	10,000	50,000
2.2	WAN Layer Management & Control tools					
2.2.1		NETMS (consisting of 1 network server and 2 WSs)		1	14,000	14,000
2.2.2		Software License, NETMS 2.X		1	42,000	42,000
2.3	NU, NS routing elements					
2.3.1		Sun Fire V480 Server and ancillaries	Sun	2	36,000	72,000
2.3.2		Sun StorEdge Media Tray and ancillaries	Sun	2	9,000	18,000
2.3.3		Workstations for HP Openview and ancillaries	HP	8	3,500	28,000
2.3.4		24 inch or larger Color displays		8	2,000	16,000
2.3.5		Server G4 Model, ancillaries 3.40 GHz Processor	HP	2	15,000	30,000
2.3.6		NNM SE 250 Nd Pk 7.50 Solaris LTU	Solaris	2	7,500	15,000
2.3.7		Cisco LMS 2.5 Enterprise WIN/SOL	Cisco	1	8,000	8,000
2.3.8		Cisco QoS Policy Mgr 3.2 WIN; Unrestricted	Cisco	1	12,000	12,000

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		Devices				
2.3.9		Cisco Secure ACS 3.3 for Windows	Cisco	1	5,000	5,000
2.3.10		NetScout nGenius Ethernet/Fast Ethernet probe	NetScout	2	8,000	16,000
2.3.11		NetScout nGenius E1/T1 WAN probe	NetScout	2	8,000	16,000
2.3.12		NetScout nGenius Performance Manager	NetScout	2	39,500	79,000
2.3.13		BlackBox ServView 17"	Black Box	2	2,000	4,000
2.3.14		BlackBox ServSelect II with IP Span USB/VGA	Black Box	2	2,000	4,000
2.4	PABX and SHOUT					
2.4.1		Hipath Manager 4000 with 30 licenses	Siemens	1	115,000	115,000
2.4.2		Power user workstation and ancillaries		2	3,500	7,000
2.4.3		Hipath Manager installation fee	Siemens	1	7,000	7,000
2.5	Building LAN					
2.5.1		Blade workstations		46	2,000	92,000
2.5.2		Blade servers		6	10,000	60,000
2.5.3		Color laser printers		7	3,000	21,000
2.5.4		Display, individual positions		100	700	70,000
2.5.5		50" Display		9	4,000	36,000
2.5.6		Graphic cards dual monitor capability		45	800	36,000
2.5.7		Graphic Cards for large displays		9	1,000	9,000
2.5.8		Medium Switches (Fiber ports)		12	6,000	72,000
2.5.9		Medium routers		3	5,000	15,000
2.5.10		Structured Cabling lot		1	135,000	135,000
2.5.11		Cabinet 42U, environmentally controlled		25	3,000	75,000
2.5.12		KVM over IP distribution devices		25	2,000	50,000
2.5.13		Hard drive data back up system		5	2,000	10,000
2.6	Firewalls					
2.6.1		Checkpoint Provider-1 in High availability	Checkpoint	2	80,000	160,000

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		mode: 2 x CPPR-MDS-C-50 Provider-1 MDS Container 25 gateways				
2.6.2		Upgrade 2XCPR-PRO-50 Provider 1 MDS Pro Add-on 50 Gateways	Checkpoint	2	60,000	120,000
2.7	Network Security					
2.7.1		NCIRC Security Management System		3	5,000	15,000
2.7.2		Laptop computers with security inspection software		9	2,000	18,000
2.8	ISAF Command Net Manage Tools					
2.8.1		Harris Microstar DLOS Monitoring workstation and software	Harris	1	3,000	3,000
2.8.2		RAD Modem Monitoring workstation and software	RAD	1	3,000	3,000
2.9	FOC + Service Level Management					
2.9.1		FOC(+) service level management servers		3	10,000	30,000
2.10	Air C2 Management Tool					
2.10.1		SurCom Operator Position Base Hardware, License and accessories	SurCom	1	15,000	15,000
2.11	Trouble Ticketing System					
2.11.1		Servers, BMC Remedy IT Service Management		2	10,000	20,000
2.12	Communications ManagementNetwork					
2.12.1		Structured cabling, connections and patching		LOT	30,000	30,000
2.12.2		GBIC Transceivers (1 per connection)		100	2,000	200,000
2.13	Power & Building Upgrade					
2.13.1		Building UPS - 60,000 VA		1	38,000	38,000

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2.13.2		Room Size Environmental Control Units		20	3,000	60,000
2.13.3		Building power upgrade		1	50,000	50,000
		Hardware Sub-Total				2,381,000
3.	<u>Software</u>					
3.1		MS Server and Workstation Enterprise Licenses	Microsoft	85	1,000	85,000
3.2		Network monitoring software (Spectrum, 3 for WAN layer, 3 for FOC + SLM)	Spectrum	6	4,000	24,000
3.3		HP Openview Enterprise V7.5-unlimited users	HP	9	4,000	36,000
3.4		Cisco Works software licenses	Cisco	9	4,000	36,000
3.5		BMC Remedy IT Service Management	BMC	2	10,500	21,000
3.6		HarrisStat license to Enterprise version upgrade	Harris	3	12,000	36,000
3.7		Online Vulnerability Assessment Tool		3	5,000	15,000
3.8		IPSonar network discovery tool sensor	IPSonar	3	12,000	36,000
3.9		Microsoft WSUS Automatic Patching System	Microsoft	3	12,000	36,000
3.10		DisknetPro management infrastructure	DisknetPro	3	4,000	12,000
3.11		DisknetPro management	DisknetPro	85	100	8,500
3.12		Host Based IDS (H-IDS) management infrastructure ISS SiteProtector (servers and host, WS licenses)	ISS SiteProtector	3	15,000	45,000
3.13		H-IDS (Servers/Management/monitoring tools)		39	1,000	39,000
3.14		Juniper Network Based IDS (1 per network)	Juniper	3	15,000	45,000
		Software Sub-Total				474,500
4.	<u>Installation, Integration, Testing</u>					
4.1		Site Survey (Travel & Per Diem)		20	3,000	60,000
4.2		Factory and Initial Capability Acceptance Testing		45	2,000	90,000

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4.3		Cable and hardware installation (man-days)	120	3,000	360,000
4.4		Equipment, Software and System Installation, Configuration & Testing (man-days)	120	3,000	360,000
		Installation Sub-Total			870,000

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OPERATIONS AND MAINTENANCE COSTS

Type of cost	2007 Year 1 (€)	2008 Year 2 (€)	2009 Year 3 (€)	2010 Year 4 (€)	2011 Year 5 (€)	5 Years Total (€)
Contracted Manpower Positions	0	2,312,500	9,250,000	9,250,000	9,250,000	30,062,500
Transportation Geilenkirchen/ Afghanistan (once, 3% of hardware)	0	71,400	0	0	0	71,400
Hardware Maintenance (3% of hardware for 2 years, 5% after 2 years)	Warranty	71,400	71,400	119,000	119,000	380,800
Non-Warranty repairs (0.5% of hardware)	0	11,900	0	0	0	11,900
Software Licensing/ Maintenance (10% of software)	0	47,500	47,500	47,500	47,500	190,000
Training (5% hardware and software)	0	142,800	142,800	142,800	142,800	571,200
Annual Total	0	2,657,500	9,511,700	9,559,300	9,559,300	31,287,800

