

NATO Air Command and Control System Management Agency
System Management Industrial Support (SMIS)

CO-9772-ACCS



Part 3
Statement of Work

Table of Contents

1	Introduction	3
2	General Scope	4
3	Project Management.....	4
4	Task Order Management	5
5	Essential General Qualifications for All Contractor Personnel.	8
6	Responsibility Allowance.....	8
7	General Areas of Support, Specialisation and Expertise	9
8	Detailed Requirements and Labour Categories	10
9	Configuration Management.....	22
10	Quality Assurance	23 22
11	Contract Data Requirements List	24 23

1 Introduction

- 1.1 The NATO Air Command and Control System (ACCS) aims to provide NATO with a fully integrated Air Operations and Airspace Management System to replace the existing range of outdated and inflexible systems currently being employed throughout the ACE region. The development programme is extremely challenging, both in terms of technical complexity and time scale of implementation. It requires the development and implementation of a significant amount of software and hardware and due to the distributed nature of the system, has many interoperability and system integrity challenges. ACCS is too large and embracing to be developed through a single implementation project, and hence it will be procured as a series of projects, mostly building on previous projects, to develop the overall planned capability.
- 1.2 The NATO Air Command and Control System Management Agency (NACMA) was created to provide central planning, system engineering, implementation and configuration management for ACCS, and to ensure system integrity without prejudice to the existing configuration control responsibilities of the operational commanders for in-service systems. Such activities include improvements to existing systems, design studies on future systems and the development of new systems. The Purchaser's role can thus be summarised as threefold; ACCS planning, interoperability and integrity management and the implementation of ACCS projects.
- 1.3 ACCS planning covers the long term planning of the ACCS Project and the definition of the constituent specific projects. In addition to the foreseen projects, it is inevitable that the ACCS operational requirement will be subject to change, and this will result in changes to existing projects or the development of additional projects, all of which have to be allowed for in the planning activity. Such changes may range from the simple modification of message formats to be handled to the introduction of complete new requirement areas such as Ballistic Missile Defence or Alliance Ground Surveillance. Consequently, NACMA also undertakes analysis of all new and changed requirements, which includes the translation of Operational Requirements into detailed design requirements, the determination of the scope of the functional change required to meet them, derivation of the associated performance requirements, determination of the appropriate time scale for their introduction and determination of the financial cost associated with their implementation.
- 1.4 Managing interoperability and integrity includes monitoring the development of other systems with which ACCS will be required to inter-operate, monitoring the evolution and application of communication and interoperability standards, and ensuring that the differing physical implementations of the system can operate safely and reliably as an integrated system.
- 1.5 Implementation of ACCS projects, both current and future, covers their scope and cost definition, through authorisation to proceed, to subsequent management of the industrial implementation contracts. It also includes co-ordination with nations and other bodies that might be managing ACCS implementation projects on behalf of NATO. Currently, NACMA is managing the initial ACCS implementation contract which provides for the development of the core software and the System Test and Validation Facility (STVF). This contract, referred to as the ACCS Level of Operational Capability 1 (ACCS LOC1) contract, is highly complex and challenging and as such it requires a flexible mix of highly experienced technical and managerial staff to oversee its execution.

- 1.6 As stated earlier however, ACCS is wider than the ACCS LOC1 contract and as a result the Agency will have new tasks to perform. These tasks may include, but not be limited to further replication of ACCS, including replication into new member nations; the provision of a fully Deployable ACCS Component (DAC), including deployable entities, deployable communications and deployable sensors; replacement of existing static sensors and the possible introduction of new types of sensors; the addition of new functional capabilities within the S/W; broadening and deepening links with the maritime environment; and of course, addressing other emerging requirements.

2 General Scope

- 2.1 In order for NACMA to successfully undertake its mission, it has assembled a wide ranging, multi-disciplined team of system experts. However situations may arise whereby NACMA needs to reinforce these areas of expertise to handle peaks in workload, or where very specialised expertise, not currently available within the NACMA organisation, is required for limited periods of time, and it is the provision of this System Management Industrial Support capability that is the subject of this Contract.
- 2.2 The precise services that will be required clearly cannot be identified completely at present. Therefore, the Contractor has to have the capability to provide, either in-house or by teaming up/subcontracting, qualified staff to meet a broad range of requirements, including those described in the paragraph 6 below. These staff shall be available at short notice, (see paragraph 4) and shall be normally required to work at the NACMA main facility. However, as required, the staff may be requested to work at other locations to be determined by NACMA, including off site locations in any NATO nation.
- 2.3 All staff assigned to this contract shall meet a number of Essential General Qualifications (see paragraph 5) and shall additionally meet the specific qualifications associated with their particular discipline (see paragraph 6). Tasking for support will be placed in accordance with the identified Task Order (TO) ordering procedure (see paragraph 4). Such tasking shall result in the allocation of staff previously identified in the bid documentation or where such a staff member is no longer available, with a staff member of equivalent experience and seniority. The Purchaser reserves the right to reject proposed staff members if they do not, in the Purchaser's assessment, meet the required capability, experience and seniority requirements.

3 Project Management

- 3.1 Project Organisation
- 3.1.1 The Contractor shall employ a programme management structure to ensure the efficient control and execution of all tasks. This structure shall be led by an appointed Contractor Programme Manager (CPM) who shall be responsible for ensuring efficient management and administration of the contract and all subordinate Task Orders. The CPM shall provide the primary interface with the Purchaser Project Manager (PPM).
- 3.1.2 The CPM ensures that prescribed activities are carried out in accordance with this Statement of Work and provisions stated elsewhere in the contract. Duties and

responsibilities of the CPM include providing fiscal control as well as administrative and technical direction to both technical and support task managers and individual TO personnel.

- 3.1.3 The name of the CPM and an alternate or alternates who shall act for the Contractor when the CPM is absent shall be designated in writing to the Purchaser. The Purchaser's requirement is to be able to communicate via telephone, facsimile and/or electronic mail with the CPM at any time.
- 3.1.4 Senior Representative: Whenever there are Contractor Staff working within the NACMA facility, the Contractor NATO Program Manager shall be designated as the Senior Representative (SR) to represent the CPM at on-site meetings, and to manage the Contractor's internal administrative tasks. The SR's primary duties and management responsibilities will be provided without direct billing. The SR will coordinate the activities of the various on-site Contractor personnel, and reports directly to the CPM.
- 3.1.5 Reporting Responsibility: Consultants allocated under a TO shall be responsible for liaising between the Contractor (SR and/or CPM) and the Purchaser (PPM or NACMA staff member designated by the PPM) on day-to-day issues with regard to that Task. If more than one consultant is allocated to a TO, the SR shall adopt this role. This role shall include co-ordinating on work performance plans, travel requirements, company communications, deliverables and other items required to complete the tasking. These responsibilities will be provided without direct billing.

3.2 Contract Progress Review

- 3.2.1 The Purchaser will meet with the Contractor annually (usually in conjunction with the annual Project Status Review – see para 4.4.2) to review contract performance.
- 3.2.2 Minutes of these meetings, including copies of all presentation materials or briefings, will be reduced to writing within five (5) working days after the meeting by the Contractor and signed by the CO and the Contractor. Should the Purchaser not concur with the minutes, the Contractor shall set out in writing any area of non-concurrence. Appropriate action will be taken to resolve any area of non-concurrence.

4 Task Order Management

- 4.1 Purchaser requirements will be specified and accomplished according to TOs placed under the contract. There will be Types "A" and "B" TOs as described below.
- 4.2 Definitions:
 - 4.2.1 Type "A" TO: type TO will be a discrete, clearly scoped task with deliverable(s), for which a comprehensive A quotation and firm price can be negotiated
 - 4.2.2 "Type "B" TO. A type "B" will be a task for which duration, scope and deliverable(s) cannot be immediately defined, but where the amount of effort will depend on geographic location, mission, and requirement.

4.3 Ordering Procedures

- 4.3.1 As the need arises for work in accordance with this Statement of Work, the CO will provide the Contractor with a Draft Task Order (DTO), including: the task, required deliverables, required delivery schedule, security classification, place of performance and any other pertinent information.
- 4.3.2 No Contractor effort on a requirement is authorised until the CO has issued a Formal Task Order (FTO). A FTO may be issued in writing/ electronically or by facsimile. In urgent and exceptional cases FTO s may be given verbally. Any FTO so issued needs to be backed up by a written FTO as soon as possible. The PPM and/or the Task OPR are authorised to provide technical direction to the Contractor but do not have the authority to direct the Contractor in any manner which would change contract requirements.
- 4.3.3 Within 20 days receipt of a Type A DTO, or within 10 days of receipt of a Type B DTO, the Contractor shall provide a written technical and price proposal to the CO and the PPM. The proposal shall include the following information as appropriate:
- 4.3.3.1 Proposed Statement of Work, including task descriptions and associated schedule of meetings
 - 4.3.3.2 Description of any proposed deliverables and associated delivery dates including any intermediate deliverables.
 - 4.3.3.3 Proposed start and completion dates.
 - 4.3.3.4 Proposed labour categories, man-days and prices by CLIN required for any deliverable(s). The Contractor shall use only the labour categories specified in each task order.
 - 4.3.3.5 Resumes of the proposed employees and qualifications statement, demonstrating that they meet the required TO specific specialisation and expertise as indicated in paragraph 7, and their proposed labour categories to perform the task order, including the proposed task leader.
 - 4.3.3.6 Place of performance.
 - 4.3.3.7 A total task order price breakdown including labour and any other reimbursable material and equipment and travel proposed under the TO.
 - 4.3.3.8 In case of a DTO Type "A", milestone payments plan.
 - 4.3.3.9 In the case of a Type "A", a complete list of companies approached and a copy of all proposals considered viable by the Contractor.
- 4.3.4 As deemed necessary by the CO, discussions with the Contractor will be initiated.
- 4.3.5 After agreement is reached between the Purchaser and the Contractor, the CO will issue an FTO. Each FTO will include the following information:
- 4.3.5.1 Contract number, FTO number, date of the FTO.
 - 4.3.5.2 Statement of work.
 - 4.3.5.3 List of deliverables.
 - 4.3.5.4 Start and completion dates.

- 4.3.5.5 Labour categories, man-hours for each deliverable.
- 4.3.5.6 Potential travel locations, if applicable.
- 4.3.5.7 Total task order price including labour and any other reimbursable material and equipment and travel agreed under the TO including labour.
- 4.3.5.8 Place of performance;
- 4.3.5.9 Security classification;
- 4.3.5.10 Purchaser furnished property
- 4.3.5.11 Invoicing address
- 4.3.5.12 In case of a FTO Type A, a milestone payments plan
- 4.3.5.13 Requirement for Work Plans, Reports, if applicable.
- 4.3.6 The Contractor shall maintain sufficient accounting records for verification of the hours and categories of labour incurred in the performance of this contract. These accounting records shall be available for Purchaser review during the performance of the contract and until three years after final payment of the contract. In the event subcontract labour is included in the task order performance, the foregoing records requirement shall be included in all applicable subcontracts.
- 4.3.7 Should a DTO not proceed to become an FTO the purchaser will formally “stand down” the DTO and provide a debrief, as necessary on the reasons why.
- 4.4 Project Status Reports
 - 4.4.1 The Contractor shall provide project status reports to the Purchaser to be completed as at 31 May, 30 September and 31 January each contract year, and to reach the purchaser no later than 5 working days into the following month. The reports shall include, but need not be restricted to, the following information:
 - 4.4.1.1 A list of current Task Orders (TO), to include comments on any issues concerning, and the invoicing status of, individual TOs.
 - 4.4.1.2 A list of TOs completed during the previous quarter, to include the status of each final invoice.
 - 4.4.1.3 General contract issues that have arisen during the period.
 - 4.4.1.4 Contract issues likely to arise during the following period.
 - 4.4.2 The reports as at 31 May and 31 January will form the basis of routine project status reviews that will normally be held in NACMA. The report as at 30 September will form the basis of an annual project status review that will normally be held at the Contractor’s premises. Accordingly, this report shall also include an assessment by the Contractor of the contract’s performance during the contract year and any proposals for changes to the contract. In addition, each report shall include a proposed agenda for the following project status review.

4.5 Other Plans and Reports

4.5.1 The Purchaser will state any requirements for specific work plans and reports on the DTO. Such requirements may take the form of any or all of the following:

4.5.1.1 Initial Work Plan (IWP) (Upon Award of a TO), due on the date stated in the FTO, outlining a mutually acceptable schedule of Contractor activities proposed for meeting and completing the tasks, services, and support required therein. The IWP shall establish the beginning and end of monthly and quarterly periods, and also document the content and format of the CDRL and products to be delivered and proposed levels of effort to be allocated to each task, service, or support required if applicable.

4.5.1.2 Final Status Report (FSR). No later than 30 days after completion of work on any TO, the Contractor shall provide a FSR that will include a chronological synopsis of all work performed under this TO. The FSR will be provided to the CO.

4.6 Technical Reports, Briefings and Other Deliverables. All deliverable data generated by the Contractor shall be submitted in accordance with the specific TO at no additional cost to the Purchaser.

5 Essential General Qualifications for All Contractor Personnel.

5.1 All Contractor personnel assigned to this contract shall possess the following qualifications:

5.1.1 Have a university degree from a recognised institution.

5.1.2 Be computer literate.

5.1.3 Have the ability to work in an international public service/military environment where the Contractor is expected to work closely with, and as part of, the Purchaser's team to meet the organisation's mission objectives.

5.1.4 Be prepared to travel on temporary duty assignments.

5.1.5 Possess as a minimum a current NATO SECRET clearance.

5.1.6 Be fluent orally and in writing in English, which is the working language of NACMA, in accordance with STANAG 6001 – Language Proficiency Levels.

5.2 Prospective Contractor employees proposed for labour categories outlined below may substitute qualifying work experience for education equivalency upon case-specific Purchaser approval.

6 Responsibility Allowance

6.1 Where the consultant is exceptionally required to do work which carries responsibility in excess of that normally required of a consultant, for example acting as a NACMA OPR, then the designated labour rate will be enhanced by a maximum of 20% rounded down to the nearest whole unit of currency.

- 6.2 The precise figure will be negotiated, within the maximum percentage detailed above and will be indicated on each applicable task order.
- 6.3 The period of applicability of the responsibility allowance will also be indicated in the task order.
- 6.4 If, in the opinion of the purchaser, the responsibility allowance ceases to be applicable or the percentage uplift require to be varied, the purchaser will give ten days notice of such change.

7 General Areas of Support, Specialisation and Expertise

- 7.1 General Requirements. The Contractor shall provide personnel to the Purchaser to support any of the range of activities undertaken by the Purchaser organisation. These personnel shall have specific specialisation and specific expertise as indicated below:
- 7.2 Areas of Support. These will include, but not be limited to, providing support in the following areas of activity:
 - 7.2.1 Analysis of operational requirements, including the specification of system requirements to meet these requirements, and the performance of specific studies to better define alternative approaches to meeting these requirements.
 - 7.2.2 Higher level programme and project support, including scope and cost definition in support of programme and project approval processes.
 - 7.2.3 Procurement of NATO C3I systems and sub-systems, including the preparation of specifications and the evaluation of industrial proposals in response to those specifications.
 - 7.2.4 Evaluation of design and associated design documentation for on-going system developments.
 - 7.2.5 Quality Assurance of on-going system developments.
 - 7.2.6 Test and evaluation of on-going system developments.
 - 7.2.7 Configuration management of system and system documentation.
 - 7.2.8 Logistics support development, including training.
 - 7.2.9 Cost analysis of future requirements as well as on-going system developments.
 - 7.2.10 Tactical data links, reviews of all documentation related to tactical data links.
 - 7.2.11 TBMD, review, analyse and assess any proposed TBMD specifications for ACCS with regard to operational requirement.
 - 7.2.12 System Safety, Assist in the establishment, evolution and maintenance of a NACMA safety management system.
 - 7.2.13 Operational Support assist in the assessment of the impact of operational considerations on the ACCS design

- 7.3 The specialisation will include, but not be limited to, Systems Engineering, Software Engineering, Test and Acceptance, Requirements Analysis, Programme Management, Quality Assurance, Configuration Management, Logistics Support including Training, Cost Analysis, and Procurement Support, System Safety, Data Links Engineering, Theatre Ballistic Missile Defence. The requirements for each specialisation are further defined in paragraph 7 below.
- 7.4 Expertise. The expertise will include, but not be limited to, Static and Deployable Air Defence Systems, Offensive and Support Mission Planning Systems, Airspace Management Systems and Air Traffic Control Systems including specifically the Software Applications associated with such systems. Additionally specific expertise in system components such as Deployable Air Defence Radars, Passive Sensor Systems, SATCOM, Microwave Line of Sight (LOS) and Transmission Systems (including Crypto, switching and bearer systems), Troposcatter Systems, and Ground/Air/Ground (G/A/G) systems may be required.

8 Detailed Requirements and Labour Categories

The following paragraphs identify some of the specific specialisation, and the associated expected experience levels.

- 8.1 Systems Engineering. The Contractor shall provide systems engineering support in:
- 8.1.1 The design, specification, integration, test, and documentation of NATO C3I systems functional requirements, software systems and subsystems, hardware, commercial off-the-shelf software, telecommunications interface control protocols, and security accreditation/certification analysis.
 - 8.1.2 The evaluation and preparation of computer or telecommunications systems schematics, written technical assessments, and interface control documents of C3I systems, networks, and telecommunications interfaces.
 - 8.1.3 The documentation of existing network architectures; engineering analysis of C3I architectures, the research and cutting edge technologies that relate to system engineering; technical analysis and evaluation of evolutionary C3I system and war gaming designs and specifications.
 - 8.1.4 The identification, analysis, documentation on multilevel network security of communication and sensor systems.
 - 8.1.5 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
 - 8.1.5.1 Senior Systems Engineer: Shall have five years work experience within the last seven years as a multi disciplined systems engineer in the design, development and project management of C3I systems; shall have a working technical knowledge of existing and planned NATO and national Command and Control Systems, including systems integration issues; shall have work experience in the military air operations environment;

shall have a university degree in electronic or aerospace engineering or equivalent engineering disciplines.

8.1.5.2 Systems Engineer: Shall have three years work experience within the last five years as a multi disciplined systems engineer in the design and development of C3I systems; shall have a working technical knowledge of existing and planned NATO and national Command and Control Systems, including systems integration issues; shall have work experience in the military air operations environment; shall have a university degree in electronic or aerospace engineering or equivalent engineering disciplines.

8.1.5.3 Principal System Engineer: Shall have 20 years recent experience as a multi-disciplined systems engineer in the design and development of C3I systems and in addition to the requirements of 8.1.5.1 shall have direct experience of the LOC1 project, contractual Requirements and Specifications. Shall also have knowledge of specific issues related to real and non real-time software link 16 and information exchange. Shall have a university degree in electronic or aerospace engineering or equivalent engineering disciplines.

8.2 Software Engineering

8.2.1 The Contractor shall assist in the development of System Software architecture and configuration studies that may be necessary as a result of new, changed, improved, or modernised versions of NATO C3I Systems, Baseline Change Requests & Software Problem Reports, system changes, enhancements, modernisation or other requirements.

8.2.2 The Contractor shall provide technical assistance and guidance to correct software and system discrepancies for NATO C3I systems, to include actions to implement network/system/software enhancements and/or resolve correction of discrepancies/errors.

8.2.3 The Contractor shall provide the technical assistance to evaluate whether software releases preserve baseline integrity; support the Purchaser personnel during the fielding and integration of these approved releases at operational sites and/or other sites designated by the Purchaser.

8.2.4 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:

8.2.4.1 Senior Software Engineer: Shall have five years work experience within the last seven years as a software engineer in software design and development of software programs in Ada, C++ and/or Java; shall have work experience on C3I software development programs; shall have Experience with NATO and national defense software development practices and policies (e.g. MIL STD 490A, DoD STD 2167A, MIL STD 1521B); shall have a university degree in engineering or equivalent technical discipline with software engineering specialization; shall have had formal instruction in Ada, C++ and/or Java.

8.2.4.2 Software Engineer: Shall have three years work experience within the last five years as a software engineer on modern software development

programs in Ada, C++ and/or Java; shall have work experience on modern C3I software development programs; shall have experience with NATO and national defense software development practices and policies (e.g. MIL STD 490A, DoD STD 2167A, MIL STD 1521B); shall have a university degree in engineering or equivalent technical discipline with software engineering specialization.

8.3 Test and Acceptance. The Contractor shall assist in:

8.3.1 The testing of variable configurations of C3I network architectures for the purposes of systems functional testing, operational use or training.

8.3.2 The participation in and evaluation of the adequacy of C3I systems development and operational tests; development of test plans and test cases for new versions of software releases; the conduct of qualification tests on new software releases; the analysis of the impact of new software versions on existing, fielded hardware and on training required of personnel in the field and the provision of recommendations on the required hardware upgrades and additional training.

8.3.3 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:

8.3.3.1 Senior Test Engineer: Shall have five years work experience within the last seven years performing, developing and/or managing in plant and field test programs of C3I system software and hardware. Experience shall include the preparation of test plans, procedures and schedules; shall have a working technical knowledge of NATO and national government/military test programs; shall have work experience in the military air operations environment; shall have a university degree in electronic or aerospace engineering or equivalent technical discipline.

8.3.3.2 Test Engineer: Shall have three years work experience within the last five years performing, developing and/or managing in plant and field test programs of C3I system software and hardware; shall have a working technical knowledge of NATO and national government/military test programs; shall have work experience in the military air operations environment; shall have a university degree in electronic or aerospace engineering or equivalent technical discipline.

8.4 Analysis and Requirements. The Contractor shall assist in:

8.4.1 The analysis of both current and mid-term future requirements; interoperability analysis; engineering analysis and design; and support of C3I architecture development.

8.4.2 The development of solutions for unusual and complex analytical problems; the determination of programme objectives and requirements; development of standards and guides for diverse analytical activities; the development of long range strategic plans for the acquisition of future C3I capabilities; planning for systems integration and implementation; the evaluation of deficiencies in fielded and planned systems; the formulation of requirements for modifications to existing systems or new systems; the identification of design, development and implementation objectives, tasks, and milestones.

- 8.4.3 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
- 8.4.3.1 Senior Staff Analyst: Shall have a Master's degree, preferably in a technical field, and a minimum of five years experience in C3I related activities. Shall have comprehensive knowledge of analytical principles, creativity, and sound judgement to support complex research and analysis assignments.
- 8.4.3.2 Staff Analyst: Shall have a Bachelor's degree, preferably in a technical field, and a minimum of five years experience in C3I related activities. Shall have comprehensive knowledge of analytical principles, creativity, and sound judgement to support complex research and analysis assignments.
- 8.5 Programme Management Support.
- 8.5.1 The Contractor shall provide assistance in performing all project management functions associated with the definition, funding and implementation approval, acquisition, testing, fielding and training of Air Command and Control systems for NATO.
- 8.5.2 The Contractor shall support schedule management and integrated program reviews by planning for, and participating in, activities such as Program Management Reviews, Technical Reviews, Production Readiness Reviews, Technical Interchange Meetings, Test Plan Working Groups, System Reviews, and any other group activities, reviews, or meetings. Other activities may include: co-ordination of agendas and schedules, conducting special analyses, identifying problems and solutions, developing or revising documentation, executing action items, and developing or reviewing meeting minutes. Provide conference agendas and/or record meeting minutes when required.
- 8.5.3 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
- 8.5.3.1 Senior Systems engineer (see paragraph 8.1.5.1 above).
- 8.5.3.2 Schedule/Program Analyst: Shall have three years work experience within the last five years as a schedule/program analyst, including demonstrated expertise in the usage and selection of automated scheduling tools, critical path analysis techniques, schedule work arounds and what-if manipulations; shall have a working technical knowledge of the processes by which NATO develops and fields command and control and advanced automated systems; shall have work experience in the military air operations environment; shall have a university degree in mathematics, business administration, or a relevant technical discipline.
- 8.6 Quality Assurance
- 8.6.1 The Contractor shall provide support and assistance to design and implement a NATO QA Management System based on Processes Continuous Improvement.

- 8.6.2 The Contractor shall provide Quality evaluation and auditing effort to support and assist in the evaluation of product and process during the ACCS project implementation.
- 8.6.3 The Contractor shall provide support and assistance to define requirements specification for Quality System tools required to support management of project implementation monitoring and internal Quality Management System organisation.
- 8.6.4 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
 - 8.6.4.1 Quality System Engineer: Shall have 5 years experience in design and development of Quality Management System with knowledge of ISO 9000 standards (ISO 9001 – 1994; ISO 9001:2000), AQAP-110, AQAP-150/AQAP-160, ISO 12207 or SEI Capability Maturity Model (CMM) for Acquisition process.
 - 8.6.4.2 Quality evaluator/auditor: Shall have 5 years of experience on Audit/Review and inspection activities of process and product for software project implementation with knowledge of ISO 9001, AQAP-110, AQAP-150/AQAP-160, ISO 10011, ISO 12207 and SEI Capability Maturity Model (CMM) for Guidelines for Improving the Software Process.
 - 8.6.4.3 Quality engineer: Shall have 5 years of experience on design and implementation and COTS selection and validation of Quality Management System tools for monitoring projects and the internal Quality Management processes.

8.7 Configuration Management

- 8.7.1 The Contractor shall assist the Purchaser in the maintenance of related ACCS configuration management processes and procedures for the overall ACCS system.
- 8.7.2 The Contractor shall assist the Purchaser in its activities to ensure the functional and technical integrity of the overall ACCS programme.
- 8.7.3 The Contractor shall determine, analyse, report and document on the latest techniques/tools for the electronic storage and dissemination of data, documentation, drawings, graphics and software programmes together with the automated COTS tools required for the CM of the ACCS system.
- 8.7.4 The Contractor shall assist the Purchaser in identifying and setting up the interfaces required to exchange data between the CM Tool and other engineering and support tools where and when required.
- 8.7.5 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
 - 8.7.5.1 Configuration Management Data Analyst: shall be the holder of a university degree in computer sciences or engineering, or equivalent education from a recognised military academy or institute with at least 5 years of current professional experience. Shall have knowledge of NATO Configuration Management in accordance with the STANAGs 4159 and

4472 and shall have sound experience of international software intensive projects; shall have knowledge and experience of Product Data Management (PDM) tools and shall have a basic knowledge of System and Logistic engineering preferably in the field of C3I; shall have strong analytical, problem solving and conceptual skills and shall have experience with the Configuration Management of Commercial-Off-The-Shelf (COTS) products.

8.7.5.2 CM Data Librarian: Shall have experience in data management, shall be knowledgeable in database techniques and shall have a minimum of 5 years related current professional experience. Shall have basic experience in NATO Configuration Management in accordance with STANAGs 4159 and 4472, shall be proficient in the use of PDM/CM Tools and standard applications; and shall have basic engineering knowledge, preferably in the field of C3I.

8.8 Logistic Support

8.8.1 The Contractor shall monitor and evaluate logistics support elements including training, in planning for new systems and upgrades/modifications to existing systems; analyse proposed logistics support provisions to ensure compatibility with existing logistics infrastructure and develop plans for cost effective integration; assist in research, organisation and documentation of logistics support information for existing and proposed systems; assist in the development, publication, distribution and maintaining ACCS Logistics Support Plan(s); generate and publish other reports and documents such as Life Cycle Cost (LCC) Analyses, Logistics Support Analyses (LSA), and logistic plans and agreements for NATO systems, and when directed by the Purchaser, represent the Purchaser at integrated logistics support meetings.

8.8.2 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

8.8.2.1 Senior Logistician: Shall have five years work experience within the last seven years in the field of acquisition logistics, including demonstrated expertise in the application of Integrated Logistics Support (ILS) and Logistics Support Analysis (LSA) techniques and methods, life cycle cost modelling, usage and selection of automated logistics support tools, and specification of ILS related requirements including training, for use in contracts. This experience shall be in the acquisition of large, complex systems involving both hardware and software. Shall have a working technical knowledge of NATO and national logistics planning and support environments and work experience in the military air operations environment; shall have a university degree in an engineering or technical discipline.

8.9 Cost Analysis

8.9.1 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

8.9.1.1 Senior Cost Estimator/Analyst: Shall have five years work experience within the last seven years as a cost estimator and/or analyst, including demonstrated expertise in the application of cost estimating techniques

(including life cycle costing), work breakdown structures, cost estimating models, and the usage and selection of automated cost estimating tools; shall have a working technical knowledge of the processes by which NATO funds, develops and fields command and control and advanced automated systems and work experience in the military air operations environment; shall be experienced in the acquisition of large, complex automated systems; shall have a university degree in mathematics, business administration, or a relevant technical discipline.

8.9.1.2 Principal ACCS Cost Estimator/Analyst: Shall have seven years work experience within the last ten years as a cost estimator and/or analyst, including demonstrated expertise in the application of cost estimating techniques (including life cycle costing), work breakdown structures, cost estimating models, and the usage and selection of automated cost estimating tools; shall have a working technical knowledge of the processes by which NATO funds, develops and fields command and control and advanced automated systems and work experience in the military air operations environment; shall be experienced in the acquisition of large, complex automated systems; shall have a university degree in mathematics, business administration, or a relevant technical discipline. Shall have detailed current knowledge of the NATO ACCS programme.

8.9.1.3 Senior NATO Cost Estimator/Analyst: Shall have five years work experience within the last seven years as a cost estimator and/or analyst, including demonstrated expertise in the application of cost estimating techniques (including life cycle costing), work breakdown structures, cost estimating models, and the usage and selection of automated cost estimating tools; shall have a working technical knowledge of the processes by which NATO funds, develops and fields command and control and advanced automated systems and work experience in the military air operations environment; shall be experienced in the acquisition of large, complex automated systems; shall have a university degree in mathematics, business administration, or a relevant technical discipline. Shall have had recent experience of working in a NATO environment.

8.10 Procurement Support

8.10.1 The Contractor shall provide assistance in the development of Competition and Acquisition Planning documentation related to Acquisition Strategies and Market Research in the technical domains stated in paragraph 6 above.

8.10.2 The Contractor shall provide assistance in: the development of Type "B" Cost Estimates; the description of Agency needs in contractual terms; cost and price information, solicitation and contractual instruments using both sealed bidding and Contracting by Negotiation techniques and processes, and provide assistance in Contract Management.

8.10.3 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

8.10.3.1 Senior Procurement Expert: Shall possess intimate knowledge of: Sealed Bidding and Contracting by Negotiation techniques, various Types of

NATO UNCLASSIFIED

Part 3 - Statement Of Work

Contracts, performing Market Research, commercial and special to type acquisitions; shall possess basic knowledge of: the NATO ACCS Programme, NATO Acquisition Regulations, NATO NSIP Programme, NATO Security Policies; shall have a minimum of 5 years Contracting Officer experience within the last 7 years in defence oriented systems in the in 6.1 stated technical domains, specifically related to: Development of acquisition strategies, Development of source selection and evaluation plans, Development of solicitation documentation (Invitation for Bids, Requests for Proposals, Request for Quotations, etc) and Contract and Sub-contract Management.

8.11 Human Factors

8.11.1 The contractor shall assist in the development and evaluation of Human Factors related requirements

8.11.1.1 Senior Human Factors Engineer: Staff assigned shall have five years work experience within the last seven of the application of human factors design, development and verification in military C3I systems as well as knowledge of deployable systems and shall hold a university degree in industrial engineering or an equivalent technical discipline as well as specific government and/or industry training in human factors. Shall have a working knowledge of MIL-STD-1472, Human Factors Engineering Design Criteria for Military Systems, Equipment and Facilities.

8.12 System Safety

8.12.1 The contractor shall assist in the establishment, evolution and maintenance of a NACMA safety management system applicable to the LOC1 programme. In addition the contractor shall assist with evaluation and analysis of ACCS LOC1 physical and functional safety, including human factors/HMI, with respect to health and safety standards and EUROCONTROL Safety Regulations for ATM systems. The contractor shall also assist with Project safety assurance management for ACCS LOC1 and an Independent Safety Assessment for ACCS LOC1 as well as the development of technical and operational safety cases to establish the necessary evidence of systems' safety for use in service.

8.12.2 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

8.12.2.1 Senior System Safety Engineer: Shall have 10 years work experience in the field of safety engineering within the last 14 years; shall have experience in the implementation of safety management systems within large organizations; shall have experience in project system safety specifications; shall have experience in project safety assurance management; shall have experience with system safety analyses for complex, software intensive, C3I systems; shall have experience in system safety validation and independent safety assessments.; shall have working technical knowledge of existing and planned NATO and national air command and control systems; shall have working knowledge of Mil-Std-882, Def-Stans 55 and 56 and ESSAR; shall have a university degree in electrical or computer engineering or computer sciences/information systems.

8.13 Theatre Ballistic Missile Defence(TBMD)

8.13.1 The contractor shall assist in the review, the analysis and the consolidation of TBMD related documentation, and provide assessment of possible impact of the results on ACCS design and specifications. He shall review, analyse and assess proposed TBMD specifications for ACCS with regard to operational requirement.

8.13.1.1 Theatre Ballistic Missile Defence(TBMD) System Engineer. Shall have ten years working experience within the last fifteen years as a multi disciplined systems engineer in the design and development of C3I systems; shall have a good understanding of TBMD Command and Control specific issues, regarding surveillance, engagement and planning functions; shall have a good knowledge of Data link (in particular Link 16) and communication systems, including Satcom. In addition shall have a working technical knowledge of existing and planned NATO and national Command and Control Systems, including systems integration issues; shall have work experience with the military air operations environment; shall have a university degree in electronic or aerospace engineering or equivalent engineering disciplines.

8.14 Tactical Data Links

8.14.1 The contractor shall assist in reviewing data link CDRLs (L16NCM and MISEXC SRS, associated ECRs, L16NCM IRS, ACCS LoC 1 SAD, L16NCM and MISEXC SDD, L16NCM and MISEXC IDD (including G-T Specifications)), and Tactical Data Link requirements documentation (STANAGs, DLCPs and NATO TDL policy documents). The contractor shall also assist in reviewing document comments, supporting IPWs/TIMs with ACSI to discuss and resolve comments and meetings with other organisations. Furthermore, the contractor shall assist in reviewing CDRLs and TDL documentation describing TDL planning and multi-TDL architecture requirements. In addition, the contractor shall provide support for the development of the tactical data link portion of the future Engineering Change Proposals (ECPs), addressing Data Forwarding, Shared Early Warning (SEW), Time Sensitive Targeting (TST) and evolution to later versions of TDL STANAGs. Task includes participating in the development of the ECP strategy, reviewing the LOC1 SS/CoSS for potential specification changes, ECP requirement development technical support.

8.14.2 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

8.14.2.1 Tactical Data Links Engineer Shall have three years work experience within the last five years as an engineer specializing in military tactical data links (Link 11A/B, Link 16), either operation, implementation, development or integration. Shall have a working knowledge of STANAGs 4175, 5511, 5516, 5616; AdatPs 11, 16, 33; and the operation of tactical data links within a military C2 environment. Shall have a university degree in electronics or communications engineering, or have equivalent education from a recognised military or civilian academy or institute, or have acquired extensive knowledge in the field of tactical data links in an area of responsibility through professional experience. Four years work experience (or greater) within the last six years as an engineer

specializing in military C2 communications, tactical data links and systems integration/interoperability.

- 8.14.2.2 Senior Tactical Data Links Engineer. Shall have seven years work experience within the last ten years as an engineer specializing in military tactical data links (Link 11A/B, Link 16), either operation, implementation, development or integration. Shall have a thorough working knowledge of STANAGs 4175, 5511, 5516, 5616; AdatPs 11, 16, 33; and the operation and tactical data links within a military C2 environment. Shall have a university degree in electronics or communications engineering, or have equivalent education from a recognised military or civilian academy or institute, or have acquired extensive knowledge in the field of tactical data links in an area of responsibility through professional experience. Six years work experience (or greater) within the last eight years as an engineer specializing in military C2 communications, tactical data links existing and planned NATO and national tactical data link communications systems, including integration and interoperability issues.

8.14.2.3

8.15 Operational Analysis

- 8.15.1 The contractor shall assist in the review, the analysis and the consolidation of Operations related documentation, and provide assessment of possible impact of the results of operational issues on ACCS design and specifications. He shall review, analyse and assess proposed specifications for ACCS with regard to operational requirement. The Contractor shall provide support and expertise in the NATO Air Command and Control functional areas of air mission planning and mission execution. with particular, but not exclusive, emphasis on the Combined Air Operations Centre's (CAOC's) and the ACC, RPC, SFP's (ARS's) functions.
- 8.15.2 The Contractor shall support closing operational requirements and design action items by reviewing contractor responses.
- 8.15.3 The Contractor shall analyse the operational utility, applicability and adequacy of the relevant software being developed, integrated, and tested, including review of all of the ACCS non-real-time HMI components.
- 8.15.4 The contractor shall provide operational assistance and guidance to correct software and system discrepancies for NATO C3I systems, to include actions necessary to implement system/software enhancements, to aid in the identification and correction of system/software deficiencies, and to resolve operational performance issues.
- 8.15.5 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
- 8.15.5.1 Principal Operations Consultant. Shall have 15 years operational experience in the Air C2 domain, including the planning and execution of air command and control operations within NATO or NATO Nations; shall have some experience of the development and integration of the air command and control systems; shall have experience in the use of military messaging including ADatP-3 and TDL; shall be capable of

providing support and assistance on all air command and control system development issues.

- 8.15.5.2 Senior Operations Consultant. Shall have 10 years operational experience in the Air C2 domain, including the planning and execution of air command and control operations within NATO or NATO Nations; shall have some experience of the development and integration of the air command and control systems; shall have experience in the use of military messaging including ADatP-3 and TDL; shall be capable of providing support and assistance on all air command and control system development issues.
- 8.15.5.3 Operations consultant Shall have 5 years operational experience in the Air C2 domain, including the planning and execution of air command and control operations within NATO or NATO Nations; shall have some experience of the development and integration of the air command and control systems; shall have experience in the use of military messaging including ADatP-3 and TDL; shall be capable of providing support and assistance on all air command and control system development issues.

8.16 Acoustics Engineer

- 8.16.1 Acoustics Engineer shall be capable of assisting in all aspects of the acoustic performance of deployable entities. Including reviewing contractor documentation, making recommendations, providing reports making measurements as required, and supporting NACMA in discussions with contractors.

8.16.1.1 Senior Acoustic Engineer. Shall have seven years in the last ten in acoustic modelling in various areas including military systems. Shall have current knowledge of -STD-1472, Human Factors Engineering Design Criteria for Military Systems, Equipment and Facilities.

8.17 Administrative/Secretarial Assistant

- 8.17.1 Shall be capable of providing administrative or secretarial support including filing, typing data input, arranging travel, minute taking and any other duties to divisions and division chiefs within NACMA. Shall be capable of working under supervision in a demanding multi-disciplined environment. Shall be familiar with the standard office software applications. Shall have proficient communication skills.
- 8.17.2 Staff assigned to these tasks shall fall into one of the following categories and shall satisfy the stated requirements:
 - 8.17.2.1 Administrative/Secretarial Assistant Shall have two years of office experience within the last five years , a good general education or equivalent experience.

8.18 LOC 1 Tactical Data Links

- 8.18.1 The contractor shall assist in reviewing data link CDRLs (L16NCM and MISEXC SRS, associated ECRs, L16NCM IRS, ACCS LoC 1 SAD, L16NCM and MISEXC SDD, L16NCM and MISEXC IDD's (including G-T Specifications)), Platform Interface Requirement Specifications (P-IRS), TDL Test Procedures, and Tactical

Data Link requirements documentation (STANAGs, DLCPs and NATO TDL policy documents, such as Frequency Clearance Agreements, etc.). The contractor shall attend, monitor, review and assess TDL tests performed by ACSI/TRS and verify STANAG Compliance. The contractor shall also assist in development of Complementary Interoperability Test Procedures for NAEW/fighter testing using a SIMPLE interface for Test Rig to Test Rig operations and for Live Operational Testing. The contractor shall also assist in reviewing document comments, supporting IPWs/TIMs with ACSI to discuss and resolve comments and meetings with other organisations. Furthermore, the contractor shall assist in reviewing CDRLs and TDL documentation describing TDL planning and multi-TDL architecture requirements. In addition, the contractor shall provide support for the development of the tactical data link portion of the future Engineering Change Proposals (ECPs), addressing Data Forwarding, Shared Early Warning (SEW), Time Sensitive Targeting (TST) and evolution to later versions of TDL STANAGs. Task includes participating in the development of the ECP strategy, reviewing the LOC1 SS/CoSS for potential specification changes, ECP requirement development technical support.

- 8.18.2 Staff assigned to these tasks shall fall into the following category and shall satisfy the stated requirements:

- 8.18.2.1 **Senior LOC 1 Tactical Data Links Engineer** Shall have seven years work experience within the last ten years as an engineer specializing in military tactical data links (Link 11A/B, Link 16), either operation, implementation, development or integration. Shall have a working knowledge of STANAGs 4175, 5511, 5516, 5616; AdatPs 11, 16, 33; and the operation of tactical data links within a military C2 environment. Shall have direct experience of the Link 16 issues concerning the ACCS LOC1 programme within the last year. Shall have a university degree in electronics or communications engineering, or have equivalent education from a recognised military or civilian academy or institute, or have acquired extensive knowledge in the field of tactical data links in an area of responsibility through professional experience. Four years work experience (or greater) within the last six years as an engineer specializing in military C2 communications, tactical data links and systems integration/interoperability.
- 8.18.2.2 **LOC1 Tactical Data Links Engineer.** Shall have three years work experience within the last five years as an engineer specializing in military tactical data links (Link 11A/B, Link 16), either operation, implementation, development or integration. Shall have a thorough working knowledge of STANAGs 4175, 5511, 5516, 5616; AdatPs 11, 16, 33; and the operation and tactical data links within a military C2 environment. Shall have direct experience of the Link 16 issues concerning the ACCS LOC1 programme within the last year. Shall have a university degree in electronics or communications engineering, or have equivalent education from a recognised military or civilian academy or institute, or have acquired extensive knowledge in the field of tactical data links in an area of responsibility through professional experience. Six years work experience (or greater) within the last eight years as an engineer specializing in military C2 communications, tactical data links existing and planned NATO and national tactical data link

communications systems, including integration and interoperability issues.

8.19 Acquisition

8.19.1 The contractor is required to provide System, engineering and acquisition support in the development of statements of work and in the development of Type “B” cost estimates (TBCEs). In addition to assist NACMA in the development of TBCEs requires a broad-based range engineering and acquisition skill including the ability to analyse and use a wide range of documents and inputs. The contractor is required to produce the operational, scope, technical specifications, cost data and procurement strategy sections of the document, for the review within NACMA and externally. This will involve close liaison within NACMA and other NATO agencies and bodies, including the customer.

8.19.1.1 Senior Acquisition Engineer Senior: Staff assigned shall have five years work experience within the last seven as an engineer in an acquisition environment preferably within NATO and its agencies, and shall hold a university degree in engineering or an equivalent technical discipline or equivalent. Experience the NATO Air C2 structure from both an operational and technical perspective and a good appreciation of the ACCS system specifications including the DAC. Shall be capable of working at senior levels within NATO and have exhibited the ability to work without supervision within a highly structured work environment

8.20 Site Support /Liaison

8.20.1 The Contractor is required to provide support to the DARS activities at Nieuw Milligen (NL) by liaising with the LOC1 contractor and sub contractors and the THN representatives (PT-DARS) to make sure that all activities taking place at the site are properly planned in advance and well coordinated. This requires a broad range of intra personal skills and a good knowledge of ACCS and the DARS site in particular. The contractor is required to be able to provide timely reports as well as raising any serious issues with NACMA in a timely way. This will require very close liaison with all stakeholders in DARS.

8.20.1.1 Site Support/Liaison Engineer Staff assigned shall have three year experience of working on the ACCS programme either in a national or NATO capacity. Shall have recent experience of working with communications and data links. Shall also be fluent in the Language of the THN(Holland)

Formatted: Bullets and Numbering

Formatted: Legal 3

9 Configuration Management

9.1 The Configuration Management requirements of this contract shall be implemented in accordance with STANAGs 4159, 4472 and the Allied Configuration Management Publications (ACMP) 1 to 6.

9.2 General Provisions:

- 9.2.1 Configuration documentation shall be provided in hard copy and in processable electronic format.
- 9.2.2 To assure integrity, changes to the approved documentation should be made in using redlining and versioning techniques.

10 Quality Assurance

10.1 QA Programme

- 10.1.1 The Contractor shall establish, document and maintain an effective and economical Quality Assurance (QA) programme. The QA programme shall assure the quality of all deliverable and non-deliverable products/services throughout the duration of the contract.
- 10.1.2 The QA programme shall be in accordance with the provisions of AQAP-110 and its related ISO publications [ISO 9001(1994)/ISO 9001:2000] and i.a.w. AQAP-150/AQAP-160, as applicable.

10.2 QA Plan

- 10.2.1 The Contractor shall provide a QA plan, which defines how the Company Quality System has been tailored to meet the needs of this contract. The QAP shall describe the specific quality practices, processes, related procedures and resources relevant to the particular requested services. The plan shall also specify the Quality Control activities, as an integral part of the service process, to demonstrate that an effective control of service process is put in place, to make sure that established service specifications and the Purchaser requirements are met.
- 10.2.2 The QAP format shall be in accordance with ISO 10005, Quality Management – Guidelines for quality plans.

10.3 Applicable Documents

Applicable Document Number	Title	Application
AQAP-100	Policy on an Integrated Systems Approach to Quality Through the Life Cycle	All
AQAP-110	Allied Quality Assurance Publication, NATO Quality Assurance Requirements for Design, Development and Production	All
AQAP-119	Allied Quality Assurance Publication, NATO Guide to AQAPs-110,-120, and -130	As applicable to AQAP-110
AQAP-150	Allied Quality Assurance Publication, NATO Quality Assurance Requirements for Software Development	All
AQAP-159	Allied Quality Assurance Publication, Guidance for the Use of AQAP-150	All
AQAP-160	Allied Quality Assurance Publication, NATO Quality Assurance Requirements for Software Development	All
AQAP-169	Allied Quality Assurance Publication, Guidance for the Use of AQAP-150	All
ISO 8402	Quality - Vocabulary	

ISO 9000:2000	Quality management systems – Fundamentals and Vocabulary	Applicable with ISO 9001:2000
ISO 9001 (1994)	Quality systems - Model for quality assurance in design/development, production, installation and servicing	All
ISO 9001:2000	Quality management systems - Requirements	Applicable alternatively with ISO 9001 (1994)
ISO 10005	Quality Management – Guidelines for quality plans	

11 Contract Data Requirements List

CDRL ID	Title	SOW Reference	Due Date
SMIS001	Monthly Progress Report	4.4.1	EDC + 10 th Day of each Month
SMIS002	Initial Work Plan	4.5.1	As stated in the TO.
SMIS003	Quarterly Work Plan	4.5.2	15th of the month following each quarterly period established by the IWP.
SMIS004	Final Status Report.	4.5.3	No later than 30 days after completion of work on any TO
SMIS005	QA Plan	9.2	EDC + 30 Working Days