

NATO COMMUNICATIONS AND INFORMATION
AGENCY



IFB-CO-14786-NRF

**PROVIDE COUNTER – IMPROVISED EXPLOSIVE
DEVICE (C-IED) CAPABILITY PACKAGE TO THE
NATO RESPONSE FORCE (NRF)**

**Electronic Countermeasure (ECM) Capability
Against Radio Controlled IED (RCIED)**

PHASE I

BOOK II – PART IV

STATEMENT OF WORK

VERSION IFB

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1 INTRODUCTION

1.1 Purpose

- 1.1.1 This Statement of Work (SOW) describes the responsibilities of and efforts to be performed by the Contractor in satisfying the requirements of the NATO Response Forces (NRF) ECM capability against RCIED Systems Project.
- 1.1.2 The ECM systems will support the NRF missions and will provide protection against RCIED threats. The ECM systems will support the NRF deployable Headquarters (HQs) through a vehicle component (ECM installed on vehicle provided through project Serial 5HQ27203) and a static component (ECM utilised at Entry Control Points). There are no specific locations of deployment specified herein, as the NRF will deploy as a stand-alone or entry force to a crisis response wherever such a crisis arises.
- 1.1.3 The scope of the SOW encompasses the delivery of three (3) Vehicular ECM Systems and three (3) Static ECM Systems.
- 1.1.4 The SOW is comprised of ten (10) chapters and three (3) Annexes that describe, from a technical and project managerial standpoint, the requirements for the Contractor's performance of the Contract. Annex A to the SOW is a separate NATO classified document (NR), which provides the ECM against RCIED **System Requirements Specifications (SRS)**.

1.2 General

- 1.2.1 The Contractor shall provide all necessary resources including services, personnel, utilities, materials, components, supplies and documentation needed to fully accomplish all the tasks described in this SOW (including the SRS annex), to meet the requirements of the ECM System Specification (SS), and to fulfil all other contract provisions.
- 1.2.2 Specifically, the Contractor shall:
 - a. Execute the systems engineering, programme management, security management, quality assurance and configuration management of the Contract;
 - b. Adapt, if necessary, their offered ECM system design to execute the requirements of the technical specification of the Contract, put such design into production, and integrate ECM systems on Purchaser Furnished Equipment (PFE) Vehicles in accordance with the contract. This effort involves system integration, test and evaluation of sub-systems and of the delivered systems;
 - c. Deliver the ECM systems (including the ECM system integrated on PFE Vehicles) to the specified NATO Storage Depot location (Southern Operational Centre (SOC), Taranto, Italy) in accordance with the Contract;

- d. Fully document the design, operation and maintenance of the ECM systems by providing the required manuals, supporting technical data, computer software and drawings as required by the Contract;
- e. Carry out any Integrated Logistic Support (ILS) required by the contract;
- f. Provide an Integrated Logistics Support programme which satisfies the ILS objectives:
 - to influence the design to make it readily supportable, and,
 - to define and organise all physical resources in the in-service phase to sustain the system;
- g. Develop the Integrated Support Plan (ISP), which is the logistics part of the Project Implementation Plan (PIP). The ISP shall explain in detail how the contractor shall fulfil all ILS requirement in this contract (i.e. during project execution until Final System Acceptance - FSA).
- h. Develop the In-Service Support Plan (ISSP) which shall describe in detail the practical instructions necessary for the Purchaser's in-service organisation to operate and maintain the ECM system delivered under this contract (i.e. during in-service phase, after FSA). The ISSP is an essential O&M instructions document.
- i. Train Purchaser personnel in the operation and maintenance of the ECM systems;
- j. Implement and execute Warranty support as required under the Contract.

1.3 Definitions

1.3.1 Throughout the SOW, the following standards and definitions shall apply:

- a. Whenever requirements are stated herein to "include" a group of items, parameters, or other considerations, "include" means "include but not limited to";
- b. Whenever reference is made to a section, tasks, or paragraph, the reference includes all subordinate and referenced paragraphs;
- c. The Contract data to be delivered as a result of performing the tasks prescribed by this SOW are specified in the Schedule of Supplies and Services (SSS).
- d. The term "Contractor" means the entire Contractor/sub-contractor(s) organisation. All requirements in this SOW which would apply to the Contractor's activities apply equally to sub-contractor activities;
- e. The order of the SOW requirements is not intended to specify the order in which they must be carried out unless explicitly stated;

- f. For purposes of the SOW, the term "the Purchaser" means the NCI Agency or its authorised representatives. Where referenced standards, specifications, etc., refer to the "the Government", this shall be construed as to mean "the Purchaser";
- g. In case of inconsistencies, the SOW and Annexes shall have precedence over the Applicable Documents;
- h. the term "Electronic Counter Measures System (ECMS)" as used herein refers to all hardware and software provided, the PFE vehicles, the Convoy Planning Tool, the Fill Development components, the antennae, the cable assembly and any ancillaries required for the sustained operation of this ECM system;
- i. the term "System" applies to the ECM System;
- j. the convention to be used for numbers appearing in textual documents is for a comma to be the thousands separator and a period to be the decimal separator (e.g. 1,365,276.24);
- k. the convention to be used for dates appearing in free text (e.g. quoting dates of meetings) is day-month-year and not month-day-year;
- l. if not otherwise specified, the services and deliveries will be common and identical for the three (3) Vehicular ECM systems;
- m. if not otherwise specified, the services and deliveries will be common and identical for the three (3) Static ECM systems.
- n. The following conventions apply throughout this SOW and its annexes:
 - Shall – 'is required' mandatory,
 - Should – preferred possibility 'recommended'
 - May – 'is permitted' not obligated,
 - Can – 'is able to' possible not obligated,
 - Must – used to describe unavoidable situations (not a substitute for shall),
 - Will – statement of fact, not in actual requirement.

1.4 Overall Requirements

- 1.4.1 The Contractor shall design, develop, produce and deliver three (3) Vehicular ECM Systems, prepare five (5) Purchaser Furnished vehicles for integration of ECM systems and integrate the Vehicular ECM systems onto three of the vehicles.
- 1.4.2 The Contractor shall design, develop, produce and deliver three (3) Static ECM Systems to counter RCIEDs in the proximity of entry controlled points.

- 1.4.3 The Contractor shall design, develop, produce and deliver one (1) Convoy Planning Tool capability (including hardware and software components as defined in SRS) that can be used to plan ECM operations.
- 1.4.4 The Contractor shall design, develop, produce and deliver one (1) Fill Development Tool Capability (including hardware and software components as defined in SRS) that can be used to produce the fills for both Vehicular and Static ECM systems.
- 1.4.5 The Contractor may be requested through the Purchaser’s exercise of Contract options to provide operation and maintenance support to all ECM Systems for a period of up to 7 years after the completion of Warranty.
- 1.4.6 The Contractor shall use, to the maximum extent possible, already qualified COTS products to fulfil the Contract requirements.

1.5 References and Applicable Documents

- 1.5.1 The references and the applicable documents used in this document, including its Annexes are listed in Table 1.

Table 1 References and applicable documents

Number	Title	Application
MIL-STD-882E	System Safety Programme Requirements	Task 101, 102, 103, 401
MIL-STD-464C	Electromagnetic Environmental Effects – Requirements for Systems	All
STANAG 4107, Edition 8	Mutual Acceptance Of Government Quality Assurance And Usage Of The Allied Quality Assurance Publications (AQAP)	
AQAP-2000, Edition 3	NATO Policy On An Integrated Systems Approach To Quality Through The Life Cycle	
AQAP-160, Edition 1	NATO Integrated Quality Requirements For Software Throughout The Life Cycle	
AQAP-169, Edition 1	NATO Guidance On The Use Of AQAP-160	
AQAP-2070, Edition 2	NATO Mutual Government Quality Assurance (QA) Process	
AQAP-2009, Edition 3	Allied Quality Assurance Publication, NATO Guidance on the Use of the AQAP 2000 Series	As applicable to AQAP-2110
AQAP-2105, Edition 2	Allied Quality Assurance Publication, NATO Requirements for Deliverable Quality Plans	All

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AQAP-2110, Edition 3	Allied Quality Assurance Publication, NATO Quality Assurance Requirements for Design, Development and Production	All
AQAP-2210, Edition 1	Allied Quality Assurance Publication, NATO Supplementary Software Quality Assurance Requirements to AQAP-2110	All, as stated in AQAP-2210, §1.2 Applicability
ISO 9001:2008	Quality management systems - Requirements	As applicable to AQAP-2110
Bi-SC Directive 75-7	Education and individual training directive	
STANAG 4427 Ed. 3	Configuration Management In System Life Cycle Management	
ACMP-2000, Ed. A, Ver. 1	Policy On Configuration Management	
ACMP-2009, Ed. A, Ver. 1	Guidance On Configuration Management	
ACMP-2100, Ed. A, Ver. 1	Configuration Management Contractual Requirements	
STANREC 4174 Ed. 4	Guidance For Dependability Management	
ADMP-01, Ed. A, Ver. 1	Guidance For Developing Dependability Requirements	
ADMP-02, Ed. A, Ver. 1	Guidance For Managing Dependability In-Service	
ACMP-1 Ed.2	NATO Requirements for the Preparation of Configuration Management Plans	
ACMP-2 Ed.2	NATO Requirements for Configuration Identification	
ACMP-3 Ed.2	NATO Requirements for Configuration Control - Engineering Changes, Deviations and Waivers	
ACMP-4 Ed.2	NATO Requirements for Configuration Status Accounting	
ACMP-5 Ed.2	NATO Requirements for Configuration Audits	
ACMP-6 Ed.2	NATO Configuration Management Terms and Definitions	
ACMP-7 Ed.2	NATO Configuration Management Guidance on the Application of ACMP 1 - 6	
STANAG 6001, Ed. 5	Language Proficiency Levels - ATrainP-5 EDITION A	
ATrainP-5, Ed. A, Ver. 1	Language Proficiency Levels	
AECTP-500	Electrical/Electromagnetic Environmental Tests	
DS 00-56	UK Ministry of Defence - Defence Standard 00-56, Safety Management Requirements for Defence Systems	

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AOP 52	NATO Allied Ordnance Publication (AOP) 52, Guidance on Software Safety Design and Assessment of Munitions Related Computing Systems	
ISO/IEC 20000		
ITILv3		
ANNEX A		
STANAG 4370 Ed. 4	NATO standard - Environmental testing	
ITU-R SM.329-7	ITU Recommendation on Spurious Emissions	
SDIP-29	SDIP-29 security guidelines	
ISPM n°15	"International Phytosanitary Measures", ISPM n°15	
PVRT SOW	NATO Support & Procurement Agency (NSPA), "Statement Of Work (Sow) For The Procurement Of Blast And Bullet Proofed Personnel Vehicle Rough Terrain (PVRT)", Capability Package 9A1102, Project 5HQ27203	
AEDP-03	NATO Standard, AEDP-3, "Advanced Data Storage Technology Memory Systems Sanitization Guidance", Edition C, Version 1, December 2014	
STANREC 4756	NATO Standardization Office, "Overview of Inhibition Trial Procedure for Barrage ECM Against Point-to-Point Radio Links", 17 April 2015	
AEP-4756	Allied Engineering Publication, "Overview of Inhibition Trial Procedure for Barrage ECM Against Point-to-Point Radio Links", Edition A, Version 1	
AEODP-11	Allied Explosive Ordnance Disposal Publication, "Guidelines For Interservice Electronic Warfare (EW) Support To Explosive Ordnance Disposal (EOD) On Multinational Deployments, Volume 2", Edition A Version 1, March 2013	

2 PROJECT MANAGEMENT

2.1 Introduction

- 2.1.1 The NCI Agency Project Manager (PM), who will act as the Purchaser's technical and programmatic representative, will be the primary interface between the Contractor and the NCI Agency starting from the Effective Date of Contract (EDC).
- 2.1.2 The Project Manager will be supported by specialists in certain areas who may, from time to time, be delegated to act on the Project Manager's behalf in their area of expertise. The Project Manager, or any of the specialist support staff, may not make changes to the terms and conditions of the Contract but may only provide the Purchaser's interpretation on technical matters.

2.2 Project Management Organization

- 2.2.1 The Contractor shall organise a Project Management Office (PMO) to perform and manage all efforts necessary to discharge all their responsibilities under this Contract.
- 2.2.2 The Contractor shall provide all necessary manpower and resources to conduct and support the management and administration of his operations in order to meet the objectives of the Contract, including taking all reasonable steps to ensure continuity of personnel assigned to work on this project.
- 2.2.3 The Contractor shall manage the project using an industry-standard Project Management methodology (such as PRINCE2) using tools and techniques relevant for the applied methodology.
- 2.2.4 The Contractor shall identify by name and qualifications five leading roles in the Contractor's organization:
 - a. Project Manager (Designated Key Personnel),
 - b. Technical Lead (Designated Key Personnel),
 - c. Test Lead,
 - d. Quality Assurance Lead,
 - e. Security Staff and Document Authors.

Contractor's Project Manager

- 2.2.5 The Contractor shall appoint a Project Manager (CPM) to be responsible for the overall control and co-ordination of the Contractor's project activities. The PM shall be supported by a Project Management Office (PMO) with the necessary resources to perform and manage all efforts necessary to discharge all his responsibilities under this contract. The PM shall liaise with the Project Manager appointed by the Purchaser.
- 2.2.6 The Contractor's project manager shall have a Master's degree in management,

engineering, or business administration or other relevant scientific or management discipline and an internationally recognised project management accredited qualification, such as PRINCE2. Formal certification through the Project Management Institute or equivalent source is acceptable.

- 2.2.7 The Contractor's project manager shall have at least five years (in the last ten years) of experience in ECM systems design and project management and at least three years of experience as the project manager for an effort of similar scope, preferably including the application of a formal project management methodology such as PRINCE2.

Contractors Technical Lead

- 2.2.1 The Technical Lead appointed by the Contractor shall have a university degree in engineering, physics, computer science or other relevant scientific discipline, preferably equivalent to a Masters, supplemented by relevant postgraduate qualifications.
- 2.2.2 The Technical Lead shall have at least five years in engineering positions associated with the review, design, development, evaluation, planning and operation of electrical or electronic components, subsystems, or systems for government or commercial use.

2.3 The Project Implementation Plan (PIP)

- 2.3.1 The Contractor shall prepare and submit a Project Implementation Plan (PIP) that shall describe how the Contractor will implement the totality of the project, including details of the project controls that will be applied.
- 2.3.2 The Contractor shall define in this plan the details of liaison between the Purchaser, the Contractor and any sub-contractors.
- 2.3.3 The Contractor's PIP shall cover all aspects of project implementation including management provisions, facilities, schedules, personnel assignments, external relationships and project control.
- 2.3.4 The Contractor's PIP shall contain high level planning for unexercised options.
- 2.3.5 The Contractor shall include in this plan the following sections and provide the major plans required under this Contract:
- A. Project overview,
 - B. Project Management and Control Plan,
 - C. Risk Assessment and Management Plan,
 - D. System Engineering Plan,
 - E. Security Management Plan,
 - F. Quality Plan (QP),

- G. Configuration Management Plan,
- H. Integrated Support Plan (ISP),
- I. Test and Acceptance Plan,
- J. Documentation Plan,
- K. Training Plan.

- 2.3.6 Section A of the PIP shall contain a Project overview, which will provide an executive summary of the plan, with a summary of each of the PIP sections, with an indication of how the project will be executed until completion. In addition any changes to the previous PIP will be identified.
- 2.3.7 Within 2 weeks of the Effective Date of Contract (EDC), a kick-off and requirements clarification meeting will be organized between Contractor and the Purchaser at Purchaser's facilities. This meeting will provide the Contractor with an opportunity to further clarify requirements. The Contractor will be in charge of the organization and conduct of this meeting and will prepare and coordinate the draft and final minutes after the meeting.
- 2.3.8 Within 6 weeks of EDC, and after the kick-off and requirements clarification meeting, the Contractor shall submit the updated PIP to the Purchaser for review. The Purchaser will review the PIP for a period of up to 3 weeks and will provide feedback to the Contractor. Following the review by the Purchaser, a PIP presentation shall be given by the Contractor to the Purchaser at the Contractor's facility to highlight the changes. The timing of this event shall be mutually agreed between the parties and shall coincide with the first Progress Review Meeting (PRM).
- 2.3.9 At the PIP review meeting the Contractor shall present an outline of the prominent features of the planned project management and an assessment of the risk areas involved in meeting the project schedule and the requirements of the Contract.
- 2.3.10 At the PIP review meeting the Contractor shall introduce to the Purchaser the individuals of his organisation (including any sub-contractors) who are responsible for the critical areas in the proposed project implementation.
- 2.3.11 During and subsequent to the PIP review meeting presentation (and at the latest 2 weeks after the presentation), the Purchaser may provide comments and a critique of the PIP potentially requiring Contractor correction of errors and/or inconsistencies as well as the inclusion of additional material.
- 2.3.12 Within 1 week of receipt of the Purchaser's comments, the Contractor shall deliver the final version of the PIP for Purchaser's approval. The final PIP version shall incorporate all the Purchaser comments concerning Para 2.3.11. The approved PIP does not constitute Purchaser endorsement of the Contractor's Plan, but signifies that the Purchaser considers the Plan to be a logical and satisfactory approach to the management of the required activities, based upon the information provided. In the case of any conflict, ambiguity, or omission the requirements of the Contract take precedence over the PIP. The approved PIP shall be the official document against which the Contractor is

expected to conduct the performance of the Contract and shall be used to measure contract progress against the delivery requirements of the Contract SSS.

- 2.3.13 The Contractor shall consider the PIP a living document with appropriate agreed updates during the life of the Contract and it shall be subject to joint review at each PRM. The Contractor shall update the PIP and the individual plans contained within it as necessary during the life of the Contract. In particular, PIP updates shall be provided whenever any technical, management, or contractual change is foreseen or becomes necessary as a result of any changes in the project implementation or supplemental agreement made to the contract. When updates are performed, the Contractor shall submit a revised version of the PIP to the Purchaser, clearly identifying all proposed changes within the text and providing a summary of those changes.
- 2.3.14 The Contractor shall provide an electronic copy of all documents, spreadsheets, WBS, Gantt Charts, etc., which are presented in the PIP to the Purchaser in the following software format as applicable:
- a. Microsoft Office Professional, latest version
 - b. Microsoft Project, latest version
 - c. Adobe Acrobat Reader, latest version.
- 2.3.15 An example of the implementation of the temporal constrains presented in this document in the PIP is provided in Annex B.

2.4 Management and Project Control Plan

- 2.4.1 The Contractor shall define in detail in The Management and Project Control Plan how the Contractor intends to manage this project from EDC through FSA and throughout the O&M period, including warranty and optional support.
- 2.4.2 The Contractor shall consider all aspects of project management and control and demonstrate by means of programme analysis and planning how all the critical dates defined in the Contract SSS will be met.
- 2.4.3 The Contractor shall include in this plan the following:
- a. the management structure of the Contractor's PMO indicating its relationship within the company structure;
 - b. a list of personnel assigned to the Contractor's PMO and their biographies, respective roles, responsibilities and authority;
 - c. the identification of all major sub-contractors, a copy of the sub-Contract (if required by the Contract Special Provisions), the portion of the overall effort/deliverable item for which they are responsible and the mechanism through which their work will be monitored and controlled;

- d. a programme schedule, consisting of Gantt/PERT style diagrams, which indicates the time line of all the project activities and consists of the following elements:
 - I. master phasing schedule;
 - II. milestone charts showing activities to be performed in the form of an activity network;
 - III. time schedule and activity/precedence diagram(s).

2.4.4 The Contractor shall develop and maintain activity diagrams coded to correlate with the elements of his Work Breakdown Structure (WBS).

2.4.5 The Contractor shall use the WBS as the primary framework reference for Contract planning and reporting to the Purchaser.

2.5 Risk Assessment and Management Plan

2.5.1 The Contractor as part of his overall project management process shall implement and maintain a structured programme of risk assessment and management.

2.5.2 The Contractor shall address in this programme the following areas:

- a. The identification of risks to the completion of the SOW tasks;
- b. Assessment of the probability of each risk occurring, and quantification of its possible impacts;
- c. Identification of a risk owner for each risk;
- d. Formulation of risk mitigation measures.

2.5.3 The Contractor shall require that each major sub-contractor also implements a programme of risk assessment and management.

2.5.4 The Contractor shall be responsible for integrating these sub-programmes into a single project programme.

2.5.5 The Contractor shall provide in the PIP a Risk Assessment and Management Plan that defines the strategy for risk management and the way the risk management process will be conducted throughout the Contract duration.

2.6 Project Management Reviews

2.6.1 The Contractor shall arrange a Progress Review Meeting (PRM) with the Purchaser every 8 weeks commencing at the PIP review meeting. A teleconference progress review with the Purchaser shall be provided by the Contractor in between two PRMs.

2.6.2 The first PRM shall be held at the Contractor's premises.

2.6.3 Follow on PRMs shall be held in Purchaser's facilities in Brussels or The Hague and exceptionally at the Contractor's or sub-contractor's facility upon Purchaser's request. Exact dates of the meetings will be established by mutual

agreement of the Parties.

- 2.6.4 The agenda of the PRMs shall cover all major aspects of the project.
- 2.6.5 The Contractor shall develop and submit the draft agenda for each PRM along with the Progress Report for Purchaser to review and agree (not later than 2 weeks prior to each PRM).
- 2.6.6 The Contractor shall submit a Formal Progress Report, to be received by the Purchaser not later than 1 week prior to each PRM, which shall include a thorough disclosure of the following points:
- a. the major activities performed and work completed since the last PRM, including major milestones achieved as applicable;
 - b. the progress of work related to the schedule in the current Project Implementation Plan;
 - c. a description of any identified problems and high risk areas and the proposed solutions and corrective actions;
 - d. any foreseen or possible changes to project performance or schedule;
 - e. the plans for activities during the following reporting period.
- 2.6.7 The Contractor shall prepare and submit the draft PRM Minutes to the Purchaser for review within 1 week following the conclusion of the PRM.
- 2.6.8 The final Minutes shall be agreed and signed by both Parties' respective Project Managers as a correct full record of the PRM and the current status of the Contract.
- 2.6.9 These minutes shall not be regarded by the Parties as a mechanism to change the terms, conditions or specifications of the Contract or as a vehicle to alter the design or configuration of equipment or systems. Any such changes shall only be made by Contract amendment or by the procedures as set forth in this Contract.
- 2.6.10 The Contractor shall develop and manage a list of Action Items that are identified and agreed during PRMs. This list shall be included in the PRM minutes. It is the Contractor responsibility to proactively follow-up on and manage/resolve all Action Items to the point of Action Item closure.

2.7 System Engineering Plan

- 2.7.1 The requirements of the Contract concerning System Engineering are set forth in Section 3.
- 2.7.2 The Contractor shall develop a System Engineering Plan which defines all aspects of the systems engineering management, strategy and the processes that will be used.
- 2.7.3 The Contractor shall provide in the PIP a System Engineering Plan for the ECM System.

- 2.7.4 The Contractor shall include in this plan specific standards, methods, tools, actions and responsibility associated with all system engineering activities, including safety and security.

2.8 Security Management Plan

- 2.8.1 The requirements of the Contract concerning Security Management are set forth in Section 4
- 2.8.2 The Contractor shall provide in the PIP a Security Management Plan for the ECM System.
- 2.8.3 The Contractor shall include in this plan all activities related to personnel security and any required support to system security accreditation.

2.9 Quality Plan

- 2.9.1 The requirements of the Contract concerning Quality Assurance are set forth in Section 4.
- 2.9.2 The Contractor shall provide in this section of the PIP the Quality Plan.
- 2.9.3 The Contractor shall describe in this plan the Contractor's Quality Assurance Organization and Quality Assurance Control System.

2.10 Configuration Management Plan

- 2.10.1 The requirements of the Contract concerning Configuration Management are set forth in Section 6.
- 2.10.2 The Contractor shall provide in this section of the PIP the Configuration Management Plan.
- 2.10.3 The Contractor shall define in this plan the initial Configuration Items, the organisation and procedures used to manage the functional and physical characteristics of Configuration Items (CIs), including interfaces and configuration identification documents.

2.11 Integrated Support Plan

- 2.11.1 The requirements of the Contract concerning Integrated Logistics Support are set forth in Section 7.
- 2.11.2 The Contractor shall provide in this section of the PIP the Integrated Logistics Support Plan.
- 2.11.3 The Contractor shall identify in this plan the support structure required to support the systems and identify the resources (manpower, tools, equipment and consumable(s)) to be allocated to each task required for ILS, including manager responsibilities and provide a timeline of when such activities are to be conducted by WBS.

2.12 Test and Acceptance Plan

- 2.12.1 The requirements of the Contract concerning Test and Evaluation are set forth in Section 8.
- 2.12.2 The Contractor shall provide in this section of the PIP the Test and Evaluation Plan.
- 2.12.3 The Contractor shall identify in this plan his proposed test organisation and provide a Test and Evaluation plan by WBS for the allocation of personnel and the time line for the Test activities.

2.13 Documentation Plan

- 2.13.1 The requirements of the Contract concerning Documentation are set forth in Section 9.
- 2.13.2 The Contractor shall provide in this section of the PIP a Documentation Plan.
- 2.13.3 The Contractor shall provide a detailed plan by WBS to detail the resources allocated and the schedule of work to deliver the documentation required in this SOW.

2.14 Training Plan

- 2.14.1 The requirements of the Contract concerning Training are set forth in Section 10.
- 2.14.2 The Contractor shall provide in this section of the PIP a Training Plan to fulfil the Training requirements of the Contract as specified in SOW herein.

3 SYSTEM DESIGN AND ENGINEERING

3.1 General

- 3.1.1 The Contractor shall implement a system engineering programme which will be a continuing function throughout the duration of the Contract in order to provide technical integration and co-ordination of design, fabrication, and test activities.
- 3.1.2 The Contractor shall include in the system engineering programme the following:
- a. compatibility of hardware and software;
 - b. the justification for function and performance allocations to various sub-systems and equipment to achieve overall system requirements;
 - c. methodology for identification and resolution of technical problem areas that may develop during fabrication, installation and testing;
 - d. reconciliation of b. and c. above by audit techniques.

3.2 System Engineering Plan

- 3.2.1 The Contractor shall provide, in accordance with the Project Implementation Plan (PIP), a System Engineering Plan that shall establish and define the system engineering programme.
- 3.2.2 After acceptance by the Purchaser, the Contractor shall be responsible for maintaining and implementing the Plan.
- 3.2.3 The Contractor shall include in this plan:
- a. Hardware and software functional description;
 - b. Equipment design specifications;
 - c. Equipment performance calculations;
 - d. The description of the hardware, software and mechanical integration of assemblies, sub-assemblies and components into a coherent system;
 - e. Identification of interfaces throughout the system to ensure interface compatibility;
 - f. Technical reviews and reports;
 - g. Co-ordination with testing activities;
 - h. System safety engineering plan;
 - i. Electromagnetic interference and compatibility plan.

3.3 System Safety Engineering Plan

- 3.3.1 The Contractor shall apply engineering principles, criteria, and techniques to identify and mitigate safety hazards in all ECM systems (see MIL-STD-882E, DS 00-56 and AOP 52).

- 3.3.2 The Contractor shall design and/or select all equipment on the basis of inherent safety features which protect not only the human operators and maintainers but also the equipment itself.
- 3.3.3 The Contractor shall establish a System Safety Process (see MIL-STD-882E, DS 00-56 and AOP 52), to fulfil the safety requirements of the Contract. The Contractor shall perform a Failure Mode and Effects Analysis (FMEA), as suggested in applicable standards.
- 3.3.4 The Contractor shall provide, as part of the System Engineering Plan, a System Safety Engineering Plan (SSEP – also referred to as System Safety Program Plan SSPP) (see MIL-STD-882E, DS 00-56 and AOP 52).
- 3.3.5 The Contractor shall propose his risk assessment method in the SSEP.
- 3.3.6 The Contractor shall document in his SSP the procedures to control design, selection, procurement and manufacture of parts and materials.
- 3.3.7 The Contractor shall document the safety verification process in the SSEP.
- 3.3.8 The Contractor shall undertake safety verification prior to FAT for each of the ECM systems to ensure compliance with the SSEP and to demonstrate that each ECM system is tolerably safe and meets the defined safety targets.
- 3.3.9 The Contractor shall provide the safety verification results in a Safety Compliance Assessment (see MIL-STD-882E, DS 00-56 and AOP 52).
- 3.3.10 The Contractor shall document the techniques used to preserve the privacy and anonymity of the people in a specific section of the System Safety Engineering Plan.
- 3.3.11 The Contractor shall provide guidance on the operating procedure to be followed to comply with potential privacy or security restrictions.

3.4 System Design

- 3.4.1 The purpose of the System/Subsystem Design Description (SSDD) is to provide visibility for the Purchaser into the proposed system architecture that includes the hardware and software components of each System.
- 3.4.2 The Contractor shall deliver the System/Subsystem Design Description (SSDD) for the Vehicular ECM System and for the Static ECM System to the Purchaser, in draft form, no later than 6 weeks before CDR.
- 3.4.3 The Contractor shall define and record in the SSDD the architectural design of the System, identifying the components of the System, their interfaces, and the concept of execution among them.
- 3.4.4 The Contractor shall ensure that all the System requirements are allocated among the System components in a traceable manner down to Hardware Configuration Items (HWCI) and Computer Software Configuration Items (CSCI).
- 3.4.5 The Contractor shall identify for each Configuration Item (CI), HWCI and CSCI whether it is a new development item or an already qualified item.

- 3.4.6 For the CI labelled “qualified item” the Contractor shall make available to the Purchaser all available engineering, testing and qualification, ownership, warranty and licensing rights documentation related to these items, including the Certificate of Conformity (CoC).
- 3.4.7 The Contractor shall include in the SSDD the following:
- a. Traceability Matrix linking system requirements to details of the design and to the verification procedure;
 - b. Consistency with the System requirements;
 - c. Design Constrains;
 - d. Equipment design specifications;
 - e. Equipment performance calculations;
 - f. Identification of interfaces throughout the system to ensure interface compatibility;
 - g. Definition of the Configuration Items (HWCI and CSCI);
 - h. Software licensing, support and warranty agreements;
 - i. Security design specifications.
- 3.4.8 The Purchaser will review the SSDD document and provide its comments and observations 4 weeks after receipt of the SSDD by the Purchaser.
- 3.4.9 The comments and observations provided by the Purchaser shall be incorporated by the Contractor into the SSDD.
- 3.4.10 The Contractor shall organize a Critical Design Review (CDR) meeting to finalize the SSDD 2 weeks after the Purchaser provides its comments and observations to SSDD (at the Purchaser’s location or at the Contractor’s or sub-contractor’s facility upon Purchaser’s request).
- 3.4.11 The Contractor shall deliver the final version of the SSDD to the Purchaser not later than 2 weeks after the CDR. The Contractor shall formally submit the SSDD to the Purchaser for approval or rejection. The CDR milestone will be achieved and the associated payments authorised only after all the deliverables have been accepted by the Purchaser.

3.5 Technical Reviews

- 3.5.1 The principle purpose of Purchaser participation in technical reviews is to be informed about and approve the Contractor's design. Such approval is based upon Contractor supplied information and in no way relieves the Contractor's obligation to deliver a system wholly in conformity with the technical performance specifications contained in this Contract.
- 3.5.2 The Contractor's system engineering programme shall include provision for one (1) technical review, the Critical Design Review (CDR). During this technical review the Purchaser will examine the details of system design.
- 3.5.3 The Contractor shall provide detailed information and test data to assure the

Purchaser that all functional and performance requirements have been achieved.

- 3.5.4 The Contractor shall include the schedule and planned conduct of the CDR and resulting report in the system engineering plan.
- 3.5.5 The Contractor shall address in the technical review all aspects of the design and cover all functional and performance requirements and for each CI the Contractor shall address:
- a. allocated functional and performance requirements derived from overall requirements specified in the Contract;
 - b. CI specifications, addressing the following:
 - I. functional specifications;
 - II. performance specifications (technical and environmental) in particular any vehicle handling or serving limitations imposed by the addition of the ECM system;
 - III. physical layout (form and fit), including human engineering;
 - IV. subsystem integration requirements.
 - V. system security requirements.
 - c. current fabrication status and test results available to validate the design approach and achievement of relevant specification.
- 3.5.6 In preparation and conduct of the technical review the Contractor shall:
- a. develop the agenda for the review;
 - b. provide the Purchaser with an electronic copy of appropriate technical material including draft CI specifications;
 - c. provide reports from and ensure participation by sub-contractors, vendors and suppliers as necessary;
 - d. organise and present briefings as necessary;
 - e. provide schedule, test and design data and supporting analysis for the review;
 - f. provide appropriate technical personnel at the review;
 - g. provide the Purchaser with an electronic copy of the summary meeting report not later than 2 weeks subsequent to the review.

4 SECURITY

4.1 Security Accreditation

- 4.1.1 The contractor shall provide an ECM system description document developed according to the required template.
- 4.1.2 Upon submission of ECM system description and subsequent decision by the Security Accreditation Authority (SAA) on the required Security Accreditation process, the Contractor shall provide inputs for the required documentation to be developed in support to the Security Accreditation process, such as Communication Information System (CIS) Description, Security Accreditation Plan (SAP), Security Risk Assessment (SRA), Community Security Requirement Statement (CSRS), System Security Requirements Statement (SSRS), Security Operating Procedures (SecOPs), Security Test and Validation Plan (STVP).

4.2 Security Testing

- 4.2.1 The Contractor shall demonstrate compliance of the ECM system with the defined security requirements, including compliance with operating system and security configuration settings.
- 4.2.2 The Contractor shall develop and provide ECM system documentation as required by the NCI Agency in order to support the security penetration test and screening activities. The security settings and related testing documentation will be provided as part of PFE.
- 4.2.3 The Contractor shall provide and maintain, as an annex to the Test Plan, which can be addressed as a separate document, a Security Test and Validation Plan (STVP) that details the tests by which it will demonstrate compliance with the security requirements. These tests should demonstrate that the Contractor has mitigated the security risks that are identified in the Security Risk Assessment. The report of this test shall be delivered to the Security Accreditation Authority as a step to achieve Security Accreditation.

5 QUALITY ASSURANCE

5.1 QA Programme

- 5.1.1 The Contractor shall establish, document and maintain a Quality Assurance (QA) programme in accordance with the requirements of STANAG 4107, AQAP-160, AQAP-2110 Edition 3, AQAP-2210 Edition 1 and ISO 9001:2008.
- 5.1.2 The Contractor in his QA programme shall assure the quality of all deliverable and non-deliverable items throughout the duration of the Contract and that all activities are performed in accordance with the requirements of the SOW and applicable safety standards.
- 5.1.3 The Contractor in his QA Programme shall ensure that procedures are developed, implemented and maintained to adequately control the development, design, production, testing and configuration of all deliverables.
- 5.1.4 The Contractor shall describe the QA Programme in the Quality Plan. The Purchaser will review Quality Plan in accordance with AQAP 160, AQAP-2110 and AQAP-2210. AQAP 169, AQAP-2000 and AQAP-2009 will be used by the Purchaser as a guide in the interpretation of AQAP-2000 series.
- 5.1.5 AQAP-2110 and AQAP-2210 may be tailored by the Contractor for COTS hardware and COTS software. The Contractor shall obtain Purchaser approval of any tailoring of the subject documents.
- 5.1.6 The Contractor shall apply the QA Programme to all hardware, software, documentation, training, services and supplies that are designed, developed, acquired, maintained or used, including deliverable and non-deliverable items.
- 5.1.7 The GQA multilateral agreement, existing between NATO countries and NATO organisations, is laid down in STANAG 4107. The Contractor shall recognise and accept the application of STANAG 4107 for this Contract and sub-contracts thereof.
- 5.1.8 The Contractor shall comply with the requirements of STANAG 4107. In addition, the Contractor shall use AQAP-2070 as guidance to the delegation of GQA.
- 5.1.9 The Contractor shall provide all necessary assistance to the Purchaser QA Representative (QAR), or his delegated National Quality Assurance Representative (NQAR), if and when QA activities are delegated in accordance with STANAG 4107 for review and audit of the Quality Plan in the Contractor's and Sub-contractor's facilities.

5.2 Organisation and Personnel

- 5.2.1 The Contractor shall establish and maintain an effective QA organisation to implement the QA programme and manage the QA functions.
- 5.2.2 The Contractor shall ensure that the QA organisation and its management of the QA programme are totally independent from the Programme Management.
- 5.2.3 The Contractor shall assure that QA personnel shall have sufficient

responsibility, authority, organisational freedom and organisational independence to review and evaluate activities, identify problems and initiate or recommend corrective actions.

- 5.2.4 The Contractor shall appoint a QA Manager having full responsibility and accountability for the establishment, implementation and effectiveness of the QA Programme.

5.3 Quality Plan

- 5.3.1 The Contractor shall provide, as part of the PIP, a Quality Plan which documents the QA Programme and conforms to the requirements of AQAP-2105, Edition 2.
- 5.3.2 The Contractor shall ensure that all Contractor procedures referenced in the Quality Plan are provided with the Quality Plan for review and approval.
- 5.3.3 The Contractor shall ensure that the Quality Plan covers all aspects of the QA Programme for monitoring and control of hardware, software, firmware, testing, documentation, services and supplies.
- 5.3.4 The Quality Plan shall cover as a minimum all major items of supply in accordance with the SSS.
- 5.3.5 The Quality Plan and all related QA procedures shall be subject to Purchaser approval.
- 5.3.6 The Contractor shall maintain a QA Log during the lifetime of the project in which records are kept accounting for all QA-activities, most notably all QA reviews. All accounting shall be done through dating and sign-off by the responsible QA person. The QA log shall enable the Purchaser to verify if and when a deliverable has been QA reviewed, by whom and with what result.

6 CONFIGURATION MANAGEMENT

6.1 General

- 6.1.1 The Contractor shall be responsible to establish and maintain an effective CM organisation to implement the CM programme and manage the CM functions (configuration identification and documentation, configuration control, configuration status accounting, configuration audits).
- 6.1.2 The Contractor shall be responsible for the application of all necessary CM procedures, in accordance with the requirement and guidance stated below, throughout the life of the Contract.
- 6.1.3 The Contractor shall perform Configuration Management (CM) in accordance with STANAG 4427 Ed 3 and ACMPs 2100 and ACMP 1 to 5. The Contractor shall use ACMPs 2000, 2009, 6 and 7 as guidance.

6.2 Deliverable Version Numbering

- 6.2.1 The Contractor shall propose a deliverable version control system as part of the CM Plan detailed below.
- 6.2.2 This version control system shall allow for the unique identification of all changes to the deliverables, no matter how minor the change.
- 6.2.3 The version control system shall also identify a difference between major and minor changes.
- 6.2.4 Any doubt whether a revision constitutes a major or minor change shall be referred to the Purchaser for decision.

6.3 Configuration Management Plan

- 6.3.1 The Contractor shall provide a CM Plan tailored to the requirements of the proposed technical solution.
- 6.3.2 The Contractor shall provide the CM Plan as part of the PIP and shall periodically update it as required.
- 6.3.3 The Contractor shall include in the CM Plan the following:
 - a. Introduction
 - b. CM Organization
 - c. Configuration Identification and Documentation
 - d. Configuration Control
 - e. Configuration Status accounting
 - f. Configuration Audits
 - g. Management tools/Interface management

6.4 Configuration Identification and Documentation

- 6.4.1 The Contractor shall establish a configuration identification system.
- 6.4.2 The Contractor shall identify with this system all documents that provide a full technical description of the characteristics of the Hardware and Software Configuration Items (HWCI and SWCI) that require control at the time each baseline is established and shall include the relevant deliverables in the Contract.
- 6.4.3 The Contractor shall propose appropriate CIs in the CM Plan including an explanation of the rationale and criteria used in the selection process, which shall be based on the criteria for selection of CIs as detailed in ACMP-3. The CI-list is proposed by the Contractor, approved by the Purchaser, all before CDR. The Purchaser approved CI-list is an explicit entry requirement for the CDR.
- 6.4.4 The Contractor shall provide the CI structure (as a tree structure) for each type of ECM system (Vehicular and Static) with the System being the top level CI and shall show the relationships between the CIs.

6.5 Baselines

- 6.5.1 The Contractor shall propose the Configuration Items which he considers to best describes the Functional Baseline, which includes all necessary functional characteristics, the test requirements, interface characteristics and the design constraints.
- 6.5.2 From the Functional Baseline, the Contractor shall establish the Allocated and Product Baselines as described below.
- 6.5.3 The Contractor's Allocated Baseline shall comprise the configuration documentation, which includes:
 - a. functional and system design documentation, development specifications, performance specifications, and interface documentation;
 - b. the allocation of functional characteristics to Configuration Items (CIs);
 - c. the design constraints;
 - d. the verification and testing required to demonstrate achievement of the functional baseline.
- 6.5.4 The Contractor's Product Baseline shall comprise the configuration documentation, which includes:
 - a. the product, material and process specifications;
 - b. the engineering drawings;
 - c. other technical documentation for CIs that satisfactorily reflects the requirements of the functional and allocation baselines;
 - d. the acceptance tests documents;

e. PCA and FCA documentation.

- 6.5.5 The Contractor shall ensure that there is full traceability through all baselines back to the functional baseline.
- 6.5.6 The Contractor shall encapsulate and maintain the CM baselines in a database (CMDB) established by the Contractor as specified under the Configuration Management Tools below.
- 6.5.7 The Contractor shall include in the CM Plan detailed proposals for the documents that will comprise the above baselines for approval by the Purchaser.
- 6.5.8 At the end of the Contract, the Contractor shall deliver the baseline documentation in hard-copy and on optical media in a format which complies with Para 2.3.14.
- 6.5.9 As part of the CM database, as specified under Configuration Management Tools below, the Contractor shall transfer a copy of the current version of all baselines to the Purchaser at FSA.

6.6 Configuration Control

- 6.6.1 The Contractor shall propose in the CM Plan detailed configuration control procedures.
- 6.6.2 The Contractor shall be responsible for issuing in a timely manner all approved changes and revisions to the functional, development and product baseline documents included in the Contract. This includes changes originated both by the Contractor and the Purchaser.
- 6.6.3 Copies of change pages or documented revisions shall be provided in accordance with the Schedule of Supplies and Services (SSS).
- 6.6.4 Where a change affects more than one (1) document, or affects documents previously approved and delivered, the Contractor shall ensure that the change is properly reflected in all baseline documents affected by that change. Changes shall only become effective upon Purchaser written approval.

6.7 Engineering Change Proposals

- 6.7.1 Changes to baseline CIs shall be processed as either Class I or Class II Engineering Change Proposals (ECPs) as defined in ACMP-3.
- 6.7.2 The Contractor shall propose in the CM Plan an ECP format based on the requirements in ACMP-3.
- 6.7.3 The Contractor shall use the configuration control procedures specified in the CM Plan for the preparation, submission for approval implementation and handling of ECPs to baseline CIs.
- 6.7.4 When submitting ECPs, the Contractor shall assign a priority rating of Emergency, Urgent or Routine.

- 6.7.5 Extensions to the target times for processing Class I ECPs shall be mutually agreed upon by the Contractor and Purchaser.
- 6.7.6 The Contractor shall not implement Class I ECPs before Purchaser approval.
- 6.7.7 Prior to implementation, all Class II ECPs shall be submitted by the Contractor to the Purchaser for review and classification concurrence.
- 6.7.8 If the Purchaser's representative does not concur in the classification, Class I ECP procedures shall be applied and the ECP shall be formally submitted to the Purchaser for approval or rejection.
- 6.7.9 The Contractor shall appropriately reflect in the technical documentation all design changes by the issue of appropriate changes or revisions.
- 6.7.10 The Contractor shall provide all such changes/revisions to the Purchaser for review and approval.

6.8 Requests for Deviation and Waiver

- 6.8.1 If required, the Contractor shall prepare, handle, and submit for Purchaser approval, Requests for Deviation (RFDs) and Requests for Waiver (RFW) as defined in ACMP-3.
- 6.8.2 The Contractor shall propose in the CM Plan a RFD/RFW format based on the requirements in ACMP-3.
- 6.8.3 The Contractor shall be aware that permanent departures from a baseline shall be accomplished by ECP action rather than by RFD.

6.9 Configuration Status Accounting

- 6.9.1 The Contractor shall be fully responsible for the Configuration Status Accounting (CSA) for all CIs in accordance with ACMP-4.
- 6.9.2 The contractor shall provide reports which will be prepared and delivered in a manner, format and schedule which shall be proposed by the Contractor in his CM Plan and approved by the Purchaser.
- 6.9.3 At the end of the Contract, the Contractor shall deliver a set of final CSA reports for each CI in both hard-copy and optical media.

6.10 Configuration Audits

- 6.10.1 The Contractor shall establish Configuration Audits to verify compliance with the specifications and other Contract requirements, in accordance with ACMP-5.
- 6.10.2 The Contractor shall include in the CM Plan detailed proposals for the audits.
- 6.10.3 The reviews and audits shall be carried out jointly by the Contractor and the Purchaser in accordance with the Contractor's approved CM Plan and shall consist of:

- a. Functional Configuration Audit (FCA): The FCA shall consist of review and acceptance of Contract documentation, and test and acceptance of the system delivered to the Purchaser. The FCA will be conducted after each test (e.g. FAT, SAT), FCA is progressive and shall not be completed until all tests have completed.
- b. Physical Configuration Audit (PCA): This audit entails the formal examination of the 'as-built' or 'as-modified' CIs against their technical documentation to ensure that each deliverable CI matches the related documentation. The successful completion of this activity establishes the product baseline. The PCA will be conducted during FAT.

6.11 Configuration Management Tools

- 6.11.1 The Contractor shall use automated tools where appropriate to establish the various baselines referred to above.
- 6.11.2 The Contractor shall maintain a CSA database using the software tools for the entire period of the Contract.
- 6.11.3 At the end of the Contract, the Contractor shall transfer the current CSA database to the Purchaser.
- 6.11.4 If a proprietary database format is used, the CSA database shall be delivered together with the CM system and associated perpetual licenses (as part of the product baseline).

7 INTEGRATED LOGISTICS SUPPORT (ILS)

7.1 General

7.1.1 This section outlines the supportability requirements of the project. It addresses various Integrated Logistic Support (ILS) elements such as: maintenance, supply support (including spares, tools and test equipment), customer support, packaging, handling, storage & transportation (PHS&T); manpower & personnel; documentation, manuals, drawings; training; logistics systems and logistics data; and facilities: repair, storage) and warranty.

7.2 Support planning

7.2.1 In the Integrated Support Plan (ISP) section of the PIP the Contractor shall describe the Contractor's logistics operation as it relates to the requirements of this Section.

7.2.2 Explicitly, the Contractor shall describe:

- a. His ILS organisation, roles, responsibilities and procedures;
- b. Deliver the equipment including ensuring that the transportation and delivery requirements are met with all the associated specified preservation, packaging, codification and marking requirements;
- c. Ensure that the warranty requirements of the Contract are satisfied;
- d. Cover in detail the provision of all acceptance and handover documentation but in particular the FSA support documentation.

7.2.3 The initial version of the ISP shall be provided to the Purchaser for acceptance, which the Contractor shall maintain to reflect changes in the project baselines, the SOW or in any support arrangements for any of the ECM System CIs.

7.2.4 All Contractor and Purchaser activities and milestones related to ILS shall be identified and included in the Project Master Schedule.

7.2.5 The Contractor shall submit a separate, stand-alone In-Service Support Plan (ISSP). The ISSP shall describe in detail the practical instructions necessary for the Purchaser's in-service support organisation to operate and maintain the equipment and software delivered under this Contract.

7.2.6 The Contractor shall include within the ISS Plan a Recommended Item List (RIL), to permit the Purchaser's in-service organisation to sustain full serviceability and availability during its operational lifetime (maintenance Level 1, 2 and 3).

7.2.7 The ISSP shall include:

- a. description of the ECM System;
- b. formulation of the integrated support concept (the O&M concept), including the maintenance concept, customer support concept (service management & control concept), supply concept and warranty concept (see also Section 7.3);

- c. description of the parties involved in the support concept, their responsibilities for the various levels of support, period of support (start and end dates) and PoC details;
- d. description and allocation of maintenance tasks (corrective and preventive), and service management & control tasks (such as for incident management, problem management, release management and deployment management) to the various levels of support;
- e. procedures to follow when any part of the system fails;
- f. forms to use in the process of affecting system restoration after a failure;
- g. detailed listing of the equipment and software in scope of warranty;
- h. warranty instructions, warranty start and end dates;
- i. comprehensive lists of provided initial spares, consumables, tools and test equipment (i.e. RIL);
- j. comprehensive lists of provided COTS documentation, as-built drawings and manuals;
- k. comprehensive lists of provided training material and training courses;
- l. an assessment of the numbers and types of technical resources required to support the ECM System sites beyond IOC;
- m. a budget estimate of sustainment life-cycle cost for a period of 8 years with the estimated number and complexity of changes identified within the costing.

7.2.8 The description of the Support Concept in the ISSP shall include the support environment, constraints, locations, procedures, software artefacts, tools and skills required to operate and maintain the Capability throughout the equipment's life.

7.2.9 The description of the Maintenance Concept in the ISSP shall define the maintenance flow amongst the various NATO and non-NATO locations, organisations, groups, and personnel.

7.2.10 The description of the Maintenance Concept in the ISSP shall define 1st, 2nd, 3rd, and 4th level support tasks, to include maintenance tasks and service management & control (SM&C) tasks. At each of these levels, the procedural description shall include objectives, triggering events, inputs, outputs, tasks, roles and responsibilities, constraints, exceptional cases and tools support.

7.2.11 The ISSP shall cover the period starting at FSA until End of Life of the ECM system. The ISSP shall not be limited to the Contractor's involvement in the life cycle of the ECM System, only, but include the responsibilities of all parties involved in the integrated support of the ECM System.

7.3 Support Concept

- 7.3.1 The Contractor shall be responsible for all levels of support until Final System Acceptance (FSA). This support shall be provided Monday through Friday during local business hours (at the storage or deploy location) and shall include reach back support (including afterhours support if required) in the event of serious or total failure of deployed or stored equipment. After FSA, the Purchaser will be responsible for first, second and third level of support, while the Contractor shall support the Purchaser at level three (3) and provide level four (4) support, under the warranty. The Purchaser will manage and deliver the level three (3) support with assistance from the Contractor (off-site support mainly).
- 7.3.2 The Contractor shall be responsible for all warranty repairs of ECM Systems throughout the warranty period of the contract. This support shall include replacement of any faulty ECM System hardware or software item for the Reference System, Training System, and the Operational equipment.
- 7.3.3 In the event of items requiring special handling the Contractor shall provide the Purchaser with instructions for handling of the item and any replacement item.
- 7.3.4 If the Option(s) for Operational Support is/are exercised by the Purchaser the Contractor shall provide initial Operational Support at the deployed location for a period of 90 days following the completion of FSA. This support shall be provided Monday through Friday during local business hours, with afterhours support available in the event of the total failure of equipment.
- 7.3.5 The Contractor shall maintain a record of maintenance data during the project and during the contracted warranty periods. The Contractor shall provide access to the Purchaser to this data at all times. At the end of the project/warranty period the Contractor shall deliver all this data. If a proprietary solution is used to store and retrieve the data, the Contractor shall provide the system and the licenses required to operate that system. The data must be kept current so that a complete maintenance history of each piece of equipment is available at all times. This is important for planning and conducting an ongoing maintenance programme and provides documentation needed for reliability and O&M reviews.
- 7.3.6 1st level maintenance tasks shall be defined and designed for users and operators and shall include, but are not limited to: day-to-day “housekeeping” tasks, visual inspections, verification of function and performance of the Capability, and change of configuration settings for adaptation to the operational environment or use.
- 7.3.7 1st level SM&C tasks shall include the service request and incident management process in accordance with the ISO/IEC 20000 and ITILv3 framework or equivalent, including establishment of a local help desk function and integration with the Purchaser’s level 2 remote, central service desk.
- 7.3.8 2nd level maintenance tasks shall be defined and designed for non-specialized military maintenance personnel, and shall include, but are not limited to: detailed inspections, limited calibrations, replacement of items without

specialized equipment or skillset, and minor equipment repairs and modifications. It also includes the confirmation that software updates are installed and have been completed successfully.

- 7.3.9 2nd level SM&C tasks shall include the problem management process in accordance with the ISO/IEC 20000 and ITILv3 framework or equivalent. Problem management tasks shall be integrated with the Purchaser's remote, central service desk, specialist and administrator tasks. As part of problem management the following tasks are included: (re-)evaluation of incident category, criticality and priority; identification of the root cause of the issue (e.g. by issue replication testing); identification of workarounds; identification and initial planning of possible short, medium and long-term solutions (e.g. workarounds, patches or new releases); creation of change requests; implementation planning and scheduling; synchronisation with the maintenance process; monitoring and control of the approved change request during implementation.
- 7.3.10 3rd level maintenance tasks shall be defined and designed for specialized military maintenance personnel, and shall include, but are not limited to: problem and modification analysis, complex repairs and/or replacements, detailed calibrations, supply support, overhaul and rebuild, implementation of major and/or critical changes (hardware and software), restoration (e.g. emergency maintenance) that requires specialized maintenance personnel and equipment, and monitoring and coordination for the transportation of faulty equipment from any deployed location and replacement equipment back to that location or a nominated NATO Depot (currently the NATO Storage Depot, Southern Operational Centre (SOC), Taranto, Italy).
- 7.3.11 3rd level SM&C tasks shall include the deployment and release management process in accordance with the ISO/IEC 20000 and ITILv3 framework or equivalent, assisted by an adequate configuration management and change management process, and integrated with the Purchaser's release and deployment process. In this process, solutions to faults and failures shall be developed, tested and deployed. This level shall employ and interact with the original equipment manufacturer or item vendors.
- 7.3.12 4th level maintenance tasks shall include, but are not limited to: repair of faulty LRU(s) or provisioning of replacement parts, complicated factory adjustments, and provision of maintenance releases for both hardware and software, beyond the capability of third level support. This level is normally carried out by the original equipment manufacturer or item vendors.
- 7.3.13 The Contractor furnished support shall be planned, implemented and executed according to STANREC 4174.
- 7.3.14 The scope of software maintenance shall be limited to:
- a. Corrective maintenance: Reactive modification of a software product performed by the contractor at no cost after delivery to correct discovered problems;

- b. Perfective maintenance: Modification of a software product after delivery to improve performance or maintainability;
- c. Preventive maintenance: Modification of the software products after delivery to detect and correct latent faults in the software product before these become effective faults.

7.4 Management and Control of Logistics Movement

Recommended Items List (RIL)

- 7.4.1 The Contractor shall provide a fully detailed, site specific and priced Recommended Item List (RIL) which shall detail comprehensively all items to support the system. The RIL will be used by the Purchaser to evaluate the Support Concept and initial provisioning of spares, repair parts, support equipment and consumables.
- 7.4.2 The RIL shall include the following items, organized in accordance with the Configuration Item (CI) breakdown:
- a. spare equipment items;
 - b. spare special-to-type cables;
 - c. spare ancillaries;
 - d. spare support equipment, such as: Tools & Test Equipment (TTE) and Packaging, Handling, Storage and Transportation (PHS&T) equipment;
 - e. repair parts;
 - f. technical consumables.
- 7.4.3 The RIL shall include the following data elements:
- a. item sequence number;
 - b. nomenclature;
 - c. true manufacturer's part number;
 - d. true manufacturer's identification code (Commercial and Government Entity Code - CAGE);
 - e. Mean Time Between Failure (MTBF);
 - f. repair time (for repairable items only);
 - g. delivery time (for repairable items and spares only);
 - h. population (by terminal and total);
 - i. recommended quantity (based on a 95% Fill Rate);
 - j. item price (including warranty and PHS&T);

- k. item repair cost (including warranty and PHS&T; for repairable items only);
- l. location.

7.4.4 The Contractor shall organise an ILS-specific side meeting during the PRM meeting after FAT to allow the Purchaser to validate the RIL and the Support Concept.

Transportation

- 7.4.5 All supplies covered under this Contract shall be transported from and to all destinations at the expense of the Contractor throughout the lifetime of the contract. The Contractor shall transport equipment and personnel only with the approved of the Purchaser.
- 7.4.6 The Contractor shall provide the ILS PoC with a Transportation Plan (part of the ISP) 4 weeks before the first delivery in electronic format.
- 7.4.7 All equipment covered under this Contract, as detailed in the Schedule of Supplies and Services shall be transported from a NATO country to the NATO Storage Depot, Southern Operational Centre (SOC), Taranto, Italy, through Contractor arrangements, and at the expense of the Contractor.
- 7.4.8 The Purchaser shall not be liable for any storage, damage, or any other charges involved in transportation of equipment by the Contractor, prior to the actual acceptance of such equipment by the Purchaser at the NATO Storage Depot, Southern Operational Centre (SOC), Taranto, Italy, by the Purchaser or entity designated by the Purchaser.
- 7.4.9 The Contractor shall create and maintain a Transportation Report that states the planned versus the current and final transportation results, including the delivery stages, location(s) and dates with the corresponding receiving NATO and non-NATO POC's and confirmations/signatures.

Preservation and Packaging

- 7.4.10 The Contractor shall, for the purpose of transportation, package, crate, or otherwise prepare items in accordance with the best commercial practices for the types of supplies involved, giving due consideration to shipping and other hazards associated with the transportation of consignments overseas. Crates shall be sufficiently robust and durable to be re-used throughout the life of the equipment. If wooden boxes are used these shall comply with International Phytosanitary Measures (ISPM n°15).
- 7.4.11 The Contractor shall ensure that packing lists are provided in such a way as to permit easy identification of the items to be delivered to destinations. These packing lists shall accompany the shipment. Each individual box from a consignment shall have one packing list in weatherproof envelope affixed to the outside of each box that indicates exactly what is contained inside. One copy shall also be put inside each box.

- 7.4.12 The packing lists shall contain all necessary information for easy identification of the content by the Consignee and shall also indicate the Contract Number, Prime Contractor/Sender and the Purchaser's names and addresses.
- 7.4.13 Any special packaging materials required for the shipment of items shall be provided by the Contractor at no extra cost to the Purchaser.

Delivery of equipment

- 7.4.14 The Contractor shall deliver ECM System hardware and software as specified in this Contract (including the vehicles with the ECM installed). This section defines the general requirements that shall apply to all ECM System equipment delivery.
- 7.4.15 The labour involved in the packing, unpacking, installation, configuration, and activation of ECM System equipment shall be provided by the Contractor as part of the activities defined in Section 7.

System Inventory and Material Data Sheet

- 7.4.16 The Contractor shall provide a draft Material Data Sheet (MDS) four (4) weeks before the FAT. The final MDS shall be provided two (2) weeks before the first shipment. The MDS is an early version of the System Inventory and, amended as necessary, will be used by the Purchaser for acceptance purposes and to create data element entries in the NATO accounting system.
- 7.4.17 The MDS and the System Inventory shall be site specific and shall include all hardware items, software items/licenses and documents furnished under this Contract.
- 7.4.18 The MDS shall, as a minimum, include the data elements cited with "MDS" below, if applicable.
- 7.4.19 The Contractor shall provide a System Inventory, as a hard copy as well as on electronic media in Microsoft Excel or Access database format. Details on the exact format of the various data elements to be adopted will be communicated following contract award. An inventory template together with a full content description for each column (electronic format) shall be provided to the Contractor after contract award at the request of the Contractor. The minimum inventory/equipment data elements required are as follows:
- a. Contract Customer Line Item Number (CLIN);
 - b. NATO Stock Number (NSN - if available);
 - c. Nomenclature – **MDS**;
 - d. Expendable/Repair code XB/ND – **MDS**;
 - e. True Manufacturer Part Number – **MDS**;
 - f. True Manufacturer Cage Code – M (or complete name & address);
 - g. Vendor/Contractor Cage Number (or complete name & address) – **MDS**;

- h. Vendor/Contractor Part Number – **MDS**;
- i. Quantity ordered-**MDS**;
- j. Order Unit – **MDS**;
- k. Serialized Item Tag – **MDS**;
- l. Serial number – **MDS**;
- m. Serial number software revision level;
- n. Serial number hardware revision level;
- o. Other serial number attributes;
- p. Currency – **MDS**;
- q. Unit Price – **MDS**;
- r. Warranty expiration date – **MDS**;
- s. Receiving NATO Depot;
- t. Extended Line Item Description;
- u. Part Number of next higher assembly;
- v. Quantity in the next higher assembly.

Customs Form 302

- 7.4.20 The Contractor shall ensure the timely request of Customs Forms 302 which are required for duty free import/export of supplies. Following receipt of the request by the Purchaser, normally a maximum of three working days is required for the issue of the form. This form is not required for movements within the European Union.
- 7.4.21 These forms have to be originals and cannot therefore be faxed but have to be mailed or sent by mail/express courier. In case that an express courier has to be used to ensure that the form is available in time before shipment, all associated costs shall be the responsibility of the Contractor.
- 7.4.22 The written request for a 302 form shall contain the following information:
- a. Purchaser Contract Number,
 - b. CLIN, Designation and Quantities,
 - c. Destination,
 - d. Number and Gross Weight,
 - e. Consignor's and Consignee's Name and Address,
 - f. Method of Shipment, i.e. road, rail, sea, air, etc.
- 7.4.23 If a country refuses to accept the Form 302 and requires the payment of customs duties, the Contractor shall immediately inform the Purchaser by the fastest means available and obtain from the Customs Officer a written statement establishing that his country refuses to accept the Form 302. Only after having received Purchaser's approval the Contractor shall pay these customs duties and the Purchaser shall reimburse the Contractor at actual cost

against presentation of pertaining documents.

- 7.4.24 The Contractor shall inform forwarding agents of the availability of Form 302 and how this form is utilised to avoid the payment of customs duties. This Form 302 shall be added to the shipping documents to be provided to the carrier.

Notice of Shipment

- 7.4.25 10 working days before each shipment of supplies, the Contractor shall provide the Purchaser's ILS officer with a notice of shipment comprising the following details:
- a. Shipment Date,
 - b. Contract Line Item,
 - c. Consignor and Consignee,
 - d. Number of Packages/Containers,
 - e. Final/Partial Shipment,
 - f. Mode of Shipment,
 - g. Number of 302 Forms used.

Shipment Loss

- 7.4.26 The Contractor shall ship all required hardware, software, and installation or testing tools to the locations designated by the Purchaser. The Contractor shall be responsible for resolving or replacing any loss incurred during shipping.

Package marking

- 7.4.27 The packages or containers in which supplies are transported shall, in addition to normal mercantile marking, be marked with the following data on a separate nameplate (or transfer or stamping if nameplate is not practical):
- a. Purchaser project title,
 - b. Purchaser contract number,
 - c. Purchaser CLIN as per Schedule of Supplies and Services,
 - d. System/sub-system denomination,
 - e. True Manufacturer's part number, serial number and revision level.

Bar Coding Identification of Equipment and Components

- 7.4.28 To facilitate equipment and associated items management, accountability and maintenance, bar codes will be affixed to the deliverables of this contract. Marking of the bar codes shall be accomplished in a manner that will not adversely affect the life and utility of the item or component. The bar code application shall be capable of withstanding the same environmental conditions

as the item and of lasting the lifetime of the item. In some cases, when appropriate, the Purchaser may direct the Contractor to attach a long wearing tag to the item rather than affixing the bar code directly.

- 7.4.29 Using the format (syntax) provided by the Purchaser, the contractor shall develop and generate a typical bar code for one of the equipment item and forward it to the Purchaser for “readability” test.
- 7.4.30 Bar coded items will be recorded in the MDS and verification will be performed during the FAT (Factory Acceptance Test).
- 7.4.31 The Contractor shall include a packing slip with readable bar codes in any material shipment. No goods will be shipped without bar coding being completed.
- 7.4.32 A bar code catalogue shall include picture, name, part number, quantity and the readable bar code for all the equipment major/sub-assemblies, loose items, spare parts etc. will be included in the documentation (the complete barcode catalogue shall be included in the Technical Manual) and one plasticized copy placed inside each container/vehicle. A second barcode catalogue shall be developed for the initial spares kit and placed inside the spares transport box. *Warning: the plasticized barcode catalogues, placed inside the container/vehicles and transport boxes, shall be waterproof and durable.*
- 7.4.33 Details on items that need to be bar coded and on the type of bar code that shall be used will be provided by the Purchaser at the kick-off and requirements clarification meeting.

7.5 Warranty

- 7.5.1 The Warranty requirements are covered in Article 27 of the General Provision document, and supplemented in Article 22 of Special Provision. The warranty requirements included in this document (Statement of Work) covers warranty implementation and management processes.
- 7.5.2 The Contractor shall warrant the delivered ECM Systems after the date of Final Systems Acceptance (FSA), in accordance with the Warranty provisions set forth in Contract Special Provisions, for a period of minimum one year.
- 7.5.3 If the Option(s) for Contractor support is/are exercised by the Purchaser, (following successful delivery of the ECM systems, and completion of the warranty period of this Contract) the Contractor shall provide such support under the terms of the Contract in accordance with the requirements outlined in the Statement of Work.
- 7.5.4 The Contractor shall be solely responsible for all costs to implement and administer the required warranty throughout the entire warranty term(s).
- 7.5.5 The Contractor shall preserve all warranties of the Purchaser Furnished Equipment (vehicles) provided for ECM integration.
- 7.5.6 Any item returned for repair will be despatched by the Purchaser from theatre (if deployed) to the NATO Storage Depot, Southern Operational Centre (SOC),

Taranto, Italy. It is the Contractors responsibility to collect the unserviceable item and return a serviceable repaired or new item to the NATO Storage Depot, at the Contractors own expense, for onward despatch to theatre from NATO Storage Depot, Southern Operational Centre (SOC), Taranto, Italy within 90 working days.

- 7.5.7 The Contractor shall provide Next Business Day technical assistance during the warranty period for all hardware and software provided under this Contract for one year from the time of FSA.
- 7.5.8 Technical support shall be made available during the warranty period and following receipt of a call the initial response shall be provided within one working day.
- 7.5.9 Defective magnetic and electronic media storage devices (i.e. Compact Discs (CD), hard drives, USB memory devices, etc.) shall remain NATO property, at no additional cost, and shall not be returned to the Contractor when being replaced.
- 7.5.10 Should the Contractor become aware at any time before the completion of the Contract that a defect exists in any contractor provided supplies, the Contractor shall promptly correct the defect at no additional cost to the Purchaser.

8 TEST AND ACCEPTANCE

8.1 General Principles

- 8.1.1 The Contractor shall verify that the delivered System complies with each of the requirements specified in the System Requirements Specification (SRS) (Annex A).
- 8.1.2 All equipment and facilities identified as a configuration item and supplied by the Contractor shall be tested under the control of the QA organisation defined in Section 5.
- 8.1.3 The Contractor shall conduct formal tests according to Purchaser-approved Test Documentation.
- 8.1.4 The Contractor shall document the results of the tests in Test Reports, which are subject to Purchaser approval.
- 8.1.5 All testing shall be the responsibility of the Contractor who shall provide all the personnel, documentation, equipment and facilities required to complete all testing and shall maintain complete records of all testing. The Contractor shall provide and be fully responsible for all test objects, materials and personnel (test subjects) as necessary and required for the testing and acceptance activities as defined in the Contract. This includes, but is not limited to, equipment insurance, authorisations for handling special substances, health and life insurance, etc.
- 8.1.6 The Contractor shall, for all items of equipment delivered under this Contract that are of an existing design with no, or only minor modifications and have been subjected to qualification tests during the last three (3) years, submit to the Purchaser all the necessary certified documentation in the form of test procedures, test result certificates, and associated curves and drawings, etc. to demonstrate that the equipment meets the requirement of this Contract. Where applicable, the justification of the fact that an applied or envisaged modification would not invalidate a granted qualification shall also be given and shall be subject to the Purchaser's concurrence.
- 8.1.7 The Contractor shall, where applicable, provide the justification of the fact that an applied or envisaged modification would not invalidate a granted qualification and it shall be subject to the Purchaser's concurrence.
- 8.1.8 The Contractor shall, for any item of equipment that has been newly developed or designed, or any item of equipment that has been substantially modified or redesigned to meet the requirements of this Contract, or an item that does not comply with Para 8.1.6 above, conduct first article qualification testing.
- 8.1.9 The Contractor shall provide as part of the PIP a Test Plan detailing all test and evaluation activities (see Section 2.12).
- 8.1.10 The Contractor shall develop test scenarios that shall be used in testing operational functionalities of the system (in particular for SAT).
- 8.1.11 The Contractor shall indicate in this plan the stages relevant to testing, e.g. test procedures, preparation and approval, testing and test reports.

8.2 Organisation and Responsibilities

- 8.2.1 The Contractor shall designate one (1) person to act as the overall Test Director for all formal T&E activities.
- 8.2.2 The Contractor shall allocate qualified personnel to form a T&E team for the implementation.
- 8.2.3 The Contractor's T&E organisation shall include a designated Engineer with detailed knowledge of each type of System who shall be the point of contact to respond to clarification requests by the Purchaser's representatives during test planning and execution and following delivery of test reports to the Purchaser.
- 8.2.4 The Purchaser reserves the right to approve or reject the Contractor's test and evaluation activities, including test documentation, test procedures, test conducted, analysis and test results. For test clarification, the Purchaser may require additional testing and test documentation.
- 8.2.5 Final approval of all relevant equipment and System test reports by the Purchaser is a prerequisite for the Final Systems Acceptance (FSA).
- 8.2.6 The Contractor shall execute all tests required in this document in the presence of the Purchaser's representatives.

8.3 Test Plan

- 8.3.1 The Contractor shall provide a Test Plan (TP) documenting the Test and Evaluation (T&E) activities and schedules to be accomplished in accordance with the requirements specified in this SOW as part of the PIP.
- 8.3.2 The Contractor shall describe in this plan, in detail, the testing for all systems hardware and software performance requirements.
- 8.3.3 The Contractor shall include in this plan all T&E activities of Para 8.6 and shall allocate each individual T&E activity to one or more of these tests.
- 8.3.4 The Contractor shall indicate in the traceability matrix at which stage and by which method (test, inspection, analysis or demonstration) the evaluation shall be performed.
- 8.3.5 The Contractor shall conduct T&E activities as specified in Para. 8.6 in accordance with the Contractor provided and Purchaser approved:
 - a. System Test Objectives (STO);
 - b. System Test Procedures (STP);
 - c. System Test Reports (STR).
 - d. The Purchaser will witness all T&E activities as specified in 8.6.

8.4 Definition of Tests

- 8.4.1 Factory Acceptance Tests (FAT) - First Article: Tests which are applied to each

of the first manufactured type of ECM system.

- 8.4.2 Factory Acceptance Tests - Subsequent Article: Tests which prove that a manufactured article has been produced to the same design and standard as the first tested System.
- 8.4.3 Site Acceptance Test (SAT): Tests which are applied to all Systems after their delivery to the NATO Storage Depot.
- 8.4.4 As part of the SAT, the Purchaser will conduct an Operational Demonstration of the delivered Systems.

8.5 Test Waivers

- 8.5.1 In cases where the Contractor has previously successfully completed qualification testing to national or international standards for assemblies, subassemblies, components, or parts, he may submit documentation which substantiates the particular test requirement. The Purchaser reserves the right to review and approve or reject the test documentation for acceptance and waiver of the particular test requirement.
- 8.5.2 In order for the Purchaser to consider such a request for waiver of testing, the Contractor shall produce the following documentation:
 - a. The nationally or internationally certified test results;
 - b. The test standards, procedures and methods employed on the testing;
 - c. The equipment specifications, which must be identical to the equipment under test and have a frozen baseline configuration (e.g. NATO Stock Number and/or true manufacturing number).
- 8.5.3 In conjunction with the above, the Contractor shall certify that the equipment to be manufactured is identical to that which was originally tested and certified, or advise the Purchaser of design/construction changes which affect form, fit or function. In the latter case, the Purchaser, after review of such changes and their impact, reserves the right to require retest and recertification of the modified equipment, at no additional cost to the Purchaser.

8.6 Test Objectives

FAT – First Article

- 8.6.1 The Contractor shall verify at these tests that individual modules and sub-systems, identified as a Configuration Item (CI), have been produced to meet the appropriate engineering design specifications and are fault-free.
- 8.6.2 The Contractor shall test all new design items in addition to existing design items (COTS).
- 8.6.3 The Contractor shall, in case of an existing design item that has been procured with no or only minor modifications and has already been subject to qualification tests, deliver appropriate certified documentation by a recognised body.

- 8.6.4 The Contractor shall verify that each higher level assembly, and subassembly, have been integrated properly to meet the specifications of the Contract.
- 8.6.5 The Contractor shall test the integrated System to demonstrate conformance with the Contract specifications and requirements.
- 8.6.6 The Contractor shall establish a test baseline of the first article, indicating the hardware items (part numbers and serial numbers) and the software items (build/version numbers), which are being tested. The test baseline will be delivered as part of the Test Plan.
- 8.6.7 This shall be repeated for each subsequent article.

FAT – Subsequent Article

- 8.6.8 The Contractor shall verify at these tests that subsequent production Systems do not differ from Systems tested under the first article FAT.
- 8.6.9 The Contractor shall not commence subsequent article testing until all modifications and/or design changes have been incorporated, consequent to any deficiencies identified during the first article testing.
- 8.6.10 The Contractor shall have full responsibility for the planning and execution of the FAT tests.
- 8.6.11 The Contractor shall update the test baseline for each subsequent article tested, indicating the hardware items (part numbers and serial numbers) and the software items (build/version numbers), which are being tested.

SAT:

- 8.6.12 The Contractor shall verify at these tests that the System associated has been delivered and installed at the pre-determined location correctly and performs to the performance specification.
- 8.6.13 The Contractor shall prepare a System level Concept of Operations (CONOPs) and Standing Operating Procedures (SOPs). These documents shall be delivered to the Purchaser for review no later than 5 weeks prior to the SAT. The Purchaser will review the proposed CONOPs and SOPs for a period of up to 3 weeks after receipt and will provide comments to the Contractor. The Contractor shall deliver the final version of the CONOPs and SOPs to the Purchaser not later than 1 week prior to the start of SAT.
- 8.6.14 The SAT testing shall be based on an operational scenario derived from the CONOPs and SOPs mentioned above.
- 8.6.15 The Contractor shall commence SAT only after the Purchaser's written confirmation of successful completion of all FAT tests.

8.7 Provision, Approval and Revision of Test Procedures

- 8.7.1 The Purchaser will review the proposed Test Procedures for a period of up to 3

weeks after receipt and will provide comments to the Contractor and requests for revisions at the end of the review period.

- 8.7.2 The Contractor shall provide the Purchaser all information and clarifications requested by the Purchaser during evaluation of the test procedures.
- 8.7.3 The Contractor shall deliver the final version of the Test Procedures to the Purchaser not later than 2 weeks prior to the start of any formal testing.
- 8.7.4 The Purchaser will endeavour to provide approval or rejection of the Test Procedures within 1 week of receipt of the final version.
- 8.7.5 The Contractor shall not commence any testing without Purchaser approval of the Test Procedures.
- 8.7.6 If the application of the approved Test Procedures reveals flaws in the process which produce inaccurate, deficient or otherwise inadequate results, the Purchaser shall require the Contractor to revise the Test Procedures to correct such anomalies and to repeat the tests either wholly or partially at no increase in the cost of this Contract.
- 8.7.7 This action will apply in cases where the approval of the Test Procedures was based primarily on statements or assertions of the Contractor in his documentation and flaws in the application of the testing could not reasonably have been foreseen by the Purchaser in his review of the Test Procedures prior to acceptance testing.

8.8 Content of Test Procedures

- 8.8.1 The Contractor shall include in the test procedures the following:
 - a. A general statement at the beginning of any conditions which must be satisfied prior to application of the test with, if applicable, a block diagram showing the proposed method of meeting the test requirements;
 - b. A concise definition of the objective of each test or test series, associated acceptable results;
 - c. A description of which items are the subject of each test, including part numbers, serial numbers or build/version numbers;
 - d. A statement of the equipment and facilities required to conduct the test or test series shall be included;
 - e. The initial conditions that the equipment and associated facilities must be set prior to beginning the test or test series shall be clearly defined;
 - f. Any special techniques or procedures which must be utilised during implementation of the test or test series;
 - g. Precise, step-by-step detail of the actions to be taken and any results to be observed during the procedure implementation section.

- h. Test results sheets for completion during conduct of the testing as an integral part of the test procedure with associated test results values and indication of pass or fail of those results.

8.9 Test Reports

- 8.9.1 The Contractor shall record the results for each test called out in the test plan in a test report, using the test results sheets incorporated in the relevant test procedure.
- 8.9.2 Where the Purchaser or his representative has witnessed the testing, the Contractor shall make appropriate annotation on each page of the test results and the whole report shall be signed by both the Contractor and Purchaser on completion of that testing.
- 8.9.3 The Contractor shall record any failure to complete a test successfully and shall log it by a suitable procedure, as well as note it in the test report.
- 8.9.4 The Contractor shall arrange for test report formats to be uniform throughout the programme and each test report shall include the following data:
 - a. Identification of tested item and its modification status;
 - b. Time and location of test;
 - c. Test procedure issue used and a red-lined copy thereof of any deviations approved by the Purchaser;
 - d. Names and signatures of test personnel, plus witnesses;
 - e. Block diagram of the test arrangements, with a list of test equipment used and calibration date;
 - f. Test results, with direct comparison to specified limits;
 - g. Chart recordings, photographs, etc. as necessary;
 - h. Discrepancies observed and remedial action taken, including the disposition of any written observation entered on the test results sheets by the Purchaser.
- 8.9.5 The Contractor shall deliver the Purchaser copies of test reports at the latest 2 weeks after the completion of the tests.

8.10 Test Failures

- 8.10.1 Should a failure occur during testing, a failure report shall be raised by the Contractor and a preliminary investigation shall be immediately carried out in order to classify the failure as one of the following:
 - a. Class "A": there is evidence that the cause was an external or transient condition, or;

- b. Class “B”: there is mutual agreement that the cause was an inherent design or manufacturing deficiency (and includes software errors) in the unit under test, or;
 - c. Class “C”: When the specific nature of the cause cannot be immediately determined and a more detailed investigation is required before a conclusion can be drawn.
- 8.10.2 In the event that a preliminary investigation results in the classification of a failure as Class A, the Contractor shall repeat the test at least three (3) successive times.
- 8.10.3 If all the retests are successful, the observation will be closed by the Purchaser and the Contractor shall resume testing from the point immediately after which the failure occurred.
- 8.10.4 If a failure is encountered prior to the successful completion of the retest, the Contractor shall re-categorise the failure as class "B" or "C".
- 8.10.5 In the event that a failure is classified as Class B, the Contractor shall reject the equipment and shall suspend all testing related to that particular series of tests until such a time as the Contractor determines the specific cause of the failure and proposes appropriate remedial action acceptable to the Purchaser.
- 8.10.6 The Contractor shall be responsible for all costs related to the rectification of deficiencies or failures and subsequent retesting caused by the design or production of the deliverables identified during the verification and/or testing cycles.
- 8.10.7 The Contractor shall be responsible for any travel, subsistence and other incidental expenses incurred by the Purchaser as a result of the requirement for the re-performance of tests necessitated by test failures. The Purchaser will direct the payment method and modalities for any reimbursement(s) due.
- 8.10.8 The Contractor shall seek the Purchaser's agreement of a mutually suitable time at which testing shall be resumed, subsequent to the Purchaser having accepted the contents of a formal submission by the Contractor providing full details describing the cause of the failure and the recommended remedial actions to be taken.
- 8.10.9 In the event that a failure is classified as Class C, the Contractor shall immediately suspend all testing until such a time as the Contractor completes a detailed investigation and subsequently recommends to the Purchaser that the failure be re-classified as Class A or Class B, whichever is appropriate. The actions previously described relating to these classifications shall then be commenced.
- 8.10.10 In this context, should it be determined that the test failure was due to a component failure and not attributable to a deficiency in equipment design, or a defective process during manufacture of the equipment, then the defective component may be replaced and the failure re-classified as Class A.

8.11 Final System Acceptance (FSA)

8.11.1 In order to request FSA the Contractor shall have successfully completed all of the following:

- a. Successful completion of all Factory Acceptance Tests;
- b. Delivery of all Systems to NATO Storage Depot location and successful completion of Site Acceptance Testing, including submission of the Test Report;
- c. The successful completion of required training courses for operating and maintenance personnel and train the trainer;
- d. The delivery of all required spare parts (to include 'spares', 'repair parts' and 'technical consumables'), and support equipment (to include TTE and PHS&T equipment);
- e. The delivery of the following documentation:
 - FAT Report,
 - SAT Report,
 - System Inventory,
 - TMs, COTS Manuals and Training Documentation,
 - Configuration Status of each System,
 - Observations.

8.11.2 The Contractor shall identify, document and maintain a complete listing of all deficiencies discovered during the testing leading up to its request for FSA and those which otherwise may exist at the time that the System is offered to the Purchaser for FSA.

8.11.3 A deficiency is defined as an identified failure to meet a contractual requirement, which is minor and not of sufficient gravity to prevent the minimum acceptable operational capability of the System.

8.11.4 The Contractor shall maintain a list of deficiencies and contain the following information:

- a. A serial number for each deficiency;
- b. Description of the deficiency;
- c. Date of the observation of the deficiency and expected date of its correction;
- d. The authorised personnel raising and endorsing the observation;
- e. Any clearance action taken such as repair and testing, notification, receipt of a written reply from the Contractor, etc.;
- f. The authorised personnel endorsing the correction and the date of correction.

8.11.5 The Contractor shall include and appropriately document in the Contractor's

listing of deficiencies all perceived deficiencies observed by the Purchaser during testing or other inspection procedures.

- 8.11.6 At such time as the Contractor has completed the requirements of Para 8.11.1 to 8.11.5, he shall notify the Purchaser in writing a FSA Report that the System is offered for Final System Acceptance.
- 8.11.7 The FSA Report for each System submitted to the Purchaser shall include the following information:
- a. Status of each individual equipment, sub-systems i.e. installation, integration, notification, operation etc.;
 - b. Status of tests and test reports;
 - c. Status of inventory;
 - d. Status of documentation relevant to the acceptance;
 - e. Status of training package;
 - f. Listing of identified and documented deficiencies, and how those deficiencies have been corrected;
 - g. Listing of all software in the latest level of release;
 - h. All training requirements for Purchaser personnel have been fulfilled.
- 8.11.8 Within 6 weeks of the receipt of a Request for FSA, the Purchaser will schedule a FSA meeting at the location of the offered System.
- 8.11.9 The FSA meeting will be chaired by the Purchaser with the objective to verify that all contract requirements (except warranty) have been met and that the Purchaser may grant the FSA thereof.
- 8.11.10 The Contractor shall prepare a written record of the FSA meeting in the form of meeting minutes which shall be completed and signed by the representatives of the Contractor and Purchaser respectively.
- 8.11.11 Within 1 week of the FSA Meeting, the FSA Minutes shall be forwarded to the Purchaser's designated Contracting Authority who will formalise the decisions of the FSA Meeting in writing and officially notify the Contractor of such decisions within 8 weeks of receipt of the FSA Minutes.
- 8.11.12 Upon the granting of FSA, the Certificate of Conformity will be considered to be final and without condition.
- 8.11.13 Upon the granting of Final Systems Acceptance by the Purchaser, the Warranty obligations under the Contract shall commence for the Contractor.

9 DOCUMENTATION

9.1 Technical Documentation

- 9.1.1 The Contractor shall provide Technical Documentation which consists of the following:
- a. Technical Manuals (TM) – at minimum one Operating Manual and one Maintenance Manual;
 - b. Training Documentation;
 - c. As Built Documentation.
- 9.1.2 The Contractor shall develop the Technical Documentation in English (United Kingdom Standard).
- 9.1.3 The Contractor shall, wherever possible, limit the information contained in the Technical Documentation to that which can be NATO UNCLASSIFIED.
- 9.1.4 The Contractor shall include Information of a higher security classification only if it is essential for the effective operation and maintenance of the ECM systems.
- 9.1.5 The Contractor shall, for each printed page or displayed image, identify the security classification and shall handle and transport classified documentation in accordance with NATO security regulations.
- 9.1.6 The Contractor shall use SI units in the Technical Documentation.

9.2 Documentation Control

- 9.2.1 The Contractor shall implement quality control procedures for the design and production of the Technical Documentation.
- 9.2.2 The Contractor shall provide evidence that quality control has been maintained and that inspection and validation of the delivered documentation has been performed.
- 9.2.3 The Contractor shall detail the QA methods, development schedule, and activities, and identify all documentation material required to meet the Contract in the Quality Plan.

9.3 Technical Manuals

- 9.3.1 The Contractor shall develop Technical Manuals (TMs) for the operation and support of the ECM systems including the use and support of all Contractor-provided support equipment. The TM shall orient users to the use of all the functionalities introduced with the ECM systems quickly and succinctly, and hence reduce the number of simple fix calls to Local First and Second Level Support (Purchaser recommends reuse/reference COTS manuals as much as possible).
- 9.3.2 The TM shall include:
- a. System Description;

- b. Equipment Descriptions;
- c. Installation and Commissioning Instructions;
- d. Operating Instructions;
- e. Calibration, Routine and Preventive Maintenance;
- f. Fault finding techniques;
- g. 1st, 2nd and 3rd level maintenance of the system/equipment (including system failure recovery and dismantling/re-assembly of equipment groups of each ECM system);
- h. Support equipment description and maintenance and off-line diagnostics description and use;
- i. Illustrated Parts Breakdown;
- j. System Operator Information (use of all System functions, features and modes);
- k. System Manager Information (Software user, computer system operation and diagnostics and software version description);
- l. System Operator user guide including first steps and basic operations as well as quick reference guides;
- m. Any other required information.

9.3.3 The manuals shall be consistent with Administration functionality of the equipment.

9.4 Technical Manual Development

9.4.1 The Contractor shall develop and provide a Documentation Plan.

9.4.2 The Contractor shall provide a draft of the Documentation Plan as part of the PIP.

9.4.3 The Contractor shall describe in this plan the general procedures, terms and conditions governing the planning, selection, preparation and delivery of technical manuals and COTS manuals required to operate and maintain the Systems.

9.5 Commercial Off-the-Shelf Manuals

9.5.1 The Contractor shall provide manufacturers' standard user manuals and documentation (English version) for all Commercial Off-the-Shelf (COTS) deliveries.

9.5.2 The Contractor shall provide COTS manuals for operation, 1st, 2nd and 3rd level maintenance and other instructions applicable to COTS hardware and software.

9.5.3 The Contractor shall provide COTS manuals in electronic and hardcopy format. Where no electronic copy of the documentation can be obtained, the associated

documentation can be accepted in hard copy only. The Purchaser shall be advised accordingly together with a proof that no electronic version exists or can be produced. Each individual piece of COTS equipment shall be accompanied by its respective documentation and three (3) complete sets shall be delivered separately to the Purchaser.

- 9.5.4 If the contents of the COTS manuals do not support the operation, maintenance and support sufficiently, the Contractor shall develop COTS TM supplements in English (United Kingdom Standard).

9.6 As Built Drawings.

9.6.1 The Contractor shall ensure that as built drawings are provided, which show full details of how all the major assemblies of supplied equipment have been physically installed and mechanically/electrically integrated. The number and scale of each drawing (where applicable) shall be clearly indicated, in addition to the issue number of each drawing. Definitions may be given on the drawing, where used, or a summary sheet or sheets at the front of the document. All drawings should be to a scale of not less than 1:50.

9.6.2 As built drawings shall be self-sufficient and independent of any other documents and shall cover the following:

- a. Plans of the physical details of all installed equipment, apparatus and devices;
- b. All equipment “floor and wall plans” are to include the physical details of all installed equipment, apparatus and devices.
- c. Location plan with complete details of all cross-connection junction boxes, frames and patch panels.
- d. A plan showing the description of all lightning protection, grounding conductors, electrodes joints and where they are connected to any existing grounding system (including, if applicable, internal and external).
- e. Physical details of all cable racking, cable identification numbers and cable functions to include as appropriate all connections, connectors and sockets.
- f. Details covering all wiring termination points including wire number system used and colour coding details, if applicable
- g. Ancillary equipment details to include, as appropriate, connection points and termination points.
- h. The functions of all inter-connecting cables, including cabling used for extending physical location of equipment, with their codes, colour code and the function of each separate conductor.
- i. Lightning conductor and grounding drawings covering connectivity, codes, colour code and the function of each separate conductor with an identification of which equipment is being protected

- j. The drawings shall be printed on not larger than A-1 sized sheets and shall also be provided on computer media form, supported by the Purchaser.
- k. Details of all interfaces and details of all cable racking, cable numbers and functions to include all appropriate types of connections, connectors and sockets.
- l. A copy of the complete set of configuration data used to setup the system after on site testing.

9.7 Technical Manual Review & Delivery

- 9.7.1 The Contractor shall submit all TMs in electronic Adobe Portable Document (PDF) and hardcopy format to the Purchaser for review and comments as applicable.
- 9.7.2 The Contractor shall provide a first draft of each deliverable for Purchaser review 6 weeks prior to the FAT. The first draft shall be substantially complete and correct. The Purchaser will review and provide comments, corrections and suggested changes to the Contractor within 4 weeks of receipt.
- 9.7.3 The Contractor shall correct in the final draft TMs all documented errors and deficiencies from first draft and shall prepare the final versions of the TMs for the final review by the Purchaser.
- 9.7.4 After the TM final review, the Contractor shall make any Purchaser-required changes and shall publish the approved TMs 1 week before FAT.

9.8 Training Documentation

- 9.8.1 Training documentation is the sum of data, guidance and instructions either in electronic format or in hardcopy used to support a training programme e.g. hardcopy hand-outs, Computer Based Training (CBT) CD-ROMs, digital versatile disks (DVDs), video, slides, view foils and files on computer discs.
- 9.8.2 The Contractor shall deliver all Training Documentation in electronic Adobe Portable Document (PDF) format and in hardcopy format.
- 9.8.3 The Contractor shall avoid the use of classified data in training documentation.

10 TRAINING

10.1 General

- 10.1.1 The Contractor shall develop all hardware and software training and organise and conduct training courses.
- 10.1.2 The Contractor shall provide training (e.g. courses and associated training materials) in order to enable the Purchaser to operate and maintain the ECM Systems and any associated support equipment.
- 10.1.3 The Contractor shall cover in this training all aspects and activities required for operation, maintenance and support of the Systems.
- 10.1.4 In the development of the training courses and training materials the Contractor shall consider the following roles for the ECM Systems: Operators, Maintainers and Instructors.
- 10.1.5 The Contractor shall carry out appropriate courses to cover the following:
- a. ECM System Operator Course. One training session for personnel who will operate the ECM System and run simulations with the Convoy Protection Planning Tool (Vehicular and Static);
 - b. ECM System Maintenance Course. One training session for personnel who will maintain the System (Vehicular and Static) (to include ECM fill development);
 - c. ECM System Train-the-Trainer Course. One specific train the trainer training session (covering both Vehicular and Static systems) for instructors who will provide follow-on training for the NRF staff rotation.
- 10.1.6 The Contractor shall describe in the Training Plan the courses in order to meet the training requirements indicated above. The maximum number of students per training session shall be 15.
- 10.1.7 The Contractor shall assure that all training provided allows operation and maintenance in accordance with the operational requirements and support concept.
- 10.1.8 The training for operators and instructors shall be developed based on the assumption that they are experienced military operators with an electronics background without formal civilian qualifications.
- 10.1.9 The Contractor shall include in the Training documentation the following:
- a. all data necessary to perform operator and maintenance training;
 - b. all data necessary to perform instructor training to permit an experienced training staff to conduct and further develop training courses in all aspects of the ECM System operation and support;
 - c. training course material and instructor material.
- 10.1.10 The Contractor shall provide all draft training documentation 6 weeks prior to the first training session. The Purchaser will review the training documentation

for 4 weeks and provide feedback to the Contractor. The Contractor shall update the documentation and submit the final version for Purchaser's approval 1 week prior to the first training session.

- 10.1.11 Prior to each course, the Contractor shall provide each trainee with the Purchaser approved training course material. The trainees will retain this material for future reference.
- 10.1.12 The Contractor shall provide a complete set of the Contractor's instructor material for the courses concerned to each instructor trained.

10.2 Training Plan

- 10.2.1 The Contractor shall develop and provide a Training Plan as part of the PIP. The Training Plan shall be structured according to the template provided in the SOW (Bi-SC Directive 75-7 Annex-J).
- 10.2.2 The Contractor shall conduct a Training Needs Analysis (TNA), as described in Bi-SC Directive 75-7. The results of the TNA shall be captured in a TNA Report (conform the Bi-SC Directive 75-7).
- 10.2.3 The Training Plan shall address all aspects of training including the planning and conduct of the TNA and describe how it will meet the Training requirements found after the TNA for initial and follow-on training.
- 10.2.4 This Training Plan shall address all stages of training development, delivery, and support covered under this Contract. The Training Plan shall describe in a coherent way how training will be developed, delivered, and maintained throughout the life of the Vehicular ECM and the Static ECM capability.
- 10.2.5 The Contractor shall describe in this plan the approach to training, milestones, resource requirements, management structure, interrelationships and other tasks related for training development.
- 10.2.6 The Training Plan shall describe the training documentation for each course including but not limited to the syllabuses, schedules, course prerequisites (both for attendees and physical resources), evaluations and instructors.
- 10.2.7 The Contractor shall provide information in this plan on the training to be provided to the NRF personnel for all Systems, sub-systems and equipment provided under this contract.
- 10.2.8 The Contractor shall recommend in this plan the mode(s) of training (e.g. formal classroom, individual computer-based, on-the-job, commercial or a combination) and the rationale for those recommendations for each type of training (User , technical, etc.).
- 10.2.9 The Training Plan shall describe the support to be provided by the Purchaser (manpower, services and material).
- 10.2.10 The Contractor shall develop and provide in the Training Plan a list of training equipment required for each course. The Contractor shall assure that this material is available at the date of training.

10.3 Training for Operator and Maintenance Personnel

- 10.3.1 The Contractor shall provide training covering all aspects required to operate and maintain the ECM systems. The Contractor shall develop and maintain the Training Course Proposal and Justification based on the results of the Training Needs Analysis.
- 10.3.2 The Contractor shall cover in this training all operational, hardware and software maintenance aspects at 1st, 2nd and 3rd level.
- 10.3.3 The Training shall describe the process for Training Evaluation both immediately post course attendance and then 6 months later. In addition the contractor shall identify the training review process should shortfalls occur or be identified. The training course evaluation should be addressed in the Training Plan and is an activity separate from training course itself (it is a Project Management/Quality Assurance activity). The student feedback form shall be part of the training course.
- 10.3.4 The Contractor shall cover in this training the following:
- a. Operating the ECM System with all operational features;
 - b. Use of the Convoy Planning Tool with all operating features;
 - c. Reading drawing and schematic diagrams of the system and sub-systems;
 - d. Using the Built-In-Test Equipment (BITE) and Test Equipment for system performance evaluation;
 - e. Performing adjustments as necessary to optimise performance of the systems;
 - f. Performing all preventive maintenance;
 - g. Fault identification and isolation through employing Built-In-Test Equipment (BITE), on-line/off-line diagnostics and analyses of the test results and other observations to locate faults to an LRU to restore the system to operation;
 - h. Removing and replacing LRUs;
 - i. Performing software support operations tasks (including ECM Fill deployment);
 - j. Assessing the coverage performance of the ECM System;
 - k. Dismantling, preparation to move and re-installation of the System;
 - l. Integration and connection of the ECM into the vehicle and the operation of vehicle equipped with ECM.
- 10.3.5 The Contractor shall give the operator and maintenance training at a NATO location in Europe (to be identified during the Training Needs Analysis).

10.4 Specific Training for Instructors

- 10.4.1 The Contractor shall provide training for up to 15 instructors designated by the Purchaser. Train the Trainer (T-t-T) courses are executed using pilot training courses. In a first pilot, Purchaser's instructors are trained by the Contractor. In pilot 2 the Purchaser's instructors witness the training operational and maintenance courses given by the Contractor.
- 10.4.2 The Contractor shall cover in this training the following:
- a. Principles and theory of operation of the procured ECM System design;
 - b. Both Vehicular and Static ECM System operation;
 - c. The various functions and interfaces of the systems/sub-systems and functional modules;
 - d. Use and application of all support equipment such as Test Equipment etc.;
 - e. All System and equipment tests;
 - f. Hardware and software maintenance;
 - g. Support and repair;
 - h. Maintenance and update of training material provided by the Contractor;
 - i. Capabilities, limitations, and quirks of the system.
- 10.4.3 The Contractor shall give the instructor training at a NATO location in Europe (to be identified during the Training Needs Analysis).

10.5 Training Courses

- 10.5.1 The Contractor shall conduct courses at the times and in the locations stated in the Schedule of Supplies and Services.
- 10.5.2 The Purchaser will provide the classroom space for training. The Contractor shall request the reservation of the training classroom 6 months before the training execution. The Contractor shall provide the classroom equipment and materials required during the training.
- 10.5.3 The Contractor shall endeavour to consolidate as far as possible the training of System operators, the training of the System maintainers and the training of instructors for the each type of System via On the Job Training (OJT) and practical evaluation (as concluded through the TNA and approved by the Purchases).
- 10.5.4 Where On the Job Training (OJT) is called for, the Contractor shall provide an OJT Guide. Following the "Train the Trainer" approach previously advocated. The OJT Guide shall be a complement to materials provided to students attending formal training. It shall contain all necessary information to prepare

and conduct OJT, including practical exercises and examinations for replacement personnel. It shall include fault-finding or fault-isolation exercises in accordance with the agreed O&M concept.

- 10.5.5 The Contractor shall include appropriate hands-on training in all courses, using the actual or identical ECM System installations or equipment for this purpose.
- 10.5.6 The Contractor shall provide Sharable Content Object Reference Model (SCORM – edition 4, SCORM 2004) Compliant Computer-Based-Training (CBT), which can be delivered to the students over the Internet, on private networks and as stand-alone material on electronic media such as CD/DVD.

10.6 Training Documentation and Equipment

- 10.6.1 The Contractor shall match the training documentation for use with a number of recognised approaches (as concluded through the TNA and approved by the Purchases), including as a minimum: formal classroom instruction, interactive, self-directed, SCORM Compliant Computer-Based-Training (CBT), hands-on training and on the job training.
- 10.6.2 The Contractor shall include in the documentation sufficient instructions to guide students through all the specified training. The training documentation shall comply with the recommendations in Bi-SC directive 75-7.
- 10.6.3 For each course, the Contractor shall include in the training documentation, course documentation for trainees and instructor material to support a training programme. The training documentation shall cover as a minimum all topics identified in the course syllabuses included in the Training Plan.
- 10.6.4 The Contractor shall provide training handbooks for each training course. The Contractor shall provide the student with necessary information on all lesson objectives and contents, guidance for all learning activities and cross-references to assist the students in achieving the course objectives.
- 10.6.5 The Contractor shall provide the Instructor a complement to the training handbook. The Contractor shall contain in this complement all necessary information to prepare, conduct and evaluate lessons, exercises and examinations. This shall include fault-finding or fault-isolation exercises and classroom or practical examinations with the associated answers.
- 10.6.6 The Contractor shall develop and provide all training documentation to the Purchaser for review and approval.
- 10.6.7 The Contractor shall provide updates whenever the equipment or the course material is changed.
- 10.6.8 The Contractor shall provide Purchaser approved course material prior to each course, for each trainee, which they can take away for future reference.
- 10.6.9 The Contractor shall provide a complete set of the Contractor's instructor material for the courses concerned to each instructor trained. This will enable the Purchaser to repeat the same courses or to modify them. This material shall

be identical to the training documentation used by the Contractor in preparing for and conducting the same type of courses.

10.7 Course Instructors

- 10.7.1 The Contractor shall include the curricula vitae of his proposed instructors in the Training Plan.
- 10.7.2 The Contractor instructors shall be certified engineer/technicians, thoroughly familiar with the subject matter. They shall have experience in preparing and conducting training.
- 10.7.3 The Contractor instructors shall meet a minimum of SLP 4444 in English in accordance with STANAG 6001.

10.8 Course Administration

- 10.8.1 During the performance of the training course, the Contractor shall regularly test the students to evaluate their understanding of lectures, material and practical achievements and their use of the training documentation provided.
- 10.8.2 The Contractor shall provide the Purchaser with completion reports for each applicable course.
- 10.8.3 The Contractor shall provide each trainee with a certificate of training for each course completed.
- 10.8.4 A course feedback form shall be provided to every student to comment on the course contents and delivery. The completed form will be presented to the project manager for his review and shall be used as a body of evidence to support course shortcomings and remedial actions (if any).

10.9 Language

- 10.9.1 The Contractor shall prepare all documentation including training documentation in the (UK) English language.
- 10.9.2 The Contractor shall conduct all courses in the English language. All Purchasers personnel selected to attend the courses will meet the minimum Standardised Language Proficiency (SLP) of 2222 in English as specified in STANAG 6001.

A. ANNEX A – System Requirements Specifications

Annex A to the Statement of Work contains System Requirements Specifications (SRS) and is available as a separated NATO classified document (NR).

B. ANNEX B - Project Implementation Milestones

B 1. Overview

B 1.1. The Contractor shall develop, as part of the PIP, an implementation timeline that can be used to track the status of activities and deliverables. In this document time and sequence of delivery constraints are imposed and the PIP shall conform to the constraints as indicated.

B 1.2. To support the PIP development and the implementation of the project the timeline and sequence constraints are laid out in the below tabular format. This timeline shall be used by the Contractor as a scheduling and planning tool.

Table 2 Sequence and time constraints as expressed in the SOW.

Week From EDC	Activity	SOW Para.	OPR	Note
1				
2	Kick-off Meeting and requirements clarification	2.3.7	Contr.	2 weeks after EDC
3				
4				
5				
6	Submit updated PIP for review	2.3.8	Contr.	6 weeks after EDC
	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
7				
8	Draft Progress Report and PIP/PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
9	Provide feedback on the PIP	2.3.8	Purc.	3 weeks after PIP
	Formal Progress Report and PIP/PRM agenda	2.6.6	Contr.	1 week prior to PRM
10	One (1) PFE vehicle available at SOC.	SRS 2.1.4	Purc.	8 weeks before CDR
11	PIP presentation and First PRM	2.3.8	Contr.	As agreed after 9 Ws
12	PRM Minutes	2.6.7	Contr.	1 week after PRM
13	Provide feedback after PIP presentation	2.3.11	Purc.	2 weeks after PIP pres
	Draft SSDD	3.4.2	Contr.	6 weeks prior CDR
14	Final PIP	2.3.12	Contr.	1 week after feedback
15	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
16				
17	Draft Progress Report and PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
	SSDD comments and observations	3.4.8	Purc.	4 weeks after draft
18	Formal Progress Report and PRM agenda	2.6.6	Contr.	1 week prior to PRM
19	CDR	3.4.10	Contr.	2 weeks after comm.
	2nd PRM	2.6.1	Contr.	Every 8 weeks
	All five (5) PFE vehicles available at SOC	SRS 2.1.6	Purc.	After CDR
20	PRM Minutes	2.6.7	Contr.	1 week after PRM

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21	Final version of SSDD	3.4.11	Contr.	2 weeks after CDR
	CDR meeting report	3.5.6	Contr.	2 weeks after CDR
22				
23	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
24				
25	Draft Progress Report and PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
26	Formal Progress Report and PRM agenda	2.6.6	Contr.	1 week prior to PRM
27	3rd PRM	2.6.1	Contr.	Every 8 weeks
28	PRM Minutes	2.6.7	Contr.	1 week after PRM
29				
30				
31	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
	FAT Test Procedures Draft	8.7	Contr.	6 weeks prior to FAT
	Technical Manuals	9.7.2	Contr.	6 weeks prior to FAT
32				
33	Draft Progress Report and PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
34	Formal Progress Report and PRM agenda	2.6.6	Contr.	1 week prior to PRM
	Comments to FAT Test Procedures	8.7.1	Purc	3 weeks after draft
35	4th PRM	2.6.1	Contr.	Every 8 weeks
	FAT Test Procedures Final	8.7.3	Contr.	2 weeks before FAT
	Comments to the Technical Manuals	9.7.2	Purc.	4 weeks after draft
36	PRM Minutes	2.6.7	Contr.	1 week after PRM
	Approval of FAT Test Procedures	8.7.4	Purc	1 week after final
	Publish Approved Technical Manuals	9.7.4	Contr.	1 week before FAT
	Training Documentation Draft	10.1.10	Contr.	6 weeks before train.
37	FAT			
	Transportation Plan	7.4.6	Contr.	4 weeks before trans.
38	CONOPs and SOP draft	8.6.13	Contr.	5 weeks prior to SAT
39	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
	FAT Test Report	8.9.5	Contr.	2 weeks after test
40	Training Documentation feedback	10.1.10	Purc.	4 weeks after draft
41	Draft Progress Report and PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
	Comments to CONOPs and SOP draft	8.6.13	Purc.	3 weeks after draft
	Training Documentation Final	10.1.10	Contr.	1 week before train.
	Transportation	7.4.5	Contr.	
42	Formal Progress Report and PRM agenda	2.6.6	Contr.	1 week prior to PRM
	CONOPs and SOP final	8.6.13	Contr.	1 week prior to SAT
	Operator and Maintenance Training	10.1.5	Contr.	
43	SAT			
	5th PRM (includes Provisioning Conference)	2.6.1	Contr.	Every 8 weeks
44	PRM Minutes (includes a complete listing of all deficiencies)	2.6.7	Contr.	1 week after PRM
45	Request for FSA	8.11.8	Contr.	6 weeks prior FSA
46	Train the trainer	10.1.5	Contr.	
47	Teleconference Progress Review	2.6.1	Contr.	In between 2 PRM
48				
49	Draft Progress Report and PRM agenda	2.6.5	Contr.	2 weeks prior to PRM
50	Formal Progress Report and PRM agenda	2.6.6	Contr.	1 week prior to PRM
51	FSA			
	6th PRM	2.6.1	Contr.	Every 8 weeks
52	FSA Minutes	8.11.11	Contr.	1 week after FSA
	PRM Minutes	2.6.7	Contr.	1 week after PRM

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53				
54				
55				
56				
57				
58				
59				
60	FSA official notification	8.11.11	Purc.	8 weeks after Minutes

C. ANNEX C – ABBREVIATIONS

Ai	Inherent Availability
AMD	Amendment
BIT	Built-In-Test
BITE	Built-In-Test Equipment
CAGE	Commercial and Government Entity
CBT	Computer Based Training
CI	Configuration Item
C-IED	Counter-Improvised Explosive Device
CDR	Critical Design Review
CLIN	Customer Line Item Number
CM	Configuration Management
CMDB	Configuration Management Database
CoC	Certificate of Conformity
CONOPS	Concept of Operations
COTS	Commercial Off The Shelf
CPM	Contractor Project Manager
CSA	Configuration Status Accounting
CSCI	Computer Software Configuration Items
DECT	Digital Enhanced Cordless Telecommunications
DTMF	Dual Tone - Multi Frequency
ECM	Electronic Countermeasures
ECMS	Electronic Counter Measures System
ECP	Engineering Change Proposal
EDC	Effective Date of Contract
FAT	Factory Acceptance Test
FCA	Functional Configuration Audit
FSA	Final System Acceptance
HQs	Headquarters
HMI	Human Machine Interface
HWCI	Hardware Configuration Item
IFB	Invitation for Bidding
ILS	Integrated Logistic Support
ISP	Integrated Support Plan
ISSP	In-Service Support Plan
JNR	Jamming to Noise Ratio
LRU	Line-replaceable Unit

LxWxH	Length, Width, Height
MDS	Material Data Sheet
MTBF	Mean Time Between Failure
MTTR	Mean Time to Repair
NCI Agency	NATO Communications and Information Agency
NQAR	National Quality Assurance Representative
NR	NATO Restricted
NRF	NATO Response Forces
NS	NATO Secret
NSPA	NATO Support and Procurement Agency
NSN	NATO Stock Number
NTM	Notice To Move
OEM	Original Equipment Manufacturer
OJT	On the Job Training
O&M	Operation and Maintenance
PCA	Physical Configuration Audit
PDF	Portable Document Format
PFE	Purchaser Furnished Equipment
PHS&T	Packaging, handling, storage & transportation
PIP	Project Implementation Plan
PM	Project Manager
PMO	Project Management Office
PMR	Private Mobile Radio
PRF	Pulse Repetition Frequency
PRM	Progress Review Meeting
PVRT	Personnel Vehicle Rough Terrain
QA	Quality Assurance
QAR	Quality Assurance Representative
QP	Quality Plan
RC	Radio Controlled
RCIED	Radio Controlled Improvised Explosive Device
RF	Radio Frequency
RFD	Requests for Deviation
RFW	Requests for Waiver
RIL	Recommended Item List
RORO	Roll-On/Roll-Off
SCORM	Sharable Content Object Reference Model
SOC	Southern Operational Centre

SAP	Security Accreditation Plan
SAT	Site Acceptance Test
SecOPs	Security Operating Procedures
SLP	Standardised Language Proficiency
SM&C	Service Management and Control
SOP	Standing Operating Procedures
SOW	Statement of Work
SRS	System Requirements Specifications
SS	System Specifications
SSA	Security Accreditation Authority
SSDD	System/Subsystem Design Description
SSRS	System Security Requirements Statement
SSS	Schedule of Supplies and Services
STO	System Test Objectives
STP	System Test Procedures
STR	System Test Reports
ST&V	Security Test and Validation
TM	Technical Manuals
TNA	Training Needs Analysis
TTE	Tools and Test Equipment
T&E	Test and Evaluation
T-t-T	Train the Trainer
TP	Test Plan
VHF	Very High Frequency
VSWR	Voltage Standing Wave Ratio
WBS	Work Breakdown Structure
WiCR	Wireless Custom Receiver