determined to be non-compliant and not considered for further evaluation.

4.2.1.2. Step 2: Price Evaluation

4.2.1.2.1. In Step 2, the Price Quotations of all bids not considered non-compliant under the previous step will be opened and evaluated in accordance with paragraph 4.4.

4.2.1.3. Step 3: Technical Evaluation

4.2.1.3.1. In Step 3, the Technical Proposal of the lowest-priced Bid will be opened and evaluated in accordance with paragraph 4.5.

4.3. Evaluation Step 1 - Administrative Compliance

4.3.1. Bids will be reviewed for compliance with the formal requirements for Bid submission as stated in this IFB and the content of the Administrative Envelope. The evaluation of the Bid Administration Volume will be made on its completeness, conformity and compliance to the requested information. The following requirements shall be verified:

4.3.1.1. The Bid was received by the Bid Closing Date and Time,

4.3.1.2. The Bid is packaged and marked properly,

4.3.1.3. The Bid Administration Volume contains the documentation listed in paragraph 3.4 and complies with the formal requirements established in paragraphs 3.1 through 3.3.

4.3.1.4. The Bidder has not taken exception to the Terms and Conditions of the Prospective Contract or has not qualified or otherwise conditioned his offer on a modification or alteration of the Terms and Conditions or the language of the Statement of Work.

4.3.1.5. **Receipt of an unreadable electronic bid**. If a bid received at the Purchaser's facility by electronic data interchange is unreadable to the degree that conformance to the essential requirements of the solicitation cannot be ascertained, the Contracting Officer shall immediately notify the Bidder that the bid will be rejected unless the Bidder provides clear and convincing evidence:

4.3.1.5.1. Of the content of the bid as originally submitted; and,

4.3.1.5.2. That the unreadable condition of the bid was caused by Purchaser software or hardware error, malfunction, or other Purchaser mishandling.

4.3.2. A Bid that fails to conform to the above requirements may be declared non-compliant and may not be evaluated further by the Purchaser.

4.3.3. Bids that are determined to be administratively compliant will proceed to Step 2, Price Evaluation.

4.3.4. Notwithstanding paragraph 4.3.1.4, if it is later discovered during either the Price or Technical evaluation, that the Bidder has taken exception to the Terms and Conditions of the Prospective Contract, or has qualified and/or otherwise conditioned his offer on a modification or alteration of the Terms and Conditions or the language of the Statement of Work, the Bidder may be determined to have submitted a non-compliant bid.

4.4. Evaluation Step 2 – Price Evaluation

4.4.1. The Bidder's Price Quotation will be first assessed for compliance against the following standards:

4.4.1.1. The Price Quotation meets the requirements for preparation and submission of the Price Quotation set forth in the Bid Preparation Section and the Instructions for Preparation of the Bidding Sheets in Annex A-1 in particular.

4.4.1.2. The Bidder has furnished Firm Fixed Prices for all items listed. Not having provided a price for all items as required per the Bidding sheets, i.e. to fill out **all** yellow fields, may render the bid non-compliant. Prices cannot be embedded/included in other prices.

4.4.1.3. All pricing data, i.e., quantities, unit prices, has been provided as reflected in the Bidding Sheets.

4.4.1.4. Bid prices include all costs for items supplied, delivered, and supported.

4.4.1.5. All prices have been accurately entered into appropriate columns, and accurately totalled.

4.4.1.6. The Bidder has provided accurate unit price (where required) and total price for each line item.

4.4.1.7. The Bidder has provided accurate unit prices and total prices of each of the sub-items she/he added (if any).

4.4.1.8. The currency of all line items has been clearly indicated.

4.4.1.9. The Bidder has quoted in his own national currency or in the host nation currency, Euros. Where multiple currencies including other NATO member states' currencies are quoted, the conditions of Section III, paragraph 3.5.2.6 are met.

4.4.1.10. The Bidder has indicated that in accordance with the treaties governing the terms of business with NATO, he has excluded from his prices all taxes, duties and customs charges from which the Purchaser has been exempted.

4.4.1.11. Price quotes for each individual item(s), and totalled prices are accurate and realistic (based on historic data, and/or market and competitive trends in the specified industrial sector(s)).

4.4.1.11.1. Detailed pricing information has been provided and is adequate, accurate, traceable, and complete.

4.4.1.11.2. The Price Quotation meets requirements for price realism and balance as described below in paragraph 4.4.4.

4.4.2. A Bid which fails to meet the compliance standards defined in this section may be declared non-compliant and may not be evaluated further by the Purchaser.

4.4.3. Basis of Price Comparison to determine lowest compliant bid

4.4.3.1. The Purchaser will convert all prices quoted into EURO for purposes of comparison. The exchange rate to be utilised by the Purchaser will be the average of the official buying and selling rates of the European Central Bank at close of business on the last working day preceding the Bid Closing Date.

4.4.3.2. The total sum to determine the lowest price compliant bid will be equal to the sum of the following CLIN items: **CLINS 1 and 2**

4.4.4. Price Realism

4.4.4.1. Should the Lowest Offered Price appear to be substantially different from the next lowest prices offered, the Purchaser will review the Price Quotation to determine if a reasonable explanation for the differential is apparent.

4.4.4.2. Should the unit prices of items under CLIN 1.5.3 differ from the unit prices of items under CLIN 1.5.2, the

Purchaser will review the Price Quotation to determine whether such difference is realistic.

4.4.4.3. In those cases in which the prices quoted in relation with this Invitation for Bid appear to be unreasonably low in relation to the performance required under the prospective Contract and/or the level of effort associated with the tasks, the Purchaser will reserve the right to request the Bidder clarifications aimed to demonstrate the rationale for such circumstances. Furthermore the Purchaser will reserve the right to elicit further cost breakdown details for all CLIN items that was not contained in the original submission, as may be required.

4.4.4.4. Indicators of an unrealistically low Bid may be the following, amongst others:

4.4.4.4.1. Labour Costs that, when amortised over the expected or proposed direct labour hours, indicate average labour rates far below those prevailing in the Bidder's locality for the types of labour proposed.

4.4.4.4.2. Direct Material costs that are considered to be too low for the amounts and types of material proposed, based on prevailing market prices for such material.

4.4.4.4.3. Numerous Line Item prices for supplies and services that are provided at no cost or at nominal prices.

4.4.4.5. If the Purchaser has reason to suspect that a Bidder has artificially debased its prices in order to secure Contract award, the Purchaser will request clarification of the Bid in this regard and the Bidder shall provide an explanation on one of the following bases:

4.4.4.5.1. An error was made in the preparation of the price quotation. In such a case, the Bidder must document the nature of the error and show background documentation concerning the preparation of the price quotation that makes a convincing case that a mistake was made by the Bidder. In such a case, the Bidder shall petition the Purchaser to either remain in the competition or accept the Contract at the offered price, or to withdraw from the competition.

4.4.4.5.2. The Bidder has a competitive advantage due to prior experience or industrial/technological processes that demonstrably reduce the costs of Bidder performance and therefore the price offered is realistic. Such an argument must support the technical proposal offered and convincingly and objectively describe the competitive

advantage and the net savings achieved by this advantage over standard market practices and technology.

4.4.4.5.3. The Bidder recognises that the submitted price quotation is unrealistically low compared to its cost of performance and, for business reasons, the Bidder is willing to absorb such a loss. Such as statement can only be made by the head of the business unit submitting the Bid and will normally be made at the level of Chief Operating Officer or Chief Executive Officer. In such a case, the Bidder shall estimate the potential loss and show that the financial resources of the Bidder are adequate to withstand such reduction in revenue.

4.4.5. If a Bidder fails to submit a comprehensive and compelling response on one of the bases above, the Purchaser may determine the Bid submitted as non-compliant. If the Bidder responds on the basis of 4.4.4.4.1 above and requests to withdraw from the competition, the Purchaser may, depending on the nature and gravity of the mistake, allow the Bidder to withdraw.

4.4.6. If the Purchaser accepts the Bidder's explanation of mistake in paragraph 4.4.4.4.1 and allows the Bidder to accept the Contract at the offered price, or the Purchaser accepts the Bidder's explanation pursuant to paragraph 4.4.4.4.3 above, the Bidder shall agree that the supporting pricing data submitted with his Bid will be incorporated by reference in the resultant Contract. The Bidder shall agree as a condition of Contract signature, that the pricing data will be the basis of determining fair and reasonable pricing for all subsequent negotiations for modifications of or additions to the Contract and that no revisions of proposed prices will be made.

4.4.7. If the Bidder presents a convincing rationale pursuant to paragraph 4.4.4.4.2 above, no additional action will be warranted. The Purchaser, however, reserves its right to reject such an argument if the rationale is not compelling or capable of objective analysis. In such a case the Bid may be determined to be non-compliant.

4.4.8. The Purchaser reserves the right to request Bidders, to separately identify each of the direct/indirect costs, to advise why each is required, and provide supporting documentation to substantiate each charge.

4.5. Evaluation Step 3 – Technical Evaluation

4.5.1. Upon determination of the lowest-priced Bid as described above, the Bid shall be evaluated to confirm compliance with the requirements stated in Book I, Section 3.6 and Book II, Part IV - Statement of Work (SOW) and Annexes thereto.

4.5.2. In order for a Bid to be determined to be technically compliant, the Bidder shall have submitted a Proposal which has addressed all requirements as

detailed in the Bidding Instructions at Section 3.6 and subsequently has fully met, after evaluation by the Purchaser, all the criteria thereof. In particular, the Technical Proposal will be reviewed for compliancy of all Sections of the Proposal, including the draft PIP, containing sufficient details necessary to make a positive determination of compliancy.

4.5.3. As well, the Cross Reference – Traceability Matrix as detailed in Annex E shall clearly indicate full compliance with all listed project technical requirements stipulated in the SOW and SRS.

4.5.4. The bidder shall, as part of the technical bid evaluation process, provide a Proof of Concept at the Purchaser premises, which is expected to demonstrate the feasibility of the proposed solution and confirm the fulfilment of requirements. The overall objective is to verify that the proposed COTS and integration design are compatible with the performance and implementation requirements, including the expected timings.

4.5.5. Therefore, the Bidder shall deploy a platform that can demonstrate the following functionalities:

4.5.5.1. Operational planning, coordination and management of over-the-air information and bearer services, in accordance with the required organizational control structure and framework. Specifically, it shall be demonstrated the proper modularity to deploy the control structure entities, independently, in a unique physical location, and the flexibility and scalability of the proposed solution to ensure the provision of services to mobile units under different control structure configurations (ex: BCOA and BCA collocated and separated BCS; Separate BCOA with BCA and BCS collocated; etc.);

4.5.5.2. Provision of formal messaging services, with the proper interfaces. Specifically, it shall be demonstrated the full process of editing, transmitting, storing and receiving messages, both in ACP 127 and STANAG 4406 formats.

4.5.5.3. Provision of informal messaging services, both email and Chat. Specifically, it shall be demonstrated the full process of editing, transmitting, storing and receiving messages.

4.5.5.4. System monitoring and control of processes that are critical for service delivery, namely those associated with operational networks, data links and over-the-air bearer management;

4.5.5.5. The over-the-air bearer management basic functionalities, namely remotely control and supervisor of equipment.

4.5.5.6. Data link management basic functionalities, namely STANAG 5066 Server layers A to D, and F. Additionally, the following clients COSS, IP client and CFTP shall be demonstrated as well.

4.5.5.7. The Operational Network Management essentials, namely associated to mobility.

4.5.6. The proof of concept shall be ready for demonstration by the Bidder within one month after notification by the Purchaser.

Annex A Bidding Sheets

A-1 Introduction

1. Bid pricing requirements as addressed in this Annex are mandatory. Failure to abide to the bid pricing requirements included in this section may lead to the Bid being declared non-compliant and not being taken into consideration for award.

2. No alteration of the Bidding sheets – including, but not limited to quantity indications, descriptions, titles or pre-populated Not-to-Exceed amounts – are allowed with the sole exception of those explicitly indicated as allowed in this document or in the instructions embedded in the Bidding Sheets file.

3. Additional price columns may be added if multiple currencies are Bid, including extra provisions for all totals.

A-2 General Requirements

1. Bidders are required, in preparing their Price Quotation to utilise the electronic file provided as part of this IFB and referenced in Annex A-3.

2. This Excel file includes detailed instructions on each tab that will facilitate bidders' preparation of the bid pricing. These instructions are mandatory.

3. The prices and quantities entered on the document shall reflect the total items required to meet the Contractual requirements. The total price shall be indicated in the appropriate columns.

4. In preparing the Bidding Sheets, Bidders shall ensure that the prices of the Sub-items total the price of the major item of which they constitute a part.

5. All metrics (e.g., cost associated with labour) will be assumed to be standard or normalised to 7.6 hour/day, for a five day working week at NATO and National sites and Contractor facilities.

6. Should the Apparent Best Value Bid be in other than Euro currency, the award of the Contract will be made in the currency or currencies of the bid.

7. Bidders are advised that formulae are designed to ease evaluation of the Bidders proposal have been inserted in the electronic copies of the Bidding Sheets. Notwithstanding this, the Bidder remains responsible for ensuring that their figures are correctly calculated and should not rely on the accuracy of the formulae electronic copies of the Bidding Sheets.

8. If the Bidder identifies an error in the spreadsheet, it should notify the Purchaser through process described section 2.6. The Purchaser will then make a correction and notify all the Bidders of the update.

9. Prices shall not include any provision for taxes or duties for which the Purchaser is exempt.

A-3 Bidding Sheets

1. Bidders are required, in preparing their Price Quotation to utilise the following electronic file provided as part of this IFB.

   "Book I – IFB-CO-14887-BRE1TA – Bidding Instructions – Bidding Sheets"

2. Bidders shall include this file in its proposal in the same Excel format in which it is provided in this IFB.

Annex B Prescribed Administrative Forms and Certificates

Annex B-1. Certificate of Legal Name of Bidder

This Bid is prepared and submitted on behalf of the legal corporate entity specified below:

FULL NAME OF CORPORATION: _____

DIVISION (IF APPLICABLE): _____

SUB DIVISION (IF APPLICABLE): _____

OFFICIAL MAILING ADDRESS

_____
_____
_____

E-MAIL ADDRESS: _____

POINT OF CONTACT REGARDING THIS BID:

NAME: _____
POSITION: _____
TELEPHONE: _____

ALTERNATIVE POINT OF CONTACT:

NAME: _____
POSITION: _____
TELEPHONE: _____

_____ _____
Date Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-2. Acknowledgement of Receipt of IFB Amendments

I confirm that the following amendments to Invitation for Bid CO-14887-BRE1TA have been received and the Bid, as submitted, reflects the content of such amendments.

Amendment no.	Date of Issued	Date of receipt	Initials

Date

Signature of Authorised Representative

Printed Name

Title

Company

Annex B-3. Certificate of Independent Determination

It is hereby stated that:

a. We have read and understand all documentation issued as part of IFB-CO-14887-BRE1TA. Our Bid submitted in response to the referred solicitation is fully compliant with the provisions of the IFB and the prospective Contract.

b. Our Bid has been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, with any other Bidder or with any competitor;

b. The contents of our Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to award, directly or indirectly to any other Bidder or to any competitor; and

c. No attempt has been made, or will be made by the Bidder to induce any other person or firm to submit, or not to submit, a Bid for the purpose of restricting competition.

_____ _____

Date Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

Annex B-4. Certificate of Bid Validity

I, the undersigned, as an authorised representative of the firm submitting this Bid, do hereby certify that the pricing and all other aspects of our Bid will remain valid for a period of twelve (12) months from the Bid Closing Date of this Invitation for Bid.

Date

Signature of Authorised Representative

Printed Name

Title

Company

Annex B-5. Certificate of Exclusion of Taxes, Duties and Charges

I hereby certify that the prices offered in the price quotation of this Bid exclude all taxes, duties and customs charges from which the Purchaser has been exempted by international agreement.

_____ _____
Date Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-6. Comprehension and Acceptance of Contract Special and General Provisions

The Bidder hereby certifies that he has reviewed the Contract Special Provisions and the NCI Agency Contract General Provisions set forth in the Prospective Contract, Book II, of this Invitation for Bid. The Bidder hereby provides his confirmation that he fully comprehends the rights, obligations and responsibilities of the Contractor as set forth in the Articles and Clauses of the Prospective Contract. The Bidder additionally certifies that the offer submitted by the Bidder is without prejudice, qualification or exception to any of the Terms and Conditions and he will accept and abide by the stated Contract Special Provisions and Contract General Provisions if awarded the Contract as a result of this Invitation for Bid.

_____ _____

Date Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

ANNEX B-7. Disclosure of Requirements for NCI Agency Execution of Supplemental Agreements

I, the undersigned, as an authorised representative of _____, certify the following statement:

All supplemental agreements, defined as agreements, documents and/or permissions outside the body of the Contract but are expected to be required by my Government, and the governments of my Subcontractors, to be executed by the NCI Agency or its legal successor as a condition of my firm's performance of the Contract, have been identified, as part of the Bid.

These supplemental agreements are listed as follows:
(insert list of supplemental agreements or specify "none")

Examples of the terms and conditions of these agreements have been provided in our Offer. The anticipated restrictions to be imposed on NATO, if any, have been identified in our offer along with any potential conflicts with the terms, conditions and specifications of the Prospective Contract. These anticipated restrictions and potential conflicts are based on our knowledge of and prior experience with such agreements and their implementing regulations. We do not certify that the language or the terms of these agreements will be exactly as we have anticipated.

The processing time for these agreements has been calculated into our delivery and performance plans and contingency plans made in the case that there is delay in processing on the part of the issuing government(s).

We recognise that additional supplemental agreements, documents and permissions presented as a condition of Contract performance or MOU signature after our firm would be selected as the successful Bidder may be cause for the NCI Agency to determine the submitted Bid to be non-compliant with the requirements of the IFB;

We accept that should the resultant supplemental agreements issued in final form by the government(s) result in an impossibility to perform the Contract in accordance with its schedule, terms or specifications, the Contract may be terminated by the Purchaser at no cost to either Party.

_____ _____
Date Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-8. Certificate of Compliance AQAP 2110 or ISO 9001:2015 or Equivalent

I hereby certify that _____(name of Company) possesses and applies Quality Assurance Procedures/Plans AQAP 2110 or ISO 9001:2008 or equivalent as evidenced through the attached documentation[1].

_____
Date

_____
Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

[1] Bidders must attach copies of any relevant quality certification.

Annex B-9. List of Prospective Subcontractors

Name and Address of Sub-Bidder	DUNS Number [2]	Primary Location of Work	Items/Services to be Provided	Estimated Value of Sub-Contract

Date

Signature of Authorised Representative

Printed Name

Title

Company

[2] Data Universal Numbering System (DUNS). Bidders are requested to provide this data in order to help NCI AGENCY to correctly identify Subcontractors. If a Subcontractor's DUNS is not known this field may be left blank.

Annex B-10. Bidder Background IPR

I, the undersigned, as an authorised representative of Bidder _____, warrant, represent, and undertake that:

a. The Contractor Background IPR specified in the table below will be used for the purpose of carrying out work pursuant to the prospective Contract.

ITEM	DESCRIPTION

b. The stated Bidder has and will continue to have, for the duration of the prospective Contract, all necessary rights in and to the Background IPR specified above.

c. The Background IPR stated above complies with the terms specified in Article 8 of the Contract Special Provisions.

_____ _____
Date Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-11. List of Subcontractor IPR

I, the undersigned, as an authorised representative of Bidder _____, warrant, represent, and undertake that:

a. The Subcontractor IPR specified in the table below will be used for the purpose of carrying out work pursuant to the prospective Contract.

ITEM	DESCRIPTION

b. The stated Bidder has and will continue to have, for the duration of the prospective Contract, all necessary rights in and to the IPR specified above necessary to perform the Contractor's obligations under the Contract.

c. The Subcontractor IPR stated above complies with the terms Clause 30 the Contract General Provisions.

_____ _____
Date Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-12. Certificate of Origin of Equipment, Services, and Intellectual Property

The Bidder hereby certifies that, if awarded the Contract pursuant to this solicitation, he will perform the Contract subject to the following conditions:

(a) none of the work, including project design, labour and services shall be performed other than by firms from and within participating NATO member countries;

(b) no material or items of equipment down to and including identifiable sub-assemblies shall be manufactured or assembled by a firm other than from and within a participating NATO member country. (A sub-assembly is defined as a portion of an assembly consisting of two or more parts that can be provisioned and replaced as an entity); and

(c) The intellectual property rights to all design documentation and related system operating software shall reside in NATO member countries, and no license fees or royalty charges shall be paid by the Bidder to firms, individuals or Governments other than within the NATO member countries.

_____ _____

Date Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

Annex B-13. List of Proposed Key Personnel

Key Personnel are not necessarily required to work full-time in that position. Therefore, it is possible for an individual to fill more than one Key Personnel role at the same time, assuming the person is qualified to perform both roles.

Position	SOW Reference	Labour Category	Name	Designation Period
Project Manager				
Deputy Project Manager				
Technical Lead				
Test Director				
CIS Security Manager				
ILS Manager				
Configuration Manager				
Quality Assurance Manager				
Training Manager				

_____ _____

Date Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

Annex B-14. Disclosure of Involvement of Former NCI Agency Employment

The Bidder hereby certifies that, in preparing its Bid, the Bidder did not have access to solicitation information prior to such information been authorized for release to Bidders (e.g. draft statement of work and requirement documentation).

The Bidder hereby acknowledges the post-employment measures applicable to former NCI Agency Personnel as per the NCI Agency Code of Conduct.

The Bidder hereby certifies that:

☐ Its personnel, at any tier, working as part of the company's team preparing the Bid have not held employment with NCI Agency within the last two years.

☐ It has obtained a signed statement from the former NCI Agency personnel below, who departed the NCI Agency within the last two years, that they were not previously involved in the project under competition (as defined in the extract of the NCI Agency Code of Conduct provided in Annex B-15 of this IFB):

Employee Name	Former NCI Agency Position	Current Company Position

The Bidder also hereby certifies that it does not employ and/or receive services from former NCI Agency Personnel at grades A5 and above or ranks OF-5 and above, who departed the NCI Agency within the last 12 months. This prohibitions covers negotiations, representational communications and/or advisory activities.

_____
Date

_____
Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

Annex B-15. NCI Agency AD. 05.00, Code of Conduct: Post Employment Measures

1. The NCI Agency will not offer employment contracts to former NCI Agency Personnel who departed less than 2 years earlier, unless prior approval by the General Manager has been received.

2. Former NCI Agency Personnel will not be accepted as consultants or commercial counterparts for two (2) years after finalization of their employment at NCI Agency, unless the General Manager decides otherwise in the interest of the Agency and as long as NATO rules on double remuneration are observed. Such decision shall be recorded in writing. Commercial counterparts include owners or majority shareholders, key account managers, or staff members, agents or consultants of a company and/or subcontractors seeking business at any tier with the NCI Agency in relation to a procurement action in which the departing NCI Agency staff member was involved when he/she was under the employment of the NCI Agency. As per the Prince 2 Project methodology, a Project is defined as a “temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case”. For the purpose of this provision, involvement requires (i) drafting, review or coordination of internal procurement activities and documentation, such as statement of work and statement of requirement; and/or (ii) access to procurement information that has not yet been authorized for release for outside distribution, including draft statements of work and requirement documentations; and/or (iii) being appointed as a representative to the Project governance (e.g., Project Board) with access to procurement information as per (ii) above; and/or (iv) having provided strategic guidance to the project, with access to procurement information as per (ii) above.

3. In addition to paragraph 2 above, former NCI Agency Personnel at grades A5 and above or ranks OF-5 and above are prohibited during twelve months following the end of their employment with the NCI Agency from engaging in negotiations, representational communications and/or advisory activities with the NCI Agency on behalf of a private entity, unless this has been agreed in advance by the NCI Agency General Manager and notified to the Agency Supervisory Board (ASB).

4. NCI Agency Personnel leaving the Agency shall not contact their former colleagues in view of obtaining any information or documentation about procurement activities’ not-yet-authorized release. NCI Agency Personnel shall immediately report such contacts to the Director of Acquisition.

5. The ASB Chairman will be the approving authority upon recommendation by the Legal Adviser when the NCI Agency Personnel concerned by the above is the NCI Agency General Manager and will notify the ASB.

6. NCI Agency Personnel leaving the Agency shall sign a statement that they are aware of the post-employment measures set out in this Directive.

7. The post-employment measures set out in this Directive shall be reflected in the NCI Agency procurement documents, such as IFBs, and contract provisions.

Annex C Bid Guarantee - Standby Letter of Credit

Standby Letter of Credit Number:

Issue Date: _____

Beneficiary: NATO CI Agency,
Financial Management Resource Centre,
Boulevard Leopold III,
B-1110 Brussels,
Belgium

Expiry Date: _____

1. We, (issuing bank) hereby establish in your favour our irrevocable standby letter of credit number {number} by order and for the account of (NAME AND ADDRESS OF BIDDER) in the original amount of € 300,000.00 (Three Hundred Thousand Euro). We are advised this Guarantee fulfils a requirement under Invitation for Bid IFB-CO-14887-BRE1TA dated _____.

2. Funds under this standby letter of credit are available to you upon first demand and without question or delay against presentation of a certificate from the NATO CI Agency Contracting Officer that:

a) (NAME OF BIDDER) has submitted a Bid and, after Bid Closing Date (including extensions thereto) and prior to the selection of the lowest priced, technically compliant Bid, has withdrawn his Bid, or stated that he does not consider his Bid valid or agree to be bound by his Bid, or

b) (NAME OF BIDDER) has submitted a Bid determined by the Agency to be the lowest priced, technically compliant Bid, but (NAME OF BIDDER) has declined to execute the Contract offered by the Agency, such Contract being consistent with the terms of the Invitation for Bid, or

c) The NATO CI Agency has offered (NAME OF BIDDER) the Contract for execution but (NAME OF BIDDER) has been unable to demonstrate compliance with the security requirements of the Contract within a reasonable time, or

d) The NATO CI Agency has entered into the Contract with (NAME OF BIDDER) but (NAME OF BIDDER) has been unable or unwilling to provide the Performance Guarantee required under the terms of the Contract within the time frame required.

3. This Letter of Credit is effective the date hereof and shall expire at our office located at (Bank Address) on _____. All demands for payment must be made prior to the expiry date.

4. It is a condition of this letter of credit that the expiry date will be automatically extended without amendment for a period of sixty (60) calendar days from the current or any successive expiry date unless at least thirty (30) calendar days prior to the then current expiry date the NATO CI Agency Contracting Officer notifies us that the Letter of Credit is not required to be extended or is required to be extended for a shorter duration.

5. We may terminate this letter of credit at any time upon sixty (60) calendar days notice furnished to both (NAME OF BIDDER) and the NATO CI Agency by registered mail.

6. In the event we (the issuing bank) notify you that we elect not to extend the expiry date in accordance with paragraph 4 above, or, at any time, to terminate the letter of credit, funds under this credit will be available to you without question or delay against presentation of a certificate signed by the NATO CI Agency Contracting Officer which states

"The NATO CI Agency has been notified by {issuing bank} of its election not to automatically extend the expiry date of letter of credit number {number} dated {date} pursuant to the automatic renewal clause (or to terminate the letter of credit). As of the date of this certificate, no suitable replacement letter of credit, or equivalent financial guarantee has been received by the NATO CI Agency from, or on behalf of (NAME OF BIDDER), and the NATO CI Agency, as beneficiary, hereby draws on the standby letter of credit number _____ in the amount of € (Amount up to the maximum available under the LOC), such funds to be transferred to the account of the Beneficiary number _____ (to be identified when certificate is presented)."

Such certificate shall be accompanied by the original of this letter of credit and a copy of the letter from the issuing bank that it elects not to automatically extend the standby letter of credit, or terminating the letter of credit.

7. The Beneficiary may not present the certificate described in paragraph 6 above until 20 (twenty) calendar days prior to a) the date of expiration of the letter of credit should {issuing bank} elect not to automatically extend the expiration date of the letter of credit, b) the date of termination of the letter of credit if {issuing bank} notifies the Beneficiary that the letter of credit is to be terminated in accordance with paragraph 6 above.

8. Multiple drawings are allowed.

9. Drafts drawn hereunder must be marked, "Drawn under {issuing bank} Letter of Credit No. {number}" and indicate the date hereof.

10. This letter of credit sets forth in full the terms of our undertaking, and this undertaking shall not in any way be modified, amended, or amplified by reference to any document, instrument, or agreement referred to herein (except the International Standby Practices (ISP 98) hereinafter defined) or in which this letter of credit is

referred to or to which this letter of credit relates, and any such reference shall not be deemed to incorporate herein by reference any document, instrument, or agreement.

11. We hereby engage with you that drafts drawn under and in compliance with the terms of this letter of credit will be duly honoured upon presentation of documents to us on or before the expiration date of this letter of credit.

12. This Letter of Credit is subject to The International Standby Practices-ISP98 (1998 Publication) International Chamber of Commerce Publication No.590.

Annex D Clarification Request Form

Company Name _____ Submission Date_____

INVITATION FOR BID
IFB-CO-14887-BRE1TA

CLARIFICATION REQUEST FORM

Company Name _____ Submission Date_____

ADMINISTRATION or CONTRACTING				
Serial No.	**IFB Ref.**	**Bidder's Question**	**NCI Agency Answer**	**Status**
A.1				
A.2				
A.3				
A.4				
A.5				

Company Name _____ Submission Date_____

PRICE				
Serial No.	**IFB Ref.**	**Bidder's Question**	**NCI Agency Answer**	**Status**
P.1				
P.2				
P.3				
P.4				
P.5				

Company Name _____ Submission Date_____

TECHNICAL				
Serial No.	**IFB Ref.**	**Bidder's Question**	**NCI Agency Answer**	**Status**
T.1				
T.2				
T.3				
T.4				
T.5				

Annex E Cross Reference - Traceability Matrix

Company Name _____

INVITATION FOR BID
IFB-CO-14887-BRE1TA

CROSS REFERENCE - TRACEABILITY MATRIX

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.7		All areas of the engineering proposal shall have comprehensively demonstrated feasibility, logic and reasonableness of the proposed solution. Additionally, it should be explicitly expressed and proven the full compliancy with the requirements, particularly regarding performance and security accreditation.	
3.6.8	SOW Annex A	Particular attention has been given to ensure a segregated assessment of BRIPES and STIV-RMD deployment. The former is a software-based system that is expected to be deployed in different NATO nations, while the latter is a specific implementation of a reference system, which includes both dedicated hardware and an integration of BRIPES. Therefore, the technical proposal has provided two independent assessments: a design, development and implementation explanation for BRIPES and a description of supplying, installation and configuration of STIV-RMD hardware with integration of BRIPES.	
3.6.10 – Table of contents			
3.6.10	Book I, 3.6.10	Bidders has compiled a detailed Table of Contents that lists not only the Section Headings but also the major sub-sections and topic headings required as set forth in these Instructions or implicit in the organisation of the Technical Proposal.	
3.6.11 – Cross Reference Traceability Matrix			
3.6.11 – Cross Reference Matrix	Book I, 3.6.11	The Bidder has included a completed Cross-Reference Traceability Matrix in accordance with paragraph 3.6.11 of Book I – Bidding Instructions.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.12. Executive Summary			
3.6.12	Book I, 3.6.12	Bidders has provided an overview of the salient features of their technical proposal in the form of an executive summary.	
3.6.13. Section 1: Corporate Organisation/Capital Facilities			
3.6.13.1.	Book I, 3.6.13	This bidder has described the corporate structure and organization of the Prime Contractor and the administration of the Prospective Contract within the overall corporate structure. This section indicates the chain of authority within the Prime Contractor's organisation from the Project Manager to the Chief Executive Officer.	
3.6.13.2.	Book I, 3.6.13	The Bidder has described the corporate resources (with posts or names) that are available to support the Contract that are resident in the organisation of the Prime Contractor but not directly under the authority of the Project Manager.	
3.6.13.3.	Book I, 3.6.13	The Bidder has described the process by which the Project Manager may have access to these "in-house" corporate resources and what level of authority is required in the Corporation hierarchy to secure the needed resources.	
3.6.13.4.	Book I, 3.6.13	The Bidder has provided evidence that the proposed Project Manager and the Deputy Project Manager are experienced senior personnel with demonstrated capability in managing an acquisition programme of this magnitude. It has been demonstrated that the positions shall have sufficient inherent authority and visibility in the overall corporate structure to properly execute the decisions that will be required to be made in the successful implementation of a project of this size and complexity.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.13.5.	Book I, 3.6.13	The Bidder has described the responsibilities of its Project Management Office (PMO) and the associated staffing and resources. The Bidder has identified his major proposed prospective sub-Contractors for the Contract, in compliance with Book I Annex B-9.	
3.6.13.6.	Book I, 3.6.13	The Bidder has also submitted a detailed and thorough subcontracting plan that identifies subcontractors/sub-vendors and their areas of responsibility and/or delivery. The plan also demonstrates that the prospective subcontractor(s) will agree to abide by the requirements of the prime Contract. The bidder has referred the major proposed subcontractors to the criteria set forth in section 10 of the General Provisions of the Prospective Contract entitled “Sub-Contracts”.	
3.6.13.7.	Book I, 3.6.13	The Bidder included a draft copy of the proposed sub-Contract and a summary of the supplies and/or services to be furnished by the prospective subcontractor. The Bidder has included a letter of intent from the proposed subcontractor that details its willingness to enter into a subcontract with the Bidder if the Bidder shall receive award of the Prospective Contract.	
3.6.13.8.	Book I, 3.6.13	With regard to major subcontracts, the Bidder has identified those items that are subcontracted (assemblies and sub-assemblies) and that are considered to be on the “Critical Path” to meeting the delivery schedule of the Contract.	
3.6.13.9.	Book I, 3.6.13	For these subcontracted items, the Bidder has provided a rationale for the selection of the subcontracted vendor and an analysis of the vendor. The Bidder has provided a description of possible alternative sources of supply should the selected sub-Contractor fail to deliver the required items within the time schedule.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.13.10.	Book I, 3.6.13	The Bidder has provided a subsection that identifies the items (assemblies, sub-assemblies) and services that are to be fabricated and/or performed by the corporate resources of the Prime Contractor.	
3.6.13.11.	Book I, 3.6.13	The Bidder has identified the location of the production facilities which will be utilized, and/or the source within the corporate organisation of the services and expertise required.	
3.6.13.12.	Book I, 3.6.13	The Bidder has shown existing capital assets and has provided a detailed proposal of what additional equipment or facilities that will be acquired or constructed in order to meet the Contract schedule.	
3.6.13.13.	Book I, 3.6.13	The Bidder has also provided a description of any retooling efforts required and a time forecast of when these efforts are planned to be completed.	
3.6.13.14.	Book I, 3.6.13	The Bidder has described the distribution, warehousing, or order-processing capabilities the Bidder has, that enables it to provide efficient and prompt delivery of hardware in satisfaction of short-notice or unpredictable customer orders.	
3.6.14. Section 2: Summary of Corporate Experience			
3.6.14.1.	Book I, 3.6.14	The Bidder has detailed in this section its experience in the design, development, fabrication, installation, maintenance and support of Defence Radio Frequency (RF) Systems. The Bidder has described the required experiences as set forth in subsections 3.6.14.1.1 till 3.6.14.1.3.	
3.6.14.2.	Book I, 3.6.14	The Bidder has demonstrated that its subcontracted sources for critical items have the same level of experience for their respective areas of expertise as is required of the Prime	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		Contractor. Corporate experience encompasses sub-contractors.	
3.6.14.3.	Book I, 3.6.14	The Bidder has described its experience and expertise in providing warranty support and repair-and-replacement service for similar Defence Radio Frequency systems for large, geographically dispersed organisations.	
3.6.14.4.	Book I, 3.6.14	The Bidder has confirmed its and its subcontractors' experience in providing the "implementation + CLS + Warranty", demonstrating examples of work performed for either other NATO or National Contracts.	
3.6.14.5.	Book I, 3.6.14	Individual skill and experience: The Bidder has provided resumes of the proposed individuals to perform the technical tasks under the proposed Work Packages and the resumes of the individuals designated as Key Personnel in Annex B-13.	
3.6.15. Section 3: Preliminary Project Implementation Plan (PIP)			
3.6.15.1.	SOW 2	The Preliminary PIP provides detailed descriptions of how the proposed design will meet each of the specific requirements of the IFB.	
3.6.15.2. PIP Section 1: Project Management and Control Plan (PMCP)			
3.6.15.2.1.	SOW 2.3.2	The Bidder has developed a preliminary Project Management and Control Plan (PMCP) in accordance with Statement of Work (SOW) paragraph 2.3.2 of the Prospective Contract. This plan identifies the significant tasks required to be accomplished and the items to be delivered in the execution of the Contract. The Plan centres on a preliminary Project Work Breakdown Structure (PWBS) and supporting charts in accordance with SOW paragraph 2.3.2 (c) of the Prospective Contract.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.2.2.	SOW 2.3.2	The Contractor has also developed a preliminary Project Master Schedule (PMS) in accordance with SOW paragraph 2.3.2 (f) of the Prospective Contract that contains all Contract events and milestones.	
3.6.15.2.3.	SOW 2.3.2	The Bidder has demonstrated the realism of approach to accomplish the work within the time schedule defined in the IFB.	
3.6.15.2.4.	SOW 2.3.2	In PMS, the relationship between the Work Packages and project deliverables has been clearly demonstrated as well as the schedule of sub-Contracted performance.	
3.6.15.2.5.	SOW 2.3.2 SSS	This preliminary PMCP also considers all aspects of project management and control and demonstrates how all the critical milestones defined in the BOOK II Part I Section 2 will be met.	
3.6.15.2.6.	SOW 2.3.2 SSS	The dates set forth in BOOK II Part I Section 2 shall be fully supported by and coherent with the Gantt/PERT diagrams as well as the PWBS. They shall not be altered or amended by the Bidder.	
3.6.15.2.7.	SOW 2.3.2	The Bidder has demonstrated that it has taken into account the constraints of the implementation environment and reflect this understanding in his draft preliminary Project Management and Control Plan.	
3.6.15.3. PIP Section 2: System Engineering and Design			
3.6.15.3.1.	SOW 4 SOW Annex A	The Bidder has submitted a preliminary System Engineering and Design Plan including a preliminary System Safety Engineering Plan and a preliminary Electromagnetic Interference and Compatibility (EMI/EMC) Control Plan as sub-plans describing the preliminary design of the proposed System.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.3.2.	SOW 4 SOW Annex A	The Preliminary System Engineering and Design Plan is supported with as much detailed information as is practicable to convincingly demonstrate that the proposed design will meet the safety and security requirements as set forth in SOW Section 4 and Section 5 of the Prospective Contract as well as functional and technical requirements as set forth in SOW Annex A of the Prospective Contract.	
3.6.15.3.3.	SOW 4	The draft Preliminary SEDP describes the Bidder's technical solution, provide enough information to demonstrate a full understanding of project objectives, technical requirements, constraints and risks, and show evidence about the achievable performances, proving the fulfilment of requirements. Bidder's technical proposed design shall have provided detailed information on how the Bidder intends to meet performance, functional or architectural requirements defined in the IFB.	
3.6.15.3.4.	SOW 4, SOW Annex A	Given that the BRIPES shall be implemented with COTS products, to the maximum extend (integrated onto a single COTS platform), the SEDP does clearly specify which components of the system are COTS, which are additional integration software components and which are specifically developed for the purpose.	
3.6.15.3.5.	SOW 4, SOW Annex A	The Preliminary SEDP has included enough information to demonstrate that the proposed solution for BRIPES is able to drive any national implementation of BLOS AP, based on the original BICC concept and architecture, with minor adaptations.	
3.6.15.3.6.	SOW 4, SOW Annex A	The Preliminary SEDP has included enough information to demonstrate that proposed solution for BRIPES enables the deployment of the organizational control structure (BCOA, BCA, BCS and CIS Operations Support), regardless the physical	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		location or specificities deployed in BCS or in the software used, as long as it provides the required interfaces.	
3.6.15.3.7.	SOW 4, SOW Annex A	The Preliminary SEDP has included the proposed solution draft User Interfaces mock-up to support configuration, maintenance, monitoring and management of the system. Specifically, the Bidder has presented the proposed solution draft User Interfaces mock-up for the different organizational control structure roles, i.e. BCOA, BCA, BCS and CIS Operations Support.	
3.6.15.3.8.	SOW 4, SOW Annex A	The bidder has taken into account the constraints of the site and the number of simultaneous transmissions, including EMC, in his technical proposal.	
3.6.15.3.9.	SOW 4, SOW Annex A	The Bidder has described the Bidder's approach to preparing and maintaining the Engineering Documentation Package throughout the design, integration, test and site surveys activities, ensuring consistency between all the documents included in that documentation package.	
3.6.15.3.10.	SOW 4, SSS, SOW Annex A	The Bidder shall provide equipment specification for each capability separately. For each capability separately: For each Hardware Contract Line Item Number (CLIN); the Bidder shall have included in his bid a detailed list of the COTS components proposed to be supplied as part of that CLIN. The product name, manufacturer name, and manufacturer's part number, version, or release number shall have been stated. If a	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		generic or non-vendor specific component is proposed, the Bidder shall have provided the item name. The Bidder shall have included in his bid a detailed specification sheet for each item of equipment the Bidder proposes to provide in satisfaction of contractual requirements.	
3.6.15.3.11.	SOW 4, 13	The Bidder has furnished drawings, diagrams and specifications.	
3.6.15.3.12.	SOW 4, SOW Annex A	The Bidder has provided predicted performance characteristics and specifications based on engineering analysis and/or extrapolations from previous data.	
3.6.15.3.13.	SOW 4, SOW Annex A	The Bidder's technical design proposal for BRIPES system has provided detailed information on how the Bidder intends to meet performance, functional or architectural requirements defined in the SOW and its annexes. Failure to provide detailed technical information on any of the bidding requirements or omission of any critical information may result in a determination of non-compliance for the entire Bid.	
3.6.15.3.14.	SOW 5	The SEDP shall have demonstrated that the proposed solution can be accredited by either NATO or national authorities.	
3.6.15.3.15.	SOW 5	The Bidder has agreed to abide by and implement the security mechanism as defined in the NATO Security Policy and supporting directives as per the IFB references.	
3.6.15.3.16.	SOW 5	The Bidder has proposed automated tools to process classified data and information that shall meet the respective performance and security requirements as stated at Section 5 of the SOW.	
3.6.15.3.17.	SOW 5	This Section (security-related) has been submitted as a self-contained volume or volumes of the Technical Proposal and has	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		been segregated from the other materials insofar as the nature of the responses will be subject to Security Classification.	
3.6.15.3.18.	SOW 4, SOW Annex A	The Bidder has demonstrated and confirmed that the hardware to be procured in accordance with this IFB meets the hardware specifications as defined in SOW Annex-A.	
3.6.15.3.19.	SOW 4, SOW Annex A	The Bidder has provided a matrix with a justified calculation of expected worst-case antenna isolation values between all antenna port pairs, when measured at the antenna matrix output.	
3.6.15.3.20.	SOW 4, SOW Annex A	The Bidder has included a completed Requirements Traceability Matrix relating; for each component of the system, all SRS requirements to the system elements.	
3.6.15.4. PIP Section 3: Quality Assurance (QA)			
3.6.15.4.1.	SOW 6	The Bidder has developed a preliminary Quality Assurance Plan in accordance with Statement of Work (SOW) Section 6 of the Prospective Contract. The Bidder has provided information sufficient to demonstrate that the Quality Assurance and Quality Control (QA/QC) Programme meets the requirements of the Prospective Contract. The Bidder has provided certification confirming that the Quality Programme meets the equivalent national and/or international standards.	
3.6.15.4.2.	SOW 6	The Bidder has also described the QA/QC organisation of his Company and the position it occupies within the management structure of the Company and has also provided evidence that the QA/QC organization in his company has enough competence with demonstrated capability in managing a quality programme of a project of this magnitude. The description also includes the proposed overall QA Manager as well as details how the software, hardware and	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		documentation aspects of QA management of a project of this size and complexity shall be exercised.	
3.6.15.4.3.	SOW 6	The proposed Quality Assurance / Quality Control Plan has demonstrated how procedures are developed, implemented and maintained to adequately control the design, integration, production, purchasing, installation, inspection, testing, configuration management and customer support of all services and all products (both management products and specialist products), in accordance with the requirements of this Contract.	
3.6.15.4.4.	SOW 6	The proposed QA/QC Plan has described the quality criteria that will be applied to each of the deliverables under this Contract (i.e. the documentation as well as the system and all of its components).	
3.6.15.4.5.	SOW 6	The proposed QA/QC Plan has described the Bidder's internal process for the quality review of the deliverables before their release to the Purchaser.	
3.6.15.4.6.	SOW 6	The proposed Quality Plan has described how all necessary assistance shall be provided to the Quality Assurance Representative or his delegated National QAR, and how quality records for the prime contractor and any sub-contractors or consortium members shall be made available for evaluation.	
3.6.15.4.7.	SOW 6	The Bidder has clearly indicated the Quality-related activities, responsibilities, and controls for the prime contractor and any subcontractors and has stated how he intends to ensure compliance of his prospective subcontractors and, as applicable, of the prospective suppliers of Commercial-Of-The-Shelf (COTS) equipment with QA/QC requirements of the SOW of the Prospective Contract.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.5. PIP Section 4: Configuration Management			
3.6.15.5.1.	SOW 7	The Bidder has provided a preliminary version of the Bidder's Configuration Management (CM) Plan for BRIPES in accordance with SOW Section 7 of the Prospective Contract that details the processes, methods and procedures that would be used to implement the requirements as set forth in the SOW of the Prospective Contract.	
3.6.15.5.2.	SOW 7	The Bidder has outlined how he adopts the Configuration Management processes and deliverables to the scope of this Contract as requested in the SOW Section 7.	
3.6.15.5.3.	SOW 7	The Bidder has provided, as part of the CM Plan, a project-specific Configuration Control process description, an initial set of project-specific Configuration Item selection criteria for the capabilities as well as an initial set of project-specific Configuration Items (CI) including their attributes and relationships among each other.	
3.6.15.5.4.	SOW 7	The Bidder has demonstrated that the various baselines referred under SOW paragraph 7.11, will be established using automated tools.	
3.6.15.5.5.	SOW 7	In addition, the Bidder has demonstrated that a Configuration Status Accounting (CSA) database will be maintained using appropriate software tools during the Contract.	
3.6.15.5.6.	SOW 7	The Bidder has described the Bidder's approach to the Functional and Physical Configuration Audits for each site, including the verification of delivered configuration items against the Product Baseline.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.6. PIP Section 5: Integrated Logistics Support			
3.6.15.6.1.	SOW 8	The Bidder has provided a preliminary version of the Bidder's Integrated Logistics Support Plan (ILSP) containing all plans that has to be included in the ILSP in accordance with SOW paragraphs 8.2 to 8.8 and 9.2 of the Prospective Contract.	
3.6.15.6.2.	SOW 8.10 – 8.13	The Bidder has described its approach to the Logistic Support Analysis (LSA) for the maintenance and supply support of the BRIPES system for both hardware and software, including details of adoption of ASD 3000L standard, and has described how he will meet the requirements in accordance with SOW paragraphs 8.10 to 8.13 of the Prospective Contract. The Bidder has described the proposed preliminary logistic breakdown and the complete methodology to spares provisioning including details of adoption of ASD 2000M standard.	
3.6.15.6.3.	SOW 8.14 – 8.17	The Bidder has described its approach to the Packaging Handling Storage and Transportation (PHST) including marking and codification in accordance with SOW paragraphs 8.14 to 8.17 of the Prospective Contract.	
3.6.15.6.4.	SOW 8.19	The Bidder has described its approach to the Interactive Electronic Technical Publications (IETP) including details of adoption of ASD 1000D standard in accordance with SOW paragraph 8.19 of the Prospective Contract.	
3.6.15.6.5.	SOW 8.20	The Bidder has described its approach to logistic support during the warranty period including details of process and procedure put in place to adhere to the constraints in accordance with SOW paragraph 8.20 of the Prospective Contract.	
3.6.15.6.6.	SOW 8.11	The Bidder has also described how he will fulfil his roles and responsibilities in relation to each of the elements of the Logistics Support Concept during Contract Implementation in	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		accordance with SOW paragraph 8.11 of the Prospective Contract.	
3.6.15.7. PIP Section 6: Test and Evaluation			
3.6.15.7.1.	SOW 10	The Bidder has described in detail its approach to develop the Test and Evaluation documentation.	
3.6.15.7.2.	SOW 10	The Bidder has identified its proposed test organisation and has provide a preliminary Test and Evaluation plan for FAT, ISAT and SAT, for the allocation of personnel and the timelines of the Test activities set forth in SOW Section 10 of the Prospective Contract.	
3.6.15.7.3.	SOW 5	A preliminary Security Test and Verification Plan (STVP) has been included in the preliminary Test and Evaluation plan that meets the requirements set forth as in SOW Section 5 of the Prospective Contract.	
3.6.15.7.4.	SOW 10	The Bidder has described the major components, assemblies and sub-assemblies that are proposed to be submitted for acceptance on the basis of prior testing and qualification and those that are expected to undergo partial testing and/or extensive testing and evaluation.	
3.6.15.7.5.	SOW 10	If elements of the system are proposed to be submitted on the basis of a Certificate of Conformity based on prior test and qualification, the Bidder shall have provided a summary of the particulars and especially the dates of the prior tests and for whom the testing was executed.	
3.6.15.7.6.	SOW 10	The Bidder has described how the proposed Certificate of Conformity or request for exemption of testing based on prior qualification will be processed from QA and CM aspects.	
3.6.15.7.7.	SOW 10	The Bidder has described the preliminary version of procedures and controls to be employed for testing of components, assemblies and sub-assemblies that are subcontracted and tested at sub-contractors' facilities.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.8. PIP Section 7: Documentation			
3.6.15.8.1.	SOW 13	The Bidder has provided a preliminary Documentation Plan by WBS to detail the resources allocated and the schedule of work to deliver the documentation required in SOW Section 13 of the Prospective Contract.	
3.6.15.8.2.	SOW 13	In this plan, the Bidder has described how he proposes to comply with each of the documentation requirements detailed in SOW Section 13 of the Prospective Contract.	
3.6.15.8.3.	SOW 13	The Bidder has also identified the documentation team and the individual responsible within its organisation for ensuring such documentation is delivered on schedule and to the Contract requirements.	
3.6.15.9. PIP Section 8: System Acceptance			
3.6.15.9.1.	SOW 11	The Bidder has developed a System Acceptance Plan in accordance with Statement of Work (SOW) Section 11 of the Prospective Contract. The Bidder has provided a preliminary System Acceptance Plan by WBS for the allocation of personnel and the time schedule to accomplish all the activities required and ensure the timely delivery of all documentation and other deliverables required for successful Final Systems Acceptance (FSA).	
3.6.15.10. PIP Section 9: Training			
3.6.15.10.1.	SOW 14	The Bidder shall provide a preliminary Training Plan in accordance with SOW Section 14 of the Prospective Contract, detailing (a) the training methodology for training of test personnel, operators, maintainers, system administrators and instructors, (b) schedules for the initial training of all personnel, (c) the proposed training materials and the proposed delivery schedule of those materials.	
3.6.15.10.2.	SOW 14	The Bidder has described its training organisation and has demonstrated that adequate staffing in its organisation will be	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		available to train the student population and meet the schedule without impacting on other activities. The Bidder shall have described the media to be utilised in his proposed training method.	
3.6.15.10.3.	SOW 14	The Bidder has described its approach regarding how support staff designated by the Site POC will be provided training on all tasks required to operate the system, perform daily maintenance and administration, disaster recovery, and problem isolation. The Bidder has described his approach regarding how this training shall be structured according to the Maintenance and logistic support concepts described in SOW sections 8.10 and 8.11 respectively.	
3.6.15.11. PIP Section 10: Reliability, Availability, Maintainability and Testability (RAMT)			
3.6.15.11.1.	SOW 9	The Bidder has provided a preliminary RAMT Case Report including calculations that demonstrate that the BRIPES System meets the RAMT requirements/target set forth in SOW Section 9 of the Prospective Contract. The Bidder has provided these calculations based as much as possible on actual data derived from operational experience of fielded systems and components and extrapolations therefrom, and has provided a full description of the source data utilised, providing equipment numbers, owners, location and inclusive dates in accordance with SOW paragraphs 9.3 to 9.8 of the Prospective Contract.	
3.6.15.11.2.	SOW 8.9	The Bidder has provided a preliminary FMECA of the BRIPES System in accordance with SOW paragraph 8.9 of the Prospective Contract.	
3.6.15.12. PIP Section 11: Contractor Logistics Support			
3.6.15.12.1.	SOW 8	The Bidder has provided a preliminary version of the Bidder's Contractor Logistic Support (CLS) Plan for the additional three-	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		year Support Period of the installed BRIPES System describing the roles and responsibilities of the Contractor to meet the requirements for CLS concept in accordance with SOW paragraphs 8.21 to 8.22 of the Prospective Contract.	
3.6.15.12.2.	SOW 8	The Bidder has demonstrated that he is capable of providing CLS in addition to the standard Warranty as specified in the SOW of the Prospective Contract. The Bidder has provided firm fixed pricing for all CLS ensuring that system reliability, availability, and maintainability requirements, as specified in the SOW, continue to be met throughout the CLS period.	
3.6.15.12.3.	SOW 8	The Bidder has signed Book I Annex B-6 to certify that he is fully aware that the acceptance of the Prospective Contract includes the potential responsibilities and obligations to perform CLS for a period of 3 years after FSA, if the Host Nation decides to exercise the CLS option. The Bidder has inserted a copy of the signed certificate [Book I Annex-B-6] into his technical proposal.	
3.6.15.12.4.	SOW 8	The Bidder has identified those items (assemblies and subassemblies) that are to be subcontracted for repair, refurbishment, and/or modification, or other services to be performed through a subcontractor. The Bidder has also identified its major proposed subcontractors for the CLS contract.	
3.6.15.12.5.	SOW 8	The Bidder has included a letter of intent from the proposed subcontractors that details their willingness to enter into a subcontract with the Bidder, if the CLS contract would be awarded to the Bidder.	
3.6.15.12.6.	SOW 8	The Bidder has demonstrated that the proposed Corporate Organisation, meaning the Prime Contractor and any subcontractors that are proposed for the CLS effort, shall have, in the aggregate, substantial experience in the maintenance and	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		support of similarly sized RF defence systems over the last five (5) years. The description includes the number of systems supported, the purchaser of the support, and point of contact within the purchaser for reference. The description has identified any similarities between CLS contracts previously delivered and the requirements under this IFB.	
3.6.15.12.7.	SOW 8	The Bidder has convincingly demonstrated its proposed Configuration Management procedures will ensure effective configuration control on the hardware and software/firmware during the CLS period.	
3.6.15.13. PIP Section 12: Security Accreditation Plan (SAP)			
3.6.15.13.1.	SOW 5	The Bidder has provided a preliminary Security Accreditation Plan (SAP) that demonstrates that the proposed SAP will allow meeting the security requirements set forth in SOW Section 5 of the Prospective Contract.	
3.6.15.13.2.	SOW 5	The Bidder has confirmed that he understands and accepts the security accreditation documentation review and approval procedures, as defined in SOW Annex C.	
3.6.15.14. PIP Section 13: Risk Assessment and Management Plan (RAMP)			
3.6.15.14.1.	SOW 2.8	The Bidder has provided a preliminary Risk Assessment and Management Plan (RAMP) defining his strategy for risk management to meet the requirements as set forth in SOW paragraph 2.8 of the Prospective Contract. The Bidder has identified the possible risks involved in the performance of the Contract and has convincingly demonstrated that his approach offers adequate, logical and pragmatic means for risk identification, assessment, mitigation, monitoring, and reporting the risks, as well as methods for overcoming setbacks to the project throughout the Contract	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
		duration. The Bidder has demonstrated the adequacy of monitoring and control activities to ensure early detection of problem areas and to schedule risk.	
3.6.15.14.2.	SOW 2.8	The Bidder has described the initial Bidder's Risk Assessment including proposing any appropriate change requests against the Functional Baseline.	
3.6.15.15. PIP Section 14: Site Installation and Civil Works			
3.6.15.15.1.	SOW 3.4, 3.5, 12; SOW Annex A	The Bidder has provided a preliminary plan that describes the civil works, power and site preparation requirements that must be accomplished to properly install and operate the proposed BRIPES system as set forth in SOW Sections 3.4, 3.5 and 12 and SOW Annex A of the Prospective Contract.	
3.6.15.15.2.	SOW 3.4, 3.5, 12; SOW Annex A	The Bidder has provided adequate information regarding the requirements in order to quantify the magnitude of total civil works that must be accomplished on site prior to arrival of the equipment for installation.	
3.6.15.15.3.	SOW 3.4, 3.5, 12; SOW Annex A	The Bidder has identified those (Purchaser) stakeholders that have a requirement to be involved in any approvals of national or local related permit authorisations associated with site installation and civil works. He has also provided details of time schedules, processes and procedures required in order to obtain any such permits, approvals or authorisations and thus ensure that site installation and civil works are in line with agreed schedules.	
3.6.15.15.4.	SOW 3.4, 3.5, 12; SOW Annex A	The Bidder has specified any characteristics of the BRIPES system that constrain the type of civil works that are to be performed to prepare the sites.	

Bidding Instructions Ref	Reference	EVALUATION CRITERIA	BID REFERENCE
3.6.15.15.5.	SOW 3.4, 3.5, 12; SOW Annex A	Bidder has confirmed its understanding and acceptance of the site access requirements as defined in the IFB.	

Bidding Sheets Instructions

INTRODUCTION & IMPORTANT NOTES
All bidders are required to submit pricing details to demonstrate the Purchaser's Pricing Principles are being applied as part of their bids. All data completed in these sheets shall be complete, verifiable and factual and include the required details. Any exclusions may render your bid as non compliant thus removing yourself from the bidding process. Bidders are **REQUIRED** to complete the Offer Summary tab, the CLIN Summary tab, as well as the detailed tabs for Labour, Material, ODCs, Travel, and Rates. Note that input cells are colour coded **YELLOW in the Offer Summary and the CLIN Summary tab**. The instructions for the detailed tabs can be found below, as well as in the green boxes within each detailed tab. G&A, Overhead, material handling, and other indirect rates do not need to be separately calculated in the detail sheets but must be included in the totals for each category (Labour/Material/etc.) as appropriate**.** A list of the direct and indirect rates applied in the bid must also be provided in the "Rates" tab, although they do not need to be linked to any and the detailed calculations of these rates will be requested in pre-contract award from the winning bidder. **Note any information found in green throughout the entire document is provided as instructional and/or example only.** Any formulas provided in these bidding sheets are provided only to assist the bidder. Any changes in formula can be made at the bidder's discretions, as long as the detailed costs are clear, traceable, and accurate as required. **Ultimately the bidder is responsible for ALL values, formulas and calculations** with the bidding sheets that are submitted to the Agency. **Bids in multiple currencies should follow these instructions:** -For the Offer Summary Tab bidders must add columns to the right of the current table; two columns "Currency" and "Firm Fixed Price" for each additional currency of the bid. -For the CLIN Summary Tab, Bidders have 2 options: A) Columns may be added to the right of the current table; two columns "Unit Price" and "Total Firm Fixed Price" would be added for each additional currency of the bid B) Bidders may duplicate the CLIN Summary tab for each currency bid. -For the Detailed Tabs Bidders have 2 options: A) Provide all the detailed data for all currencies in the table provided, selecting the individual currencies from the dropdown lists and summing only common currencies together in CLIN Summary/Offer Summary Sheets B) Duplicate the CLIN Summary tab for each currency bid.

DETAILED TABs	DESCRIPTION
MATERIAL **LABOUR** **TRAVEL** **ODCs**	*The detailed tables are to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested. Any unnecessary rows should be deleted (no blank entries). The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns within tables, or omit information from columns, but may add columns if necessary, although it's not anticipated this will be needed.* *Note CLINs with no costs associated with that item should also be selected within the table, and noted that there is no cost within that table for the CLIN. For example, if there is no labour associated with CLIN X.1, Select CLIN X.1 in the first column and then in the second column note "No Labour is associated with this CLIN". This will help to ensure that all the proper detail has been accounted for and properly allocated.* *Important Note: The Total sum of the "fully burdened" cost column should equal the grand total cost for each category (Labour, Material, etc.) to include profit as well as all indirect rates (G&A/Overhead/Material handling/etc.) associated with that category. These indirect rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be shown as separate calculations at the bidding stage. However, the bidder is required to include the associated indirect costs in the totals of the detailed tab in the base unit costs. Alternatively, the bidder may choose to show these as separate calculations by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Note again although the detailed indirect rate calculations are not required at the bidding stage, this information will be requested from the winning bidder during pre-contract award discussions.*
Rates	*As discussed previously in these instructions, the detailed indirect rate calculations are not required to be included in the bidding sheets, although the bidders may chose to do so. However, ALL bidders are required to state the G&A/OH/Material handling and any other indirect rates that they have applied to the bid.*

For multiple currencies, duplicate the "firm fixed price" column for each currency

CLIN Number	CLIN DESCRIPTION	Firm Fixed Price
Currency		
Grand Total Firm fixed Price - Base Contract + Non-Evaluated Option		-
CLIN 1	BRIPES - Software & Hardware	-
CLIN 2	TRAINING	-
Total Firm Fixed Price Base Contract		-
CLIN 3	CONTRACTOR LOGISTIC SUPPORT	-
Total Firm Fixed Price Non-Evaluated Option		-

Offer Summary Instructions:
Bidders are to populate all yellow cells. Firm fixed prices need to be provided for every CLIN, with no omissions.

Note any formulas existing in the cells are provided only to assist the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable b

(Labour+Material+Travel+ODCs)= Grand Total= CLIN Summary Tab. The "Automatic Checks" tab provides a limited number of checks to help the bidder ensure the bid is accurate and traceable.

Example for multiple currencies:

CO-14887-BRESTA CLIN Summary
BASIC CONTRACT

CLIN	Description	SOW Reference	Required Completion Date	Delivery Destination	Unit of measure	Quantity	Currency	Unit Price	Total Firm Fixed Price
1	**BRIPES - Software & Hardware**								
1.1	**Project Management**								
1.1.1	**Project Implementation Plan (PIP)**								
1.1.1.1	Project Implementation Plan (PIP)	2.3	Draft: 8 Final:14	NCIA	Set	1			
1.1.2	**Documentation**								
1.1.2.1	Final CDR documentation (i.e. CI specifications):	4.6; 13	30	NCIA	Set	1			
1.1.2.2	Logistics documentation	13	69	NCIA	Set	1			
1.1.2.3	Civil Works Documentation	11	69	NCIA	1 set per site	5			
1.1.2.4	Logbooks	13.6	69	NCIA	1 set per site	5			
1.1.2.5	Configuration Management (CM) Documentation	7.7; 7.11; 7.13	69	NCIA	Set	1			
1.1.2.6	Final As-Built Documentation	4; 8; 10; 13	71	NCIA	1 set per site (Elec + Paper)	5			
1.1.2.7	Final Technical Documentation	13	71	NCIA	1 set per site (Elec + Paper)	5			
1.1.2.8	Security Accreditation Support documentation	2.9; 5; 13.14	Per SOW	NCIA	Set	1			
1.1.3	**Reports**								
1.1.3.1	Project Checkpoint Reports (PCR)	2.4	Monthly	NCIA	Set	1			
1.1.3.2	Project Progress Reports (PPR)	2.5	Every 3 months	NCIA	Set	1			
1.1.3.3	Site Survey Reports (SSR), one per site	3.6	6	NCIA	1 set per site (Elec + Paper)	5			
1.1.3.4	CDR summary meeting reports	4.6.1	28	NCIA	Set	1			
1.1.3.5	Test Reports (including Certificate of Compliance)	7.11; 10; 13	2 wks after the test	NCIA	Set	1			
1.1.3.6	BRIPES system STVP test reports	5.7.2	< 2 wks after test	NCIA	Set	1			
1.1.3.7	FAT Test Readiness Review Report	10.4	36	NCIA	Set	1			
1.1.3.8	Functional Configuration audit (FCA) Report	7.7	41	NCIA	Set	2			
1.1.3.9	ISAT Test Readiness Review Report	10.4	53	NCIA	Set	1			
1.1.3.10	Installation Checkout Reports	10.5	57	NCIA	Set	1			
1.1.3.11	SAT Test Readiness Review Report	10.4	59	NCIA	Set	1			
1.1.3.12	Physical Configuration audit (PCA) report	7.7	66	NCIA	Set	1			
1.1.3.13	Final Configuration Status Accounting (FCSA) reports	7.11	71	NCIA	Set	1			
1.1.3.14	Final System Acceptance Report	11.7	73	NCIA	Set	1			
1.1.4	**Meetings**								
1.1.4.1	Meetings (including Minutes)	SOW Annex D	Per SOW	Per SOW	Set	1			
1.2	**Design & Engineering**								
1.2.1	**Requirements Analysis**								
1.2.1.1	Requirements Analysis: draft Detailed Design Specifications	4.6; 13	15	NCIA	Set	1			
1.2.2	**Design**								
1.2.2.1	Preliminary Design Review	4.6	18	NCIA or Contractor's premises	Set	1			
1.2.2.2	Critical Design Review (CDR)	4.6	26	NCIA or Contractor's premises	Set	1			
1.2.2.3	Configuration Item (CI) specifications	4.6; 7; 13.3	30	NCIA	Set	1			
1.2.2.4	Security Certification and Accreditation	2.9; 5; 13.14; SOW Annex C	71	NCIA	Set	1			
1.3	**Implementation**								
1.3.1	**Site Survey**								
1.3.1.1	Site Surveys (including preparation and reports)	3.6.1	6	All sites	1 set per site (Elec + Paper)	5			
1.3.1.2	Site Preparation Data Package (SPDP)	12.2; 12.5	14	NCIA	1 set per site (Elec + Paper)	5			
1.3.1.3	Independent Sites Visits	12.2	44	All sites	Set	1			
1.3.2	**Site Installation**								
1.3.2.1	Site Installation Specifications (SIS)	3.7	27	NCIA	1 set per site	5			
1.3.2.2	Execution and acceptance of Civil Works	3.4; 3.5; 12	47	All sites	Set	1			
1.3.3	**Testing, Evaluation / Accreditation and Acceptance**								
1.3.3.1	Conduct Test Readiness Review (TRR) - Prior to initiation of In-Plant formal and contractor formal testing	10.4.3	30	NCIA	Set	1			
1.3.3.2	Test Readiness Review (TRR) for FAT	10.2; 10.4	36	NCIA	Set	1			
1.3.3.3	Factory Acceptance testing (FAT)	5.3.5; 7.7; 10	42	Contractor's premises	Set	1			
1.3.3.4	Achieve Approval for Testing before ISAT	5.3.5	53	NCIA	Set	1			
1.3.3.5	Test Readiness Review (TRR) for ISAT	10.2; 10.4	55	NCIA	Set	1			
1.3.3.6	Individual Site Acceptance Testing (ISAT)	2; 3; 4; 5; 10	63	At respective sites	Set	1			
1.3.3.7	Test Readiness Review (TRR) for SAT	10.2; 10.4	61	NCIA	Set	1			
1.3.3.8	System Acceptance Testing (SAT)	2; 3; 4; 5; 10	67	At respective sites	Set	1			
1.3.3.9	Final System Acceptance (FSA)	7.7; 11	73	NCIA	Set	1			
1.4	**WARRANTY**								
1.4.1	System Warranty upon Final System Acceptance (FSA)	8.6	Start at FSA	All sites	Month	36			
1.5	**BRIPES: SOFTWARE**								
1.5.1	**Design & Engineering**								
1.5.1.1	System Development and Integration	4; SOW Annex A	42	Contractor's premises	Set	1			
1.5.2	**Equipment**								
1.5.2.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	SOW Annex A	61	At respective site	Set	1			
1.5.2.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	SOW Annex A	61	At respective site	Set	1			
1.5.2.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	SOW Annex A	61	At respective site	Item	1			
1.5.2.4	Directory Tools	SOW Annex A	61	At respective site	Set	1			
1.5.2.5	Client application	SOW Annex A	61	At respective site	Item	1			
1.5.2.6	Management and Control Software	SOW Annex A	61	At respective site	Item	1			
1.5.2.7	Application Programming Interface	SOW Annex A	61	At respective site	Item	1			
1.5.3	**Equipment**								
1.5.3.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	SOW Annex A	73	At respective site	Set	29			
1.5.3.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	SOW Annex A	73	At respective site	Set	29			
1.5.3.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	SOW Annex A	73	At respective site	Item	29			
1.5.3.4	Directory Tools	SOW Annex A	73	At respective site	Set	21			
1.5.3.5	Client application	SOW Annex A	73	At respective site	Item	29			
1.5.3.6	Management and Control Software	SOW Annex A	73	At respective site	Item	21			
1.5.3.7	Application Programming Interface	SOW Annex A	73	At respective site	Item	21			
1.6	**BRIPES: HARDWARE**								
1.6.1	**Integrated Logistics Support**								
1.6.1.1	Quality Assurance Plan (QAP)	6.4	Included in PIP Draft: 8 Final:15	NCIA	set	1			
1.6.1.2	Configuration Management Plan (CMP)	7.3	Included in PIP Draft: 8 Final:15	NCIA	set	1			
1.6.1.3	Integrated Logistics Support Plan (ILSP)	8.3 - 8.8	Included in PIP Draft: 8 Final:15	NCIA	set	1			
1.6.1.4	RAMT Case Report	9.3	18	NCIA	set	1			
1.6.1.5	FMECA Report	8.9	26	NCIA	set	1			
1.6.1.6	LSA with database	8.12	Draft: 26 Final: 34	NCIA	set	1			
1.6.1.7	Recommended Spare Parts List (RSPL) and a Recommended Consumable Items List (RCIL)	8.13	34	NCIA	set	1			
1.6.1.8	Support LCI Provisioning conference after submission of RSPL and RCIL	8.13	38	NCIA	set	1			
1.6.1.9	Codification of Items	8.15; 8.16	Before installation	NCIA	set	1			
1.6.1.10	Interactive Electronic Technical Publications (IETP)	8.19	Draft: 60 Final: 73	NCIA	set	1			
1.6.1.11	Packaging, Handling, Storage and Transport (PHST) and Insurance of all supplies	8.12; 8.14; 8.18	After Contract Award	NCIA	set	1			
1.6.2	**Equipment - Operational Sites Hardware**								
1.6.2.1	Equipment list - separate SSS sheet sub-CLIN 1.6.2	SOW Annex A	43	At respective site	Set	1			
TOTAL CLIN 1									
2	**TRAINING**								
2.1	**Project Management**								
2.1.1	Training plan	14.1	60	NCIA	Set	1			
2.1.2	Training documentation/material	14	64	NCIA	Set	2			
2.2	**Engineering and Design**								
2.2.1	Requirement Analysis - Develop Training Needs Analysis (TNA)	14.1	48	NCIA	Set	1			
2.2.2	Design								
2.2.2.1	Training of Test Personnel	14	41	NCIA	Each	1			
2.2.2.2	Training of System Administrators (including reports)	14	68	NCIA	Each	1			
2.2.2.3	Training of Operators (including reports)	14	68	NCIA	Each	1			
2.2.2.4	Training of Maintainers (including reports)	14	68	NCIA	Each	1			
2.2.2.5	Instructor Training (Train the Trainer)	14	68	NCIA	Each	1			
TOTAL CLIN 2									
Total Firm Fixed Price- Base Contract CLIN 1 + CLIN 2									-

CLIN	Description	SOW Reference	Required Completion Date	Delivery Destination	Unit of measure	Quantity	Currency	Unit Price	Total Firm Fixed Price
				OPTIONAL CLINS- Non-Evaluated					
3	**CONTRACTOR LOGISTIC SUPPORT**								
3.1	Three-year Additional Contractor Logistics Support	8.7	Start at FSA	All sites	Month	36			
Total Firm Fixed Price- Non-Evaluated Option									-

CLIN Summary Instruction:
Bidders are to populate all yellow cells. Firm fixed prices need to be provided for every CLIN, with no omissions.

For the CLIN Summary Tab, Bidders have 2 options: A) Columns may be added to the right of the current table; two columns "Unit Price" and "Total Firm Fixed Price" would be added for each additional currency of the bid B) Bidders may duplicate the CLIN Summary tab for each currency bid.

Note any formulas existing in the cells are provided only to assist the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The Total sum firm fixed price column in this CLIN Summary sheet should equal the grand total from the "Offer Summary" tab. These totals are also required to be traceable to the totals from the details tabs (Labour+Material+Travel+ODCs)= Grand Total= CLIN Summary Tab.

Each line of the table that contains effort is to be populated with the CLIN from the drop down menu that is associated with the effort. Note that all CLINS in the drop down list should be accounted for, and if there is no labour associated, please indicate include a line for that CLIN and indicate "No labour associated with this CLIN"	Bidder is to identify specific labour categories, including function. This may also include level as appropriate. For example: Senior Systems Engineer, Technician, Junior program analyst, etc.	Each line is to be completed by the bidder with the applicable currency. Contractors may choose to enter multiple currencies in one sheet or duplicate the sheet for multiple currencies	Number of Man-Days Year 1	Number of Man-Days Year 2	Number of Man-Days Year 3	Unit Cost per Man-Day Year 1	Unit Cost per Man-Day Year 2	Unit Cost per Man-Day Year 3	This colum should only be expressed as a formula, which is the total of the previous columns: cost*quantity for all years.	This is a calculation of the profit for each line item (if applicable). Note the formula given in this column is an example only and the bidder should enter the appropriate formula. **If the contractor did not apply profit, any or all of these cells can be 0.**	This is a calculation of the "fully burdened" price for each labour category, which means the cost of all units including all profit and indirect rates associated with material (G/A, overhead, etc.)	A) If the line of effort is performed by the bidder; indicate "No" in each line that is not subcontracted B) If the line of effort is subcontracted out to another company, indicate the company name in each line associated with their effort
CLIN	Labour Category	Currency	Man-Days 2019	Man-Days 2020	Man-Days 2021	Labour rate 2019	Labour rate 2020	Labour rate 2021	Extended cost	Expat Allowance (ONLY if applicable)	Profit	Fully Burdened Price	Subcontracted/ Name of Subcontractor
CLIN X.1	Systems Engineer	Euro (EUR)	20	25	10	30	31	32	1,695		170	1,865	No
CLIN 1.1.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.1.2	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.1.3	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.1.4	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.2.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.2.2	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.3.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.3.2	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.3.3	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.4	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.5.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 1.6.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 2.1	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 2.2	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
CLIN 3	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
	Insert Labour category name here								-		-	-	
Total									**-**	**-**	**-**	**-**	

Enter profit percentage for labour in yellow cell below

Profit

IMPORTANT: DELETE THIS EXAMPLE ROW (

Labour table Instructions:
This detailed labour table is to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested, and any unnecessary rows should be deleted (no blank entries). The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column-specific instructions in the first row. Bidder may not delete columns, or omit information from columns, but may add columns/ lines if necessary, although it's not anticipated this will be needed.

Note any formulas existing in the cells are provided only to help the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The Total sum of the "fully burdened" cost column should equal the grand total labour cost to include profit as well as all indirect rates (G&A/Overhead/etc.) associated with labour. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, the bidder is required to include the associated indirect costs in the totals of the detailed tab either A) in the base unit costs or B) shown separately by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

Each line of the table that contains effort is to be populated with the CLIN from the drop down menu that is associated with the effort. Note that all CLINS in the drop down list should be accounted for, and if there is no material associated, please indicate by including a line for that CLIN and indicate "No material associated with this CLIN"	Bidder is to identify specific material that is to be procured as a part of the proposed solution. This includes specific hardware items, software licenses, etc.	Bidder is to provide a description of each item; this can be a model number, hardware configuration description, etc.			Each line is to be completed by the bidder with the applicable currency. Contractors may choose to enter multiple currencies in one sheet or duplicate the sheet for multiple currencies	Number of Units/ Items/ Sets to be purchased Year 1	Number of Units/ Items/ Sets to be purchased Year 2	Number of Units/Items/ Sets to be purchased Year 3	Unit/ item/ Set Cost Year 1	Unit/ item/ Set Cost Year 2	Unit/ item/ Set Cost Year 3	This colum should only be expressed as a formula, which is the total of the previous columns: cost*quantity for all years.	This is a calculation of the profit for each line item (if applicable), Note the formula given in this column is an example only and the bidder should enter the appropriate formula. **If the contractor did not apply profit, any or all of these cells can be 0.**	This is a calculation of the "fully burdened" price for each item, which means the cost of all units including all profit and indirect rates associated with material (G/A, overhead, etc.)	A) If the line of effort is performed by the bidder, indicate "Yes" in each line that is not subcontracted B) If the line of effort is subcontracted out to another company, indicate the company name in each line associated with their effort
CLIN	**Equipment Name**	**Item Description**	**SOW REFERENCE**	**DELIVERY DATE (Weeks after EDC)**	**Currency**	**Quantity 2019**	**Quantity 2020**	**Quantity 2021**	**Unit cost 2019**	**Unit cost 2020**	**Unit cost 2021**	**Extended cost**	**Profit**	**Fully Burdened Price**	**Subcontracted/ Name of Subcontractor**
CLIN X.1	EXAMPLE: BrandX Server: TS1593	Example: HT800003 (model number)			Euro (EUR)	2	2	3	100	100	100	700	70	770	
1.5.2.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.4	Directory Tools	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.5	Client application	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.6	Management and Control Software	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.2.7	Application Programming Interface	Insert Item Description/Model number	SOW Annex A	61								-	-	-	
1.5.3.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.4	Directory Tools	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.5	Client application	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.6	Management and Control Software	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.5.3.7	Application Programming Interface	Insert Item Description/Model number	SOW Annex A	73								-	-	-	
1.6.2.1.1	Rack With 19" 1U KVM Switch	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.1.2	UPS In Rack	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.1.3	Tempest Zone-1 Protection	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.1	Red Digital Switch (Synchronous/Asynchoronous Serial Over Ip Appliance	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.2	Black Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.3	ARQ Processor	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.4	PSK/FSK Modem Compliant To Stanag 4285/4539	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.5	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.2.6	ARQ Isolator	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.3.1	Isolator (Mps-Rsc)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.3.2	Rack With 19" 1U Kvm Switch	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.3.3	ALE Split Site Configuration Controller	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.3.4	Ups In Rack	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.1	Red Voice Switch	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.2	Red Voice Network	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.3	Black Voice Switch	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.4	Black Voice Network	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.5	Voice Terminals	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.4.6	Voice Recorder	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.5.1	Main Unit (Server)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.5.2	Distribution Units (Amplifier)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.5.3	GPS Receiver	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.5.4	Isolator	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.1	loss Red Digital (Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.2	loss Black Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.3	ARQ Processor	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.4	PSK/FSK Modem Compliant To Stanag 4285/4539	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.5	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.6	ARQ Isolator	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.7	ALE Split Site Configuration Controller	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.6.8	IP-To-Serial Coverters (32 Com Ports)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.7.1	Data RF Modem (Psk 4285 /4539 Modems)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.7.2	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.7.3	Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.8.1	FEP (With Multiserial Card (16 Com Ports)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.8.2	UPS In Rack	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.9.1	HF Radio Receiver Equipment (Ale Split Site Configuration Including Antenna)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.10.1	Data Rf Modem (Psk 4285/4539 Modem)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.10.2	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.10.3	Black Switch For TX (Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.11.1	FEP With Multiserial Card (16 Com Ports)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.11.2	UPS In Rack	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.12.1	HF Transmitter 400W Equipment (Ale Split Site Configuration Including Antenna)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.13.1	Spectrum Analyzer	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.13.2	Oscilloscop	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.13.3	HF Simulator	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.14.1	Digital Switch Synchronous/Asynchoronous Serial Over IP Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.14.2	PSK/FSK Modem Compliant To Stanag 4285/4539	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.14.3	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.14.4	Analog Switch For Rx	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.14.5	FEP With Multiserial Card (16 Com Ports)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.15.1	HF Radio Receiver Equipment (ALE Split Site Configuration Including Antenna)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.1	Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.2	PSK/FSK Modem Compliant To Stanag 4285/4539	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.3	Voice Modems (Modem For Crypto Voice - 4197)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.4	Analog Switch For Tx	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.5	FEP With Multiserial Card (16 Com Ports)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.16.6	RF Antenna Matrix (3X3; Power Rating 10 kW)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.17.1	HF Transmitter 1 kW Equipment (Ale Split Site Configuration Including Antenna)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
1.6.2.18.1	Rack (for crypto equipment)	Insert Item Description/Model number	SOW Annex A	43								-	-	-	
Total														-	

Enter profit percentage for material in yellow cell below

Profit

IMPORTANT: DELETE THIS EXAMPLE ROW (

Material table Instruction:
This detailed material table is to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested, and any unnecessary rows should be deleted (no blank entries). The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns, or omit information from columns, but may add columns if necessary, although it's not anticipated this will be needed.

Note any formulas existing in the cells are provided only to help the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The Total sum of the "fully burdened" cost column should equal the grand total Material cost to include profit as well as all indirect rates (G&A/Overhead/Material handling/etc.) associated with material. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, the bidder is required to include the associated indirect costs in the totals of the detailed tab either A) in the base unit costs or B) shown separately by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions

Each line of the table that contains effort is to be populated with the CLIN associated with the effort. Note that all CLINS in the "CLIN detail list" should be accounted for, and if there is no travel associated, please indicate by including a line for that CLIN and indicate "No travel associated with this CLIN"			Enter the number of trips	Enter the number of people for each trip	Enter the number of days per trip	Enter the cost per roundtrip transportation (Flight, train, etc.)	Enter the per diem rate	Calculated the Total Travel Cost	This is a calculation of the profit for each line item (if applicable), Note the formula given in this column is an example only and the bidder should enter the appropriate formula. **If the contractor did not apply profit, any or all of these cells can be 0.**	This is a calculation of the "fully burdened" price for each item, which means the cost of all units including all profit and indirect rates associated with Travel (G/A, overhead, etc.)	Enter year of expected Travel cost
CLIN	**Origin/Destination**	**Currency**	**Number of trips**	**Number of people**	**Number of Days per trip**	**Cost per roundtrip transportation**	**Per Diem**	**Extended Cost**	**Profit**	**Fully Burdened Price**	**Year**
1.1.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.1.2	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.1.3	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.1.4	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.2.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.2.2	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.3.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.3.2	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.3.3	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.4	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.5.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
1.6.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
2.1	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
2.2	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
3	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
	Insert Origin/destination							-	-	-	
Total								**-**	**-**	**-**	

Enter profit percentage for material in yellow cell below

Profit

Travel table Instructions:
This detailed Travel table is to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested, and any unnecessary rows should be deleted (no blank entries). The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns, or omit information from columns, but may add columns if necessary, although it's not anticipated this will be needed.

Note any formulas existing in the cells are provided only to help the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The sum of the "Total" cost column on this tab should equal the grand total Travel cost to include any profit as well as all indirect rates (G&A/Overhead/etc.) associated with travel. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, the bidder is required to include the associated indirect costs in the totals of the detailed tab either A) in the base unit costs or B) shown separately by expanding the table columns to show the additional costs due to these indirect rates as separate columns. Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

Each line of the table that contains effort is to be populated with the CLIN associated with the effort. Note that all CLINS in the "CLIN detail list" should be accounted for, and if there is no ODC associated, please indicate by including a line for that CLIN and indicate "No ODC associated with this CLIN"	Enter the name of the ODC item	Enter a description of the ODC item	Enter the currency	Enter the unit type	Enter the number of units	Enter the unit cost	Total ODC cost calculation	This is a calculation of the profit for each line item (if applicable). Note the formula given in this column is an example only and the bidder should enter the appropriate formula. **If the contractor did not apply profit, any or all of these cells can be 0.**	This is a calculation of the "fully burdened" price for each item, which means the cost of all units including all profit and indirect rates associated with ODC (G/A, overhead, etc.)	Enter year of expected ODC cost
CLIN	**Item Name**	**Item Description**	**Currency**	**Unit Type (Man-Days, lot, etc)**	**Quantity**	**Unit cost**	**Total Cost**	**Profit**	**Fully Burdened Price**	**Year**
1.1.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.1.2	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.1.3	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.1.4	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.2.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.2.2	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.3.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.3.2	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.3.3	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.4	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.5.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
1.6.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
2.1	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
2.2	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
3	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
	Insert Other Direct Cost item						-	-	-	
Total							**-**	**-**	**-**	

Enter profit percentage for material in yellow cell below

Profit

ODC table Instructions:
This detailed ODC table is to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested, and any unnecessary rows should be deleted (no blank entries). The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns, or omit information from columns, but may add columns if necessary, although it's not anticipated this

Enter the name of the Rate here (G&A, Overhead, etc.)	Enter a rate description for non-standard rate categories	Enter the rate percentage
Rate Name	**Rate description***	**Percentage**
[Insert Rate Name]		0%
[Insert Rate Name]		0%
[Insert Rate Name]		0%

***Note: rate description only needed if this is a rate not included in the list below:**
Overhead
Fringe
General & Administrative
Material Handling
Profit- Labour
Profit- Material

EXAMPLE ONLY:		
Name of Rate	**Rate description**	
Fringe		2%
Overhead		2%
G&A		2%
ABC rate (company specific)	In the case of non-standard rates, include a description	x%

Instructions:

Although the rates in this tab do not need to be linked to calculations for purposes of the bid, it is required that bidders list any and all rates included in their bid to include (but not limited to): Overhead, Labour Fringe, Material handling, General &Administrative, profit, etc.

IFB-CO-14887-BRE1TA - Schedule of Supplies and Services

PART I: Software & Hardware & Training

CLIN	DESCRIPTION	SOW REFERENCE	DELIVERY DATE (No Later Than x Weeks after EDC)	DELIVERY SITE	Unit of Measure	QTY	CURRENCY	UNIT PRICE	TOTAL PRICE (QTY x UNIT PRICE)
1	**BRIPES - Software & Hardware**								
1.1	**Project Management**								
1.1.1	**Project Implementation Plan (PIP)**								
1.1.1.1	Project Implementation Plan (PIP)	2.3	Draft: 8 Final:15	NCIA	Set	1			
1.1.2	**Documentation**								
1.1.2.1	Final CDR documentation (i.e. CI specifications):	4.6; 13	30	NCIA	Set	1			
1.1.2.2	Logistics documentation	13	69	NCIA	Set	1			
1.1.2.3	Civil Works Documentation	13	69	NCIA	1 set per site	5			
1.1.2.4	Logbooks	13.6	69	NCIA	1 set per site	5			
1.1.2.5	Configuraton Management (CM) Documentation	7.7; 7.11; 7.13	69	NCIA	Set	1			
1.1.2.6	Final As-Built Documentation	4; 8; 10; 13	71	NCIA	1 set per site (Elec + Paper)	5			
1.1.2.7	Final Technical Documentation	13	71	NCIA	1 set per site (Elec + Paper)	5			
1.1.2.8	Security Accreditation Support documentation	2.3; 5; 13.14	Per SOW	NCIA	Set	1	*NSP	*NSP	*NSP
1.1.3	**Reports**								
1.1.3.1	Project Checkpoint Reports (PCR)	2.4	Monthly	NCIA	Set	1			
1.1.3.2	Project Progress Reports (PPR)	2.5	Every 3 months	NCIA	Set	1			
1.1.3.3	Site Survey Reports (SSR), one per site	3.6	6	NCIA	1 set per site (Elec + Paper)	5			
1.1.3.4	CDR summary meeting reports	4.6.1	28	NCIA	Set	1			
1.1.3.5	Test Reports (including Certificate of Compliance)	7.11; 10; 13	2 wks after the test	NCIA	Set	1			
1.1.3.6	BRIPES system STVP test reports	5.7.2	< 2 wks after test	NCIA	Set	1			
1.1.3.7	FAT Test Readiness Review Report	10.4	36	NCIA	Set	1			
1.1.3.8	Functional Configuration audit (FCA) Report	7.7	41	NCIA	Set	2			
1.1.3.9	ISAT Test Readiness Review Report	10.4	53	NCIA	Set	1			
1.1.3.10	Installation Checkout Reports	10.5	57	NCIA	Set	1			
1.1.3.11	SAT Test Readiness Review Report	10.4	59	NCIA	Set	1			
1.1.3.12	Physical Configuration audit (PCA) report	7.7	66	NCIA	Set	1			
1.1.3.13	Final Configuration Status Accounting (CSA) reports	7.11	71	NCIA	Set	1			
1.1.3.14	Final System Acceptance Report	11.7	73	NCIA	Set	1			
1.1.4	**Meetings**								
1.1.4.1	Meetings (including Minutes)	SOW Annex D	Per SOW	Per SOW	Set	1			
1.2	**Design & Engineering**								
1.2.1	**Requirements Analysis**								
1.2.1.1	Requirements Analysis: draft Detailed Design Specifications	4.6; 13	15	NCIA	Set	1			
1.2.2	**Design**								
1.2.2.1	Preliminary Design Review	4.6	18	NCIA or Contractor's premises	Set	1			
1.2.2.2	Critical Design Review (CDR)	4.6	26	NCIA or Contractor's premises	Set	1			
1.2.2.3	Configuration Item (CI) specifications	4.6; 7; 13.3	30	NCIA	Set	1			
1.2.2.4	Security Certification and Accreditation	2.3; 5; 13.14; SOW Annex C	71	NCIA	Set	1	*NSP	*NSP	*NSP
1.3	**Implementation**								
1.3.1	**Site Survey**								
1.3.1.1	Site Surveys (Including preparation and reports)	3.6.1	6	All sites	1 set per site (Elec + Paper)	5			
1.3.1.2	Site Preparation Data Package (SPDP)	12.2; 12.5	14	NCIA	1 set per site (Elec + Paper)	5			
1.3.1.3	Independent Sites Visits	12.2	44	All sites	Set	1			

1.3.2	**Site Installation**								
1.3.2.1	Site Installation Specifications (SIS)	3.7	27	NCIA	1 set per site	5			
1.3.2.2	Execution and acceptance of Civil Works	3.4; 3.5; 12	47	All sites	Set	1			
1.3.3	**Testing, Evaluation / Accreditation and Acceptance**								
1.3.3.1	Conduct Test Readiness Review (TRR) - Prior to initiation of In-Plant formal and contractor formal testing	10.4.3	30	NCIA	Set	1			
1.3.3.2	Test Readiness Review (TRR) for FAT	10.2; 10.4	36	NCIA	Set	1			
1.3.3.3	Factory Acceptance testing (FAT)	5.3.5; 7.7; 10	42	Contractor's premises	Set	1			
1.3.3.4	Achieve Approval for Testing before ISAT	5.3.5	53	NCIA	Set	1			
1.3.3.5	Test Readiness Review (TRR) for ISAT	10.2; 10.4	55	NCIA	Set	1			
1.3.3.6	Individual Site Acceptance Testing (ISAT)	2; 3; 4; 5; 10	63	At respective sites	Set	1			
1.3.3.7	Test Readiness Review (TRR) for SAT	10.2; 10.4	61	NCIA	Set	1			
1.3.3.8	System Acceptance Testing (SAT)	2; 3; 4; 5; 10	67	At respective sites	Set	1			
1.3.3.9	Final System Acceptance (FSA)	7.7; 11	73	NCIA	Set	1			
1.4	**WARRANTY**								
1.4.1	System Warranty upon Final System Acceptance (FSA)	8.2	Start at FSA	All sites	Month	36			
1.5	**BRIPES: SOFTWARE**								
1.5.1	**Design & Engineering**								
1.5.1.1	System Development and Integration	4; SOW Annex A	42	Contractor's premises	Set	1			
1.5.2	**Equipment**								
1.5.2.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	SOW Annex A	61	At respective site	Set	1			
1.5.2.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	SOW Annex A	61	At respective site	Set	1			
1.5.2.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	SOW Annex A	61	At respective site	Item	1			
1.5.2.4	Directory Tools	SOW Annex A	61	At respective site	Set	1			
1.5.2.5	Client application	SOW Annex A	61	At respective site	Item	1			
1.5.2.6	Management and Control Software	SOW Annex A	61	At respective site	Item	1			
1.5.2.7	Application Programming Interface	SOW Annex A	61	At respective site	Item	1			
1.5.3	**Equipment**								
1.5.3.1	Message Handling System with Naval Broadcast (ST4406, SMTP, ACP127)	SOW Annex A	73	At respective site	Set	29			
1.5.3.2	STANAG 5066 software including intelligent proxies (Annex F clients) and annex L	SOW Annex A	73	At respective site	Set	29			
1.5.3.3	Performance enhancing Edge Proxies (4406 annex E, XMPP)	SOW Annex A	73	At respective site	Item	29			
1.5.3.4	Directory Tools	SOW Annex A	73	At respective site	Set	21			
1.5.3.5	Client application	SOW Annex A	73	At respective site	Item	29			
1.5.3.6	Management and Control Software	SOW Annex A	73	At respective site	Item	21			
1.5.3.7	Application Programming Interface	SOW Annex A	73	At respective site	Item	21			
1.6	**BRIPES: HARDWARE**								
1.6.1	**Integrated Logistics Support**								
1.6.1.1	Quality Assurance Plan (QAP)	6.4	Included in PIP Draft: 8 Final:15	NCIA	Set	1			
1.6.1.2	Configuration Management Plan (CMP)	7.3	Included in PIP Draft: 8 Final:15	NCIA	Set	1			
1.6.1.3	Integrated Logistics Support Plan (ILSP)	8.3 - 8.8	Included in PIP Draft: 8 Final:15	NCIA	Set	1			
1.6.1.4	RAMT Case Report	9.3	18	NCIA	Set	1			
1.6.1.5	FMECA Report	8.9	26	NCIA	Set	1			
1.6.1.6	LSA with database	8.12	Draft: 26 Final: 34	NCIA	Set	1			
1.6.1.7	Recommended Spare Parts List (RSPL) and a Recommended Consumable Items List (RCIL)	8.13	34	NCIA	Set	1			
1.6.1.8	Support ILS Provisioning conference after submission of RSPL and RCIL	8.13	38	NCIA	Set	1			
1.6.1.9	Codification of Items	8.15; 8.16	Before installation	NCIA	set	1			
1.6.1.10	Interactive Electronic Technical Publications (IETP)	8.19	Draft: 60 Final: 73	NCIA	Set	1			
1.6.1.11	'Packaging, Handling, Storage and Transport' (PHST) and Insurance of all supplies	8.12; 8.14; 8.18	After Contract Award	NCIA	set	1			
1.6.2	**Equipment - Operational Sites Hardware**								
1.6.2.1	Equipment list - separate SSS sheet sub-CLIN 1.6.2	SOW Annex A	43	At respective site	Set	1			
TOTAL CLIN 1									
2	**TRAINING**								

2.1	**Project Management**								
2.1.1	Training plan	14.1	60	NCIA	Set	1			
2.1.2	Training documentation/material	14	64	NCIA	Set	2			
2.2	**Engineering and Design**								
2.2.1	Requirement Analysis : Develop Training Needs Analysis (TNA)	14.1	48	NCIA	Set	1			
2.2.2	Design								
2.2.2.1	Training of Test Personnel	14	41	NCIA	Each	1			
2.2.2.2	Training of System Administrators (including reports)	14	68	NCIA	Each	1			
2.2.2.3	Training of Operators (including reports)	14	68	NCIA	Each	1			
2.2.2.4	Training of Maintainers (including reports)	14	68	NCIA	Each	1			
2.2.2.5	Instructor Training (Train the Trainer)	14	68	NCIA	Each	1			
TOTAL CLIN 2									
GRAND TOTAL CLIN 1 and 2									

PART II - OPTION : Additional Three-Year CLS Support

CLIN	DESCRIPTION	SOW REFERENCE	DELIVERY DATE (Weeks after EDC)	DELIVERY SITE	Unit of Measure	QTY	CURRENCY	UNIT PRICE	TOTAL PRICE
3	**CONTRACTOR LOGISTIC SUPPORT**								
3.1	**Three-year Additional Contractor Logistics Support**	8.7	Start at FSA	All sites	Month	36			

*NSP	NSP= Not Separately Priced

IFB-CO-14887-BRE1TA - Schedule of Supplies and Services

PART I: Hardware Equipment List - Sub-CLIN 1.6.2

CLIN	DESCRIPTION	SOW REFERENCE	DELIVERY DATE (Weeks after EDC)	DELIVERY SITE	Unit of Measure	QTY	CURRENCY	UNIT PRICE	TOTAL PRICE
1.6	**BRIPES: HARDWARE**								
1.6.2	**Equipment - Operational Sites Hardware**								
1.6.2.1	**Message Processing System (MPS)**								
1.6.2.1.1	Rack With 19'' 1U KVM Switch	SOW Annex A	43	At respective site	Item	2			
1.6.2.1.2	UPS In Rack	SOW Annex A	43	At respective site	Set	2			
1.6.2.1.3	Tempest Zone-1 Protection	SOW Annex A	43	At respective site	Set	1			
1.6.2.2	**Communication Interface and Switching Management System (CISS)**		43						
1.6.2.2.1	Red Digital Switch (Synchronous/Asynchoronous Serial Over Ip Appliance	SOW Annex A	43	At respective site	Item	1			
1.6.2.2.2	Black Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	At respective site	Item	3			
1.6.2.2.3	ARQ Processor	SOW Annex A	43	At respective site	Item	1			
1.6.2.2.4	PSK/FSK Modem Compliant To Stanag 4285/4539	SOW Annex A	43	At respective site	Item	2			
1.6.2.2.5	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	At respective site	Item	2			
1.6.2.2.6	ARQ Isolator	2.3; 5; 13.14	43	At respective site	Item	1			
1.6.2.3	**Remote Supervisory Control System (RSC)**		43						
1.6.2.3.1	Isolator (Mps-Rsc)	SOW Annex A	43	At respective site	Item	1			
1.6.2.3.2	Rack With 19'' 1U Kvm Switch	SOW Annex A	43	At respective site	Item	5			
1.6.2.3.3	ALE Split Site Configuration Controller	SOW Annex A	43	At respective site	Item	1			
1.6.2.3.4	Ups In Rack	SOW Annex A	43	At respective site	Set	3			
1.6.2.4	**Voice Management Sub-System (VMSS)**		43						
1.6.2.4.1	Red Voice Switch	SOW Annex A	43	At respective site	Item	1			
1.6.2.4.2	Red Voice Network	SOW Annex A	43	At respective site	Item	1			
1.6.2.4.3	Black Voice Switch	SOW Annex A	43	At respective site	Item	1			
1.6.2.4.4	Black Voice Network	SOW Annex A	43	At respective site	Item	1			
1.6.2.4.5	Voice Terminals	SOW Annex A	43	At respective site	Item	3			
1.6.2.4.6	Voice Recorder	SOW Annex A	43	At respective site	Item	2			
1.6.2.5	**Precision Timer And Frequency Standard System (PTFS)**		43						
1.6.2.5.1	Main Unit (Server)	SOW Annex A	43	At respective site	Item	1			
1.6.2.5.2	Distribution Units (Amplifier)	SOW Annex A	43	At respective site	Item	1			
1.6.2.5.3	GPS Receiver	SOW Annex A	43	At respective site	Item	1			
1.6.2.5.4	Isolator	SOW Annex A	43	At respective site	Item	1			
1.6.2.6	**IOSS HW**		43						
1.6.2.6.1	Ioss Red Digital (Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	At respective site	Item	1			
1.6.2.6.2	Ioss Black Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	At respective site	Item	3			
1.6.2.6.3	ARQ Processor	SOW Annex A	43	At respective site	Item	1			
1.6.2.6.4	PSK/FSK Modem Compliant To Stanag 4285/4539	SOW Annex A	43	At respective site	Item	2			
1.6.2.6.5	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	At respective site	Item	2			
1.6.2.6.6	ARQ Isolator	SOW Annex A	43	At respective site	Item	1			
1.6.2.6.7	ALE Split Site Configuration Controller	SOW Annex E	43	At respective site	Item	1			
1.6.2.6.8	IP-To-Serial Coverters (32 Com Ports)	SOW Annex A	43	At respective site	Item	2			
1.6.2.7	**Communication Interface And Switching Management System (CISS)**		43						
1.6.2.7.1	Data RF Modem (Psk 4285 /4539 Modems)	SOW Annex A	43	Rx Site PRT	Item	1			
1.6.2.7.2	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	Rx Site PRT	Item	1			
1.6.2.7.3	Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	Rx Site PRT	Item	1			
1.6.2.8	**Remote Supervisory Control System (RSC)**		43						
1.6.2.8.1	FEP (With Multiserial Card (16 Com Ports)	SOW Annex A	43	Rx Site PRT	Item	1			
1.6.2.8.2	UPS In Rack	SOW Annex A	43	Rx Site PRT	Set	1			
1.6.2.9	**Radio HW**		43						
1.6.2.9.1	HF Radio Receiver Equipment (Ale Split Site Configuration Including Antenna)	SOW Annex A	43	Rx Site PRT	Set	1			
1.6.2.10	**Communication Interface And Switching Management System (CISS)**		43						
1.6.2.10.1	Data Rf Modem (Psk 4285/4539 Modem)	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.10.2	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.10.3	Black Switch For TX (Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.11	**Remote Supervisory Control System (RSC)**								
1.6.2.11.1	FEP With Multiserial Card (16 Com Ports)	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.11.2	UPS In Rack	SOW Annex A	43	Tx Site PRT	Set	2			
1.6.2.12	**Radio HW**								
1.6.2.12.1	HF Transmitter 400W Equipment (Ale Split Site Configuration Including Antenna)	SOW Annex A	43	Tx Site PRT	Set	1			

1.6.2.13	**Auxilary Equipment**								
1.6.2.13.1	Spectrum Analyzer	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.13.2	Oscilloscop	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.13.3	HF Simulator	SOW Annex A	43	Tx Site PRT	Item	1			
1.6.2.14	**Remote Rx Site The Hague**								
1.6.2.14.1	Digital Switch Synchronous/Asynchoronous Serial Over IP Appliance)	SOW Annex A	43	Rx Site The Hague	Set	1			
1.6.2.14.2	PSK/FSK Modem Compliant To Stanag 4285/4539	SOW Annex A	43	Rx Site The Hague	Item	1			
1.6.2.14.3	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	Rx Site The Hague	Item	1			
1.6.2.14.4	Analog Switch For Rx	SOW Annex A	43	Rx Site The Hague	Item	1			
1.6.2.14.5	FEP With Multiserial Card (16 Com Ports)	SOW Annex A	43	Rx Site The Hague	Item	1			
1.6.2.15	**Radio HW**								
1.6.2.15.1	HF Radio Receiver Equipment (ALE Split Site Configuration Including Antenna)	SOW Annex A	43	Rx Site The Hague	Set	1			
1.6.2.16	**Remote TX Site Staelduinen**								
1.6.2.16.1	Digital Switch Synchronous/Asynchoronous Serial Over Ip Appliance)	SOW Annex A	43	Tx Site Staelduinen	Set	1			
1.6.2.16.2	PSK/FSK Modem Compliant To Stanag 4285/4539	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.16.3	Voice Modems (Modem For Crypto Voice - 4197)	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.16.4	Analog Switch For Tx	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.16.5	FEP With Multiserial Card (16 Com Ports)	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.16.6	RF Antenna Matrix (3X3; Power Rating 10 kW)	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.17	**Radio HW**								
1.6.2.17.1	HF Transmitter 1 kW Equipment (Ale Split Site Configuration Including Antenna)	SOW Annex A	43	Tx Site Staelduinen	Item	1			
1.6.2.18	**Crypto Procurement**								
1.6.2.18.1	Rack (for crypto equipment)	SOW Annex A	43	At respective site	Item	1			
TOTAL SUB-CLIN 1.6.2									

IFB-CO-14887-BRE1TA
AMENDMENT 4

BOOK II
CONTRACT SPECIAL PROVISIONS

CONTRACT SPECIAL PROVISIONS
INDEX OF CLAUSES

ARTICLE 1 ALTERATIONS, MODIFICATIONS AND DELETIONS OF THE NCI AGENCY CONTRACT GENERAL PROVISIONS 4
ARTICLE 2 ORDER OF PRECEDENCE 5
ARTICLE 4 FIRM FIXED PRICE 5
ARTICLE 5 ADDITIONAL CONTRACT TASKS AND OPTIONS 5
ARTICLE 6 PARTICIPATING COUNTRIES 7
ARTICLE 7 COMPREHENSION OF CONTRACT AND SPECIFICATIONS 7
ARTICLE 8 PLACE AND TERMS OF DELIVERY 8
ARTICLE 9 DIFFERING SITE CONDITIONS 8
ARTICLE 10 INSPECTION AND ACCEPTANCE 9
ARTICLE 11 REVIEW AND ACCEPTANCE OF DOCUMENTATION 10
ARTICLE 12 INVOICES AND PAYMENT 11
ARTICLE 13 SUPPLEMENTAL AGREEMENTS, DOCUMENTS AND PERMISSIONS 13
ARTICLE 14 WARRANTY 14
ARTICLE 15 CONTRACT ADMINISTRATION 16
ARTICLE 16 SUB-CONTRACTORS 17
ARTICLE 17 CONTRACTOR COTS RESPONSIBILITY 18
ARTICLE 18 LIQUIDATED DAMAGES 18
ARTICLE 19 SECURITY AND CONTRACT SECURITY CLASSIFICATION 19
ARTICLE 20 KEY PERSONNEL 21
ARTICLE 21 INDEMNITY 23
ARTICLE 22 TECHNICAL DIRECTION 23
ARTICLE 23 CARE AND DILIGENCE OF PROPERTY 24
ARTICLE 24 INDEPENDENT CONTRACTOR 24
ARTICLE 25 APPLICABLE REGULATIONS 24
ARTICLE 26 AUDITING AND ACCOUNTING 25
ARTICLE 27 RESPONSIBILITY OF THE CONTRACTOR TO INFORM EMPLOYEES OF WORK ENVIRONMENT 25
ARTICLE 28 PERFORMANCE GUARANTEE 25
ARTICLE 29 PURCHASER FURNISHED EQUIPMENT AND PURCHASER FURNISHED PROPERTY 26
ARTICLE 30 APPLICABILITY OF STANDARDS 27
ARTICLE 31 QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC) 27
ARTICLE 32 OWNERSHIP AND TITLE 27
ARTICLE 33 CONTRACTOR'S PERSONNEL WORKING AT PURCHASER FACILITIES 28
ARTICLE 34 PURCHASER RIGHTS IN TECHNICAL DATA AND COMPUTER SOFTWARE 28
ARTICLE 35 PATENT AND COPYRIGHT INDEMNITY 29

ARTICLE 36 CONTRACTOR AND PURCHASER SYSTEM INSTALLATION RESPONSIBILITIES 29

ARTICLE 37 LIAISON WITH PURCHASER DURING SITE PREPARATION ACTIVITIES 30

ARTICLE 38 PROTECTION OF WATER, LAND, EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS 30

ARTICLE 39 OPERATIONS AND STORAGE AREAS 31

ARTICLE 40 SITE CLEAN UP 31

ARTICLE 41 AVAILABILITY AND USE OF UTILITY SERVICES 32

ANNEX A: NCI AGENCY NON-DISCLOSURE DECLARATION 33

ANNEX B: PERFORMANCE GUARANTEE STANDBY LETTER OF CREDIT 35

ANNEX C: CONTRACTOR BACKGROUND IPR 37

ANNEX D: LIST OF SUBCONTRACTOR IPR 38

ARTICLE 1 ALTERATIONS, MODIFICATIONS AND DELETIONS OF THE NCI AGENCY CONTRACT GENERAL PROVISIONS

1.1 CLAUSE 1 – Order of precedence of the Contract General Provisions is replaced by ARTICLE 2 – Order of Precedence

1.2 CLAUSE 4 – Approval and Acceptance of Contract Terms is supplemented by ARTICLE 7 – Comprehension of Contract and Specifications

1.3 CLAUSE 7 – Firm Fixed Price Contract of the Contract General Provisions is supplemented by ARTICLE 4 - Firm Fixed Price

1.4 CLAUSE 9 – Participating Countries of the Contract General Provisions is supplemented by ARTICLE 6 – Participating Countries

1.5 CLAUSE 11 – Security of the Contract General Provisions is supplemented by ARTICLE 19 – Security and Contract Security Classification

1.6 CLAUSE 20 – Inspection and Acceptance of Work of the Contract General Provisions is supplemented by ARTICLE 10 Inspection and Acceptance

1.7 CLAUSE 22 – Inspection and Acceptance of Documentation of the Contract General Provisions is supplemented by ARTICLE 11 Review and Acceptance

1.8 CLAUSE 25 – Invoices and Payment is supplemented of the Contract General Provisions is supplemented by ARTICLE 12 Invoices and Payment

1.9 CLAUSES 27 Warranty of Work and 31 Software Warranty of the Contract General Provisions are supplemented by ARTICLE 14 Warranty

1.10 CLAUSE 10 Sub-Contracts of the Contract General Provisions is supplemented by ARTICLE 16 Sub-Contractors

1.11 CLAUSE 38 Liquidated Damages of the Contract General Provisions is supplemented by ARTICLE 18 Liquidated Damages

1.12 CLAUSE 8 Performance Guarantee of the Contract General Provisions is supplemented by ARTICLE 28 Performance Guarantee

1.13 CLAUSE 13 Purchase Furnished Property of the Contract General Provisions is supplemented by ARTICLE 29 Purchaser Furnished Equipment and Purchaser Furnished Property

1.14 CLAUSE 24 Ownership and Title of the Contract General Provisions is supplemented by ARTICLE 32 Ownership and Title

1.15 CLAUSE 30 Intellectual Property of the Contract General Provisions is supplemented by ARTICLE 34 Purchaser Rights in Technical Data and Computer Software

1.16 CLAUSE 35 Patent and Copyright Indemnity of the Contract General Provisions is supplemented by ARTICLE 35 Patent and Copyright Indemnity.

ARTICLE 2 ORDER OF PRECEDENCE

2.1 In the event of any inconsistency in this Contract, the inconsistency shall be resolved by giving precedence in the following order:

a. The Signature sheet
b. Part I - The Schedule of Supplies and Services
c. Part II - The Contract Special Provisions
d. Part III – NCI Agency General Provisions
e. Part IV – The Statement of Work
f. Annexes to the Statement of Work
g. The Contractor's Bid including any clarifications thereto, incorporated by reference, and the formal documentation of pre-Contract discussions.

ARTICLE 3 SCOPE

2.1 The scope of this Contract is to provide BRE1TA Software and BLOS Access Point with RMD and Training Capability, as specified in Part I Schedule of Supplies and Services (SSS) and in accordance with Part IV Statement of Work (SOW) for the firm fixed prices stated in this Contract.

2.2 The Agreement and Acceptance of this Contract by the Parties neither implies an obligation on either part to extend the Contract beyond the specified scope or terms, nor to prohibit the Parties from mutually negotiating modifications thereto.

ARTICLE 4 FIRM FIXED PRICE

4.1 This is a Firm Fixed Price Contract. Firm Fixed Prices are established for the supplies and services defined in Part I - Schedule of Supplies and Services.

4.2 The Purchaser assumes no liability for costs incurred by the Contractor in excess of the stated Firm Fixed Price except as provided under other provisions of this Contract.

4.3 The Total Contract price is inclusive of all expenses related to the performance of the present Contract.

4.4 The Total Contract price in this Contract is Delivered Duty Paid (INCOTERMS 2010).

ARTICLE 5 ADDITIONAL CONTRACT TASKS AND OPTIONS

5.1 The tasks identified in the Contract Schedule of Supplies and Services as Options (if any) are to be intended as options to be exercised by the Purchaser and at his sole discretion. The Purchaser shall have the right to exercise any of the listed priced options multiple times at his discretion

any time during the performance of the Contract and up to its conclusion at the unit prices listed in the Schedule of Supplies and Services.

5.2 Should any options be exercised, the Purchaser will increase the firm fixed price of the Contract via a formal Contract Amendment by the amount of the line items so exercised and the period of performance of the Contract will be extended as mutually agreed when necessary.

5.3 The Purchaser may increase the quantity of supplies and services as set forth in any line item of Part I - Schedule of Supplies and Services at the prices stated therein any time during the period of performance of the Contract until end of Warranty.

5.4 This right can be exercised multiple times for any of the line items, by increasing the firm fixed price of the Contract via a formal Contract Amendment, or by issuing a new contractual instrument.

5.5 In this case the Contractor shall honour such right at the same rates and conditions as stated in Part I - Schedule of Supplies and Services. If this right is exercised, delivery of the added items shall be to the same destination as specified in the basic Contract; unless otherwise specified on the written notice.

5.6 If the Contract provides for multiple destinations, the Purchaser will specify to which destination(s) the additional quantities are to be shipped. If the Purchaser specifies a destination that is not part of the basic Contract requirements, the Parties will agree to an equitable adjustment as may be required to reflect any additional costs incurred by the Contractor in making such delivery.

5.7 In no event shall the Contractor engage in the performance of any options or part thereof without the written consent of the Purchaser Contracting Authority.

5.8 In addition to the specific Contract options as identified above, the Purchaser reserves the right to order any foreseeable or additional Contract tasks or deliverables, listed or not, either occasionally or at a further stage in the life of the project, which it deems necessary for the successful completion of the project. The additional tasks and/or deliverables shall be priced in using the “Summary Price” rates provided by the Contractor as part of its proposal and included in this Contract by reference.

5.9 Except as otherwise provided for in this Contract, Contractor’s price quotations for contract changes or modifications shall be provided at no cost to the Purchaser and shall have a minimum validity period of six (6) months from submission.

5.10 The Purchaser may, in writing, place an order for such additional tasks throughout the entire Contract period up until end of Warranty. Such an order may be placed within the framework of this Contract via the

issuance of a Contract Amendment or be formulated via the issuance of a new contractual instrument.

ARTICLE 6 PARTICIPATING COUNTRIES

6.1 The Contractor may issue subcontracts to firms and purchase from qualified vendors in any contributory NATO nations in the project, namely, (in alphabetical order):

ALBANIA, BELGIUM, BULGARIA, CANADA, CROATIA, CZECH REPUBLIC, DENMARK, ESTONIA, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, ITALY, LATVIA, LITHUANIA, LUXEMBOURG, NETHERLANDS, NORWAY, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, TURKEY, UNITED KINGDOM, UNITED STATES OF AMERICA.

6.2 None of the work, including project design, labor and services, shall be performed other than by firms from and within Participating Countries.

6.3 No material or items of equipment down to and including identifiable sub-assemblies shall be manufactured or assembled by a firm other than from and within a Participating Country.

6.4 The Intellectual Property Rights for all software and documentation used by the Contractor in the performance of the Contract shall vest with firms from and within Participating Countries and no royalties or license fees for such software and documentation shall be paid by the Contractor to any source that does not reside within a Participating Country.

ARTICLE 7 COMPREHENSION OF CONTRACT AND SPECIFICATIONS

7.1 The Contractor warrants that it has read, understood and agreed to each and all terms, clauses, specifications and conditions specified in the Contract and that this signature of the Contract is an acceptance, without reservations, of the said Contract terms within their normal and common meaning.

7.2 The specifications set forth the performance requirements for the Contractor's proposed work as called for under this Contract. Accordingly, notwithstanding any conflict or inconsistency which hereafter may be found between achievement of the aforesaid performance requirements and adherence to the Contractor's proposed design for the work, the Contractor hereby warrants that the work to be delivered will meet or exceed the performance requirements of the said specifications.

7.3 The Contractor hereby acknowledges that it has no right to assert against the Purchaser, its officers, agents or employees, any claims or demands with respect to the aforesaid specifications as are in effect on the date of award of this Contract.

a. Based upon impossibility of performance, defective, inaccurate, impracticable, insufficient or invalid specifications, implied warranties of suitability of such specifications, or

b. Otherwise derived from the aforesaid specifications, and hereby waives any claims or demands so based or derived as might otherwise arise.

7.4 Notwithstanding the “Changes” Article of General Provisions or any other clause of the Contract, the Contractor hereby agrees that no changes to the aforesaid specifications which may be necessary to permit achievement of the performance requirements specified herein for the Contractor’s proposed work shall entitle the Contractor either to any increase in the firm fixed price as set forth in this Contract or to any extension of the delivery times for the work beyond the period of performance in the Schedule of Supplies and Services.

ARTICLE 8 PLACE AND TERMS OF DELIVERY

8.1 Deliverables under this Contract shall be delivered DDP (Delivered Duty Paid) in accordance with the International Chamber of Commerce INCOTERMS 2010 to the destination(s) and at such times as set forth in the Schedule of Supplies and Services.

ARTICLE 9 DIFFERING SITE CONDITIONS

9.1 The Contractor confirms having had the opportunity to:

a) verify the drawings and data provided, and

b) having obtained satisfactory accurate data concerning the sites

9.2 Considering the above, the Contractor shall have no recourse to claims of additional work and cost in connection with activities performed under this Contract, except in such cases as additional effort and cost is occasioned by circumstances that could not have reasonably been foreseen (e.g., buried obstacles that are not shown on any drawings furnished) or by clarifications submitted to and answered by the Purchaser.

9.3 If the Contractor encounters a situation that, consistent with this Article, would be the cause of unforeseen additional effort and cost, it shall immediately give written notice to the NCI Agency Contracting Authority of the existence of:

a) subsurface or latent physical or technical conditions at the system installation site which differ materially from those indicated in this Contract, or in any Purchaser provided information; or,

b) unknown physical or technical conditions at the system installation site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the Contract.

9.4 The Purchaser shall promptly investigate the alleged physical or technical site conditions after receiving written notice from the Contractor. If the Purchaser confirms that physical or technical conditions do materially differ and believes that the facts and circumstances presented justify an increase in the Contractor's cost, or of the time required for performing any part of the Work under this Contract, whether or not changed as a result of the differing conditions, the Contractor shall be so informed and may then submit to the Purchaser a proposal for equitable adjustment. The Contract shall then be amended in writing to reflect any equitable adjustment agreed-to by the Parties. The equitable adjustment may be made in the Contract price or delivery schedule or both and in other provisions of the Contract as may be affected and shall represent full and final settlement of the differing site conditions raised by the Contractor.

9.5 In the event that the Contractor's request for equitable adjustment under this Article is rejected by the Purchaser, the Purchaser shall reduce its decision to writing and mail or otherwise furnish a copy thereof to the Contractor.

9.6 No request by the Contractor for an equitable adjustment under this Article shall be allowed unless the Contractor has given written notice to the Purchaser of the existence of such differing physical or technical conditions at the latest 10 calendar days from the day on which the Contractor discovered the differing physical or technical conditions or should have discovered the differing physical or technical conditions, whichever is the earliest.

9.7 No request by the Contractor for an equitable adjustment to the Contract for differing physical or technical conditions at the installation site shall be allowed if made after Site Installation Specifications (SIS) documentation Acceptance under this Contract.

9.8 The Contractor shall have no recourse to claims for additional effort and cost for technical detail and/or information previously notified by the Purchaser during the pre-award phase as not available prior to Contract Award.

9.9 The Contractor shall note that instructions or requests to perform additional tasks other than what is set forth in the SOW shall not be honored except as such instructions are issued by the Purchaser's Contracting Authority.

ARTICLE 10 INSPECTION AND ACCEPTANCE

10.1 Clause 21 "Inspection, Acceptance of Work " of the Contract General Provisions is hereby supplemented with this Article:

10.2 The work to be provided by the Contractor's personnel under this Contract shall conform to the highest professional and industry standards and practices. Inspection of the services provided will be made by the

Purchaser's Technical representatives or another authorised designee in accordance with the specifications in Part IV - Statement of Work. Services performed by the Contractor which do not conform to the highest professional and industry standards may result in the Purchaser requesting that such work be performed again at no increase in the price of the contract. Repeated instances of work performed which fails to meet the standards and practices may result in termination of the contract for Default.

10.3 The Purchaser reserves the right to charge the Contractor with additional costs incurred for inspection and testing when Work is not ready at the time of such inspection and testing is requested by the Contractor and or when re-inspection or re-testing is necessitated by prior rejection.

10.4 Under the terms of this Contract, Acceptance will be made in the following steps and as specified in Part IV, Statement of Work (SOW):

1. Successful Factory Acceptance Testing (FAT), confirmed in writing by the Purchaser;
2. Individual Site Acceptance Testing (ISAT), confirmed in writing by the Purchaser;
3. System Acceptance Testing (SAT), confirmed in writing by the Purchaser;
4. Successful Final System Acceptance (FSA), confirmed in writing by the Purchaser, at which time the Purchaser will take Title and Warranty will start.

10.5 Review and Acceptance of documentation is specified in below Article 11 of the Contract Special Provisions.

ARTICLE 11 REVIEW AND ACCEPTANCE OF DOCUMENTATION

11.1 Clause 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions hereafter, is hereby supplemented with this Article.

11.2 Unless otherwise specified in the Statement of Work,

11.3 Upon delivery of the Draft Deliverable items, the Purchaser will have a period of two (2) weeks to review the items. At the end of the review period or before if deemed practical by the Purchaser, the Purchaser's comments will be presented to the Contractor in writing. The substance of such comments will pertain to items of error, non-conformity, omission and guidance within the Scope of Work. When applicable, a presentation of the deliverable item including the Purchaser's comments will be made by the Contractor to the Purchaser, at a time which coincides with a progress meeting.

11.4 During the review, if the specific Item requires proposal of dates for delivery or reviews, the Purchaser will either accept or adjust the proposed dates.

11.5 Within one (1) week after receipt of the Purchaser's comments (and associated progress meeting if appropriate), the Contractor shall incorporate changes, revisions and corrections required by the Purchaser and present the revised deliverable in Final Form to the Purchaser for inspection and acceptance in accordance with the delivery dates specified in the Schedule or approved by the Purchaser.

11.6 The Contractor shall not have the right to ask for additional periods if the delivered draft is considered not satisfactory by the Purchaser and therefore requires many changes and/or corrections.

11.7 The Purchaser has the right to reject non-conforming deliverables. The Purchaser, in addition to any other rights or remedies provided by law, or under the provisions of this Contract, shall have the right to require the Contractor at no increase in Contract price, to correct or replace non-conforming work, and in accordance with a reasonable delivery schedule as may be agreed by the Purchaser and the Contractor following the receipt of the Purchaser's notice of defects or non-conformance.

11.8 The acceptance by the Purchaser of the Contractor's documentation required by this Contract signifies that the documents delivered appear logical and consistent. The acceptance does not constitute an endorsement or approval of the design or proposed implementation by the Purchaser and does not relieve the Contractor of the obligation to meet the schedule and the performance requirements of this Contract in the event that the design eventually proves to be non-compliant in factory or field testing.

ARTICLE 12 INVOICES AND PAYMENT

12.1 Clause 25 "Invoices and payment" of the Contract General Provisions is supplement by the following:

12.2 Following Purchaser acceptance, in writing, payment for supplies and services furnished shall be made in the currency specified for the relevant portion of the Contract.

12.3 The term of the Contract may not be exceeded without prior approval of the Purchaser. In no case will the Purchaser make payment above the total of the corresponding CLINs.

12.4 Invoices in respect of any service and/or deliverable shall be prepared and submitted as specified hereafter and shall contain:

a) Contract number CO-14887-BRE1TA

b) Contract Amendment number (if any),

c) Purchase Order number PO […],(TBD at Contract Award)

d) The identification of the performance rendered in terms of Contract Line Item Number (CLIN),

e) Bank account details for international wire transfers (SWIFT, BIC, IBAN).

12.5 The Contractor shall be entitled to submit invoices in accordance with the following payment events schedule:

No.	Payment Milestone	Delivery NLT (Not Later Than) EDC + weeks	% of total Contract CLIN Price	CLIN items
1	Purchaser written acceptance of final Project Implementation Plan (PIP)	15 weeks	5%	1+2 excluding 1.5.3
2	Purchaser written Acceptance of Critical Design Review (CDR) documentation, including Site Installation Specifications (SIS)	26 weeks	10%	1+2 excluding 1.5.3
3	Purchaser written acceptance of Factory Acceptance Testing (FAT)	42 weeks	15%	1+2 excluding 1.5.3
4	Purchaser written acceptance of all Individual Site Acceptance Testing (ISAT)	63 weeks	18%	1+2 excluding 1.5.3
5	Purchaser written acceptance of System Acceptance Test (SAT) Report	67 weeks	25%	1+2 excluding 1.5.3
6	Final System Acceptance (FSA) including reports and documentation	73 weeks	15%	1+2 excluding 1.5.3
7	SW Equipment – upon FSA acceptance	73 weeks	100%	1.5.3
8	Warranty	36 months after FSA	4% per year in arrears	1+2 excluding 1.5.3

12.6 The invoice amount shall be exclusive of VAT and exclusive of all Taxes and Duties as per Clause 26 “Taxes and Duties” of the NCI Agency General Provisions.

12.7 No payment shall be made with respect to undelivered supplies, works not performed, services not rendered and/or incorrectly submitted invoices.

12.8 No payment shall be made for additional items delivered that are not specified in the contractual document.

12.9 Payments for services and deliverables shall be made in the currency stated by the Contractor for the relevant Contract Line Item.

12.10 The Purchaser is released from paying any interest resulting from any reason whatsoever.

12.11 The invoice shall contain the following certificate: "*I certify that the above invoice is true and correct, that the delivery of the above described items has been duly effected and/or that the above mentioned services have been rendered and the payment therefore has not been received."*

12.12 The certificate shall be signed by a duly authorised company official on the designated original.

12.13 Invoices referencing : **CO-14887-BRE1TA and PO** [TBD] shall be submitted in electronic format only to:

accountspayable@ncia.nato.int

Whilst copying the Contracting Officer as well, as specified in Article 13 "Contract Administration" below.

12.14 NCI Agency will make payment within 45 days of receipt by the NCI Agency of a properly prepared and documented invoice.

ARTICLE 13 SUPPLEMENTAL AGREEMENTS, DOCUMENTS AND PERMISSIONS

13.1 The Contractor has submitted all relevant draft supplemental agreement(s), documents and permissions prior to Contract award, the execution of which by the Purchaser is/are required by national law or regulation. If any supplemental agreements, documents and permissions are introduced after Contract award, and it is determined that the Contractor failed to disclose the requirement for the execution of such agreement from the Purchaser prior to Contract signature, the Purchaser may terminate this Contract for Default, in accordance with the Article 39 of the General Provisions hereafter.

13.2 Supplemental agreement(s), documents and permissions, the execution of which by the Purchaser is/are required by national law or regulation and that have been identified by the Contractor prior to the signature of this Contract, but have not yet been finalized and issued by the appropriate governmental authority, are subject to review by the Purchaser.

13.3 If such supplemental agreement(s), documents and permissions are contrary to cardinal conditions of the signed Contract between the Parties, and the Purchaser and the appropriate governmental authority cannot reach a mutual satisfactory resolution of the contradictions, the Purchaser reserves the right to terminate this Contract and the Parties agree that in such case the Parties mutually release each other from claim for damages and costs of any kind, and any payments received by the Contractor from the Purchaser will be refunded to the Purchaser by the Contractor.

13.4 For the purpose of this Contract the following National mandatory Supplemental Agreements are identified:

Type of Agreement	National Authority of Reference	Subject

ARTICLE 14 WARRANTY

14.1 Clauses 27 “Warranty of Work” and 31 “Software Warranty” of the General Provisions hereafter, are supplemented with the following:

14.2 The Contractor shall provide a System Warranty for all hardware and software delivered under this Contract which shall start after Purchaser confirmed FSA, as indicated in the SOW, for a duration of 36 months. Until successful FSA, all hardware and software to be provided under this Contract shall be under the Contractor’s responsibility.

14.3 Notwithstanding inspection and acceptance by the Purchaser or its appointed agents of supplies furnished under the Contract or any provision of this Contract concerning the conclusiveness thereof, the Contractor warrants for the total duration of the above referred period and covering all items of hardware and software, that:

a. all deliverables furnished under this Contract shall be free from defect and will conform with the specifications and all other requirements of this Contract; and,

b. the system will, under normal conditions, perform without errors which make it unusable; and

c. the preservation, packaging, packing and marking and the preparation for and method of, shipment of such supplies will conform to the requirements of this Contract.

14.4 During the System Warranty period the Contractor shall perform in-depth analysis of failures of equipment and components and parts thereof, and functional performance failures due to sub-system or equipment group malfunctions. Such failures shall not be limited to hardware, but shall include failures due to application or developed and embedded software.

Software Warranty and all post FSA support requirements are to be implemented as described in detail in the SOW.

14.5 The Purchaser will inform the Contractor in writing of any defect (hardware or software) within seven calendar days after its discovery and the circumstances of its discovery. The Contractor shall respond to such a defect notification within one working day, by engaging with the Purchaser's personnel to identify the cause of the defect and to agree a resolution approach. The resolution of defects remains the Contractors responsibility within the warranty. The Contractor shall resolve all defects within 10 calendar days of their first being reported for those items that need not be returned to the Contractor's facility for service or repair. Items needing service or repair at the Contractor's facility shall also be repaired/replaced and dispatched back to the Purchaser within 10 days of their arrival at the Contractor's facility.

14.6 All transportation and handling charges to and from the repair facility under warranty claim shall be the responsibility of the Contractor, as well as responsibility for such supplies, i.e. damage and loss that may occur during transportation under warranty.

14.7 The Contractor shall, at its option, repair, adjust or replace defective equipment and restore to the Purchaser equipment, which functions in accordance with the requirements of the Contract.

14.8 In the event of the Contractor's failure to repair or replace failed equipment within the timeframes expressed in this Article, the Purchaser will have the right, at its discretion, and having given the Contractor due notice, to:

a. remedy, or have remedied, the defective or non-conforming supplies, in both cases at the Contractor's expenses;
b. equitably reduce the Contract price; and/or
c. terminate for default that portion of the Contract relating to the defective work.

14.9 Notwithstanding the provision of above paragraph 14.5, the System Warranty period shall be suspended for the length of time necessary to carry out repair or replacement.

14.10 This right will be exercised although other contractual obligations remain in force. In the event that it is later determined that such supplies were found not to be defective or non-conforming within the provision of this Article, an equitable adjustment will be made. Failure to reach such an equitable adjustment will be considered a dispute under the Contract and subject to resolution in accordance with the Clauses 41 and 42 "Disputes" and "Arbitration" of the NCI Agency General Provisions.

14.11 Repeated failure of the same equipment, component or part, as well as failures due to software malfunctions may be considered by the

Purchaser to be evidence of latent defect in the subject equipment (and or its associated software). In such a case the Purchaser may require the Contractor to redesign such elements of the system as may be necessary in order to correct the repeated failure, or to substitute the failed element with a more reliable version or functional equivalent thereof. Such redesign and/or substitution shall be tested, and if found appropriate, applied to the entire System.

14.12 Critical faults during the System Warranty period that take one of the Systems sites offline (except for normally scheduled downtime due to maintenance procedures) will have the result of extending the System Warranty for all sites by the period for which the single site is offline. This period is determined by the entry of the critical failure in the System Manager's logbook until the time the System Manager makes the entry into the logbook that the System has been restored to full operation.

14.13 Such extension of the Systems Warranty period will not apply in cases where the Contractor can convincingly demonstrate that the critical failure was due to Purchaser’s negligence or a willful act on the part of its personnel.

14.14 Corrective action required by the Contractor under the System Warranty also applies to errors or omissions in any delivered documentation which could not have reasonably been discovered prior to the FSA under this Contract. Errors or omissions in delivered documentation shall not be considered a basis for extension of the System Warranty as set forth in paragraphs above, except as can be demonstrated that such error or omission was the cause of a critical system failure that caused a site to be offline.

ARTICLE 15 CONTRACT ADMINISTRATION

15.1 The Purchaser reserves the right to re-assign this Contract to a representative(s) for administrative purposes, in whole or in part, provided that the Purchaser shall always be responsible for its obligations under the Contract and for actions or lack of actions of its assigned administrator. The Purchaser undertakes to advise the Contractor in writing whenever this right is to be exercised.

15.2 All notices and communications between the Contractor and the Purchaser shall be written and conducted in the English language. Contract modifications shall only be valid when received in writing from the General Manager, NCI Agency, and/or the NCI Agency Contracting Authority.

15.3 Formal letters and communications shall subsequently be personally delivered or sent by mail, registered mail, courier or other delivery service, to the official Points of Contact quoted in this Contract. E-mail may be used to provide an advance copy of a formal letter or notice which shall subsequently be delivered through the formal communication means.

15.4 Informal notices and informal communications may be exchanged by all communication means, including telephone and e-mail. All informal communication must be confirmed by a formal letter or other formal communication to be contractually binding.

15.5 All notices and communications shall be effective on receipt.

15.6 Official Points of Contact:

Purchaser	Contractor
NCI Agency Boulevard Leopold III B-1110 Brussels Belgium	
For contractual matters: Attn: Title: Tel: E-mail:	For contractual matters: Attn: Title: Tel: Mobile: E-mail:
For technical/project management matters: Attn: Title: Tel: Mobile : E-mail:	For technical/project management matters: Attn: Title: Tel: Mobile: E-mail:

or to such address as the Purchaser may from time to time designate in writing.

ARTICLE 16 SUB-CONTRACTORS

16.1 Clause 10 “Sub-Contracts” of the Contract General Provisions is supplemented by the following:

16.2 The Contractor shall place and be responsible for the administration and performance of all sub-contracts including terms and conditions which it deems necessary to meet the requirements of this Contract in full.

16.3 The Contractor shall not place sub-contracts outside the Participating Countries unless the prior authorization of the Purchaser has been obtained. Such authorization will not be granted when the sub-contract involves the carrying out of classified work.

ARTICLE 17 CONTRACTOR COTS RESPONSIBILITY

17.1 The Contractor shall monitor changes and/or upgrades to commercial off the shelf (COTS) software or hardware to be utilized under subject Contract.

17.2 For COTS items which are or could be impacted by obsolescence issues, as changes in technology occur, the Contractor will propose substitution of new products/items for inclusion in this Contract. The proposed items should provide at least equivalent performance and/or lower life-cycle support costs, or enhanced performance without a price or cost increase.

17.3 The Contractor will provide evidence with respect to price and performance of the equipment being proposed as well as data proving an improvement in performance and/or a reduction in price and/or life-cycle support costs. If necessary for evaluation by the Purchaser, the Contractor shall provide a demonstration of the proposed items. Should the Purchaser decide that the proposed item(s) should be included in the Contract, an equitable price adjustment will be negotiated and the proposed item(s) shall be added to the Contract by bilateral modification under the authority of this Article.

17.4 The Contractor shall notify the Purchaser of any proposed changes in the commercial off the shelf software or hardware to be utilized. Such notification shall provide an assessment of the changes and the impact to any other items to be delivered under this Contract.

ARTICLE 18 LIQUIDATED DAMAGES

18.1 Clause 38 “Liquidated Damages” of the Contract General Provisions is herewith supplemented by:

18.2 If the Contractor fails to:

a) successfully meet the required performance dates as defined in the Schedule of Supplies and Services, or any extension thereof, or

b) deliver and obtain acceptance of the Deliverables or to acceptably perform the services as specified in the Schedule of Supplies and Services to this Contract,

the actual damage to the Purchaser for the delay will be difficult or impossible to determine. Therefore, in lieu of actual damages the Contractor shall pay to the Purchaser, for each day of delinquency in achieving the milestones as defined in Article 12, fixed and agreed liquidated damages of 0.1% (one tenth of one per cent) per day of the total payment amount for each Milestone as scheduled in Article 12 “Invoices and Payments” of the Contract Special Provisions.

18.3 Liquidated damages shall be payable to the Purchaser from the first day of delinquency in delivery and shall accrue at the rate specified in the paragraph above to a maximum of Fifteen Percent (15%) of the total payment amount for each Payment Event as scheduled in Article 12.

Cumulative assessed Liquidated Damages will not exceed a total of Fifteen Percent (15%) of the total value of the Contract.

18.4 The Contractor shall not be charged with liquidated damages when the delay arises out of causes beyond the control and without the fault or negligence of the Contractor as defined in Clause "Termination for Default" of General Provisions. In such event, subject to the provisions of the Disputes and Arbitration Clause, the Purchaser shall ascertain the facts and extent of the delay and shall extend the time for performance of the Contract when in its judgment the findings of fact justify an extension.

18.5 In addition, the Purchaser may terminate this Contract in whole or in part as provided in Clause 39 "Termination for Default" of the Contract General Provisions. In the event of such a termination, the Contractor shall be liable for Liquidated Damages accruing to the date of termination, as well as the excess costs stated in the referred clause.

18.6 The amount of Liquidated Damages due by the Contractor shall be recovered by the Purchaser in the following order of priority:

a. By deducting such damages from the amounts due to the Contractor against the Contractor's invoices.
b. By proceeding against any surety or deducting from the Performance Guarantee if any.
c. By reclaiming such damages through appropriate legal remedies.

ARTICLE 19 SECURITY AND CONTRACT SECURITY CLASSIFICATION

19.1 This Article supplements Clause 11 "Security" of the Contract General Provisions.

19.2 The Contractor is responsible, in accordance with NATO and National Security regulations, for the proper handling, storage and control of any classified documents, material and information as may be furnished to the Contractor in relation to the performance of the present Contract. The Contractor shall be required to possess a Facility clearance of "NATO SECRET" for those sites in which it intends to handle and store NATO classified material in the conduct of work under this Contract.

19.3 The security classification of this Contract is "NATO UNCLASSIFIED".

19.4 Contractor's personnel visiting or working at Purchaser's facilities in connection with this Contract shall hold a confirmed NATO SECRET security clearance valid for the duration of the Contract at the Effective Date of Contract (EDC). This requirement applies to all sub-Contracts issued by the Contractor for the effort under this prime Contract.

19.5 It is the responsibility of the Contractor to ensure that its personnel obtain the required security clearances and transmit this information to the

purchaser and to the sites to be visited at least 3 weeks before personnel deployment that the site may perform the appropriate administration.

19.6 The Contractor is advised that the personnel security process may be lengthy. The Purchaser bears no responsibility for the failure of the Contractor to secure the required clearances for its personnel within the necessary time.

19.7 In the absence of valid security clearances for the Contractor's personnel during the performance of the Contract, the Purchaser reserves the right to terminate the Contract for Default as per the “Termination for Default” Clause of the Contract General Provisions.

19.8 Contractor and/or Sub-contractor personnel employed under this Contract that will require access to the operational sites but will not be working on any defined mission-critical systems and will not have access to classified installations or material, need not hold a NATO security clearance provided that they are directly supervised by contractor personnel holding a NATO security clearance of “NATO SECRET” and that the Contractor is able to demonstrate that they are:

a. Trustworthy (through a ‘Certificate of good conduct’, supported by a police criminal record declaration);
b. Originally from or are recognized citizens of a NATO member nation.
c. Legally present in the country concerned.

19.9 At the end of the Contract, during Final System Acceptance, the Contractor shall deliver all the documentation and information collected and generated in support of this Contract to the Purchaser. This includes a certificate that no copies are retained at the Contractor’s facilities. Additionally, any equipment that had been connected to a classified network during this Contract shall be returned to the Purchaser (i.e. laptops, USB-keys, hard disks, etc.).

19.10 Any attendant delay in the Contract resulting from the Purchaser denying access to NATO sites to Contractor personnel for security clearance reasons, shall not be the basis for excusable delay under the terms of the Contract. The Contractor bears full responsibility and liability under the Contract for delays arising from the failure of the Contractor to adhere to the security requirements.

19.11 In the performance of all works under this Contract it shall be the Contractor’s responsibility to ascertain and comply with all applicable NATO and National security regulations as implemented by the Purchaser and by the local Headquarters.

19.12 The Contractor shall note that there are restrictions regarding the carriage and use of electronic devices (e.g. laptops, cell/mobile telephones) in Purchaser secured locations. The Contractor shall be responsible for satisfying and obtaining from the appropriate site

authorities the necessary clearance to bring any such equipment into the facility.

ARTICLE 20 KEY PERSONNEL

20.1 The key personnel proposed by the Contractor that satisfy the personnel requirements laid down in the SOW are considered to be key to the performance of this Contract and may not be replaced by the Contractor with substitute personnel without the prior written approval of the Purchaser.

20.2 If any options are exercised, the Key Personnel provisions will apply to the option period from the effective date of the Contract.

20.3 The following personnel are considered to be Key Personnel for successful contract performance and are subject to the provisions of this Article as set forth in the following paragraphs:

- Project Manager (PM): [ ]
- Deputy Project Manager: [ ]
- Technical Lead: [ ]
- Test Director: [ ]
- CIS Security Manager: [ ]
- ILS Manager: [ ]
- Configuration Manager: [ ]
- Quality Assurance Manager: [ ]
- Training Manager: [ ]

20.4 Under the terms of this Article, Key Personnel may not be voluntarily diverted by the Contractor to perform work outside the Contract. In cases where the Contractor has no control over the individual's non-availability (e.g., resignation, sickness, incapacity, etc.), the Contractor shall notify the Purchaser of a change of key personnel within five (5) days of the date of knowledge of the prospective vacancy and offer a substitute with equivalent qualifications with no additional costs for the Purchaser.

20.5 Contractor personnel proposed in substitution of previously employed Contractor Key Personnel shall be interviewed and approved by Purchaser Project Manager before substitution acceptance is granted in writing by the Purchaser Contracting Authority.

20.6 In the event of a substitution of any key personnel listed in paragraph 20.3 above and prior to commencement of performance, the Contractor shall provide a CV for the personnel proposed. The CV shall clearly stipulate:

- Full details of professional and educational background;
- Evidence that the personnel is qualified in pertinent contract-related areas per the SOW.

20.7 The Contractor shall take all reasonable steps to avoid changes to Key Personnel assigned to this project except where changes are unavoidable or are of a temporary nature. Any replacement personnel shall be of a similar grade, standard and experience as the individual to be substituted.

20.8 Furthermore, even after acceptance of a Contractor's staff member on the basis of his/her CV and/or interview, the Purchaser reserves the right to reject the Contractor's staff member, if the individual is not meeting the required level of competence. The Purchaser will inform the Contractor, in writing in cases where such a decision is taken and the Contractor shall propose and make another staff member available within ten (10) working days after the written notification. The Purchaser shall have no obligation to justify the grounds of its decision and its acceptance of staff members shall in no way relieve the Contractor of its responsibility to achieve the contractual and technical requirements of this Contract nor imply any responsibility to the Purchaser.

20.9 After acceptance in writing by the Purchaser of a substitution of staff, based on a CV and/or interview, paragraph shall be applicable again, if necessary.

20.10 The Purchaser may at any time require the Contractor immediately to cease to employ the above named Key Personnel under the present contract if, in the opinion of the Purchaser, his/her employment is undesirable. The Contractor shall replace any such employee in accordance with paragraph 20.5 and 20.6 above.

20.11 In those cases where, in the judgment of the Purchaser, the inability of the Contractor to provide a suitable replacement in accordance with the terms of this Article may potentially endanger the progress under the Contract, the Purchaser shall have the right to terminate the Contract in accordance with the terms of the Contract General Provisions Clause entitled "Termination for Default".

20.12 Any change of status or reorganization of the Contractor's practice, or any change in the responsibility for the execution of the Contract shall be reported to the Purchaser immediately when the change or reorganization is promulgated.

20.13 The Contractor's Key Personnel required to interface directly with the Purchaser's counterparts, shall have the capability to readily communicate (oral and written fluency) in English and to provide, if requested official documents destined for distribution during the course of the Contract in English.

20.14 The Purchaser may, for just cause, require the Contractor to remove its employee. Notice for removal will be given to the Contractor by the Purchaser in writing and will state the cause justifying the removal. The notice will either demand substitution for the individual involved and/or

contain a notice for default and the remedies to be sought by the Purchaser.

20.15 Each of the Contractor's Key Personnel shall be required to sign Annex A to these Contract Special Provision: "NCI Agency Non-disclosure declaration."

ARTICLE 21 INDEMNITY

21.1 The Contractor will indemnify and hold harmless NATO, its servants or agents, against any liability, loss or damage arising out of or in connection of the Deliverables and Services under this Contract, including the provisions set out in Clauses 29 "Patent and Copyright indemnity" and 30 "Intellectual Property" of the NCI Agency General Provisions.

21.2 The parties will indemnify each other against claims made against the other by their own personnel, and their sub-Contractors (including their personal representatives) in respect of personal injury or death of such personnel or loss or destruction of or damage to the property of such personnel.

21.3 NATO will give the Contractor immediate notice of the making of any claim or the bringing of any action to which the provisions of this Article may be relevant and will consult with the Contractor over the handling of any such claim and conduct of any such action and will not without prior consultation and without the consent of the Contractor settle or compromise any such claim or action.

21.4 In the event of an accident resulting in loss, damage, injury or death arising from negligence or willful intent of an agent, officer or employee of NATO for which the risk has been assumed by the Contractor, the cause of the accidents will be investigated jointly by the Parties and the extent to which NATO will be liable to recompense the Contractor will be determined together.

ARTICLE 22 TECHNICAL DIRECTION

22.1 At the site of efforts, the Purchaser may assign Technical Representatives who will monitor work in progress and provide Contractor personnel with instruction and guidance (within the general scope of work) in performance of their duties and working schedule. The Technical Representatives do not have the authority to change the terms of the Contract or to increase the overall cost, duration or level of effort of the Contract. The Technical Representatives do have the authority, within the general scope of work, to provide direction to the Contractor personnel in performance of their duties.

22.2 In case the Contractor believes that any technical direction received from the Technical Representative constitutes a change to the terms,

conditions and/or specifications of the Contract, he shall immediately inform in writing the Purchaser Contracting Authority, who will either confirm or revoke such direction. If such direction is confirmed as a change, this change will be formalized by written amendment to the Contract.

22.3 Failure of the Contractor to notify the Purchaser Contracting Authority of direction constituting change of the Contract will result in a waiver of any claims pursuant to such change.

ARTICLE 23 CARE AND DILIGENCE OF PROPERTY

23.1 The Contractor shall use reasonable care to avoid damaging buildings, walls, equipment and vegetation (such as trees, shrubs and grass) on the work site. If the Contractor damages any such buildings, walls, equipment or vegetation, it shall repair the damage as directed by the Purchaser and at no expenses to the Purchaser. If it fails or refuses to make such repair or replacement, the Contractor shall be liable for the cost thereof, which may be deducted from the Contract price.

23.2 The Purchaser shall exercise due care and diligence for Contractor's furnished equipment, tools and materials on site premises. The Purchaser will not assume any liability except for gross negligence and willful misconduct on the part of the Purchaser’s personnel or agents.

23.3 The Contractor shall, at all times, keep the site area, including storage areas used by the Contractor, free from accumulations of waste. On completion of all work the Contractor is to leave the site area and its surroundings in a clean and neat condition.

ARTICLE 24 INDEPENDENT CONTRACTOR

24.1 The Personnel provided by the Contractor in response to this Contract are at all times employees of the Contractor and not the Purchaser. In no case shall Contractor personnel act on behalf of or as an agent for NATO or any of its bodies. In no way shall the Contractor personnel claim directly or indirectly to represent NATO in an official capacity or claim themselves to be NATO employees.

ARTICLE 25 APPLICABLE REGULATIONS

25.1 The Contractor shall be responsible for obtaining permits or licenses to comply with national codes, laws and regulations or local rules and practices in the country of performance under this Contract.

25.2 The Contractor shall take any necessary measure to protect the life and health of persons working or visiting the work area occupied by him. These measures include compliance with the country of performance's safety provisions.

25.3 In the performance of all work under this Contract, it shall be the Contractor's responsibility to ascertain and comply with all applicable

NATO security regulations as implemented by the local Headquarters' Security Officer.

ARTICLE 26 AUDITING AND ACCOUNTING

26.1 The Contractor's accounting and auditing procedures under this Contract shall be in compliance with the applicable Contractor National standards governing national defense contracts and as specified in the SOW.

26.2 In accordance with the SOW, the Purchaser reserves the right to review and audit at any of the sub-Contractor(s) facilities.

26.3 The invoicing and payment procedures for the amount payable to the Contractor shall be in accordance with the prescription of Article 12 “Invoices and Payment” of the Contract Special Provisions.

26.4 In the event of this Contract being terminated in accordance with Clause 40 "Termination for Convenience of the Purchaser" of the Contract General Provisions, the Contractor shall provide within ninety (90) days of the formal date of termination a detailed statement of all costs incurred since the initiation of the programme, together with the statement of all outstanding commitments for which the Contractor is legally liable.

ARTICLE 27 RESPONSIBILITY OF THE CONTRACTOR TO INFORM EMPLOYEES OF WORK ENVIRONMENT

27.1 The Contractor shall inform its employees under this Contract of the terms of the Contract and the conditions of the working environment.

27.2 Specifically, Contractor personnel shall be made aware of all risks associated with the performance under this Contract, the conditions of site in which the performance is to take place and living conditions while performing within the boundaries of the Contract.

27.3 The selection of adequate personnel shall remain sole responsibility of the Contractor.

ARTICLE 28 PERFORMANCE GUARANTEE

28.1 As a guarantee of performance under the Contract, the Contractor shall deposit with the Purchaser within ten (10) calendar days from the Effective Date of Contract, a bank guarantee to the value of ten per cent (10%) of the total Contract Price.

28.2 Such guarantee – the validity of this shall not elapse before the expiration of the warranty period as specified in Article 14.1 – shall be made payable to the Purchaser and may be delivered in the form of:
a) A certified cheque;
b) An irrevocable letter of credit; or
c) A bank guarantee such as a performance bond or promissory note.

28.3 The terms of the guarantee shall allow for payment to be made to the Purchaser without question and upon first demand by the Purchaser against a Certificate from the Purchaser's Contracting Authority that the Contractor has not fulfilled its obligations under the Contract. The Contractor shall have no right to enjoin or delay such payment.

28.4 Certified cheques issued to fulfil the requirements of the guarantee will be cashed by the Purchaser upon receipt and held in the Purchaser's account until the term of the performance guarantee has expired.

28.5 The irrevocable letter of credit, performance bond or promissory note shall be subject to Belgian Law and financial practices and shall be issued by a Belgian bank or a Belgian affiliate of a non-Belgian bank licensed to operate in Belgium unless otherwise authorized by the Purchaser.

28.6 The Contractor shall request in writing relief from the performance guarantee upon expiration of the warranty period specified at Article 14.1 or such other period as may be specified in the Contract and, where appropriate, such relief will be granted by the Purchaser.

28.7 The Contractor shall be responsible, as a result of duly authorized adjustment in the total Contract price and/or period of performance by the Purchaser, for obtaining a commensurate extension and increase of the performance guarantee, the value of which shall not be less than ten per cent (10%) of the Contract Price (including all amendments), and for depositing such guarantee with the Purchaser within ten (10) calendar days from the effective date of the aforesaid duly authorized adjustment.

28.8 The failure of the Contractor to deposit such performance guarantee with the purchaser within the specified time frame, or any extension thereto granted by the Purchaser's Contracting Authority will constitute material breach of the Contract and shall be subject to Clause 39 "Termination for Default" of the Contract General Provisions.

28.9 The rights and remedies provided to the Purchaser under this Article are in addition to any other rights and remedies provided by law or under this Contract. The certificate described in this Article at 28.3 above shall not be regarded as a Termination for Default and this Clause is in addition to and separate from Clause 39 "Termination for Default" of the Contract General Provisions.

ARTICLE 29 PURCHASER FURNISHED EQUIPMENT AND PURCHASER FURNISHED PROPERTY

29.1 This Article supplements Clause 13 "Purchaser Furnished Property" of the Contract General Provisions hereafter.

29.2 Purchaser Furnished Equipment and Information specific to this Contract but not limited to are specified in the Statement of Work, Section 3.4.

ARTICLE 30 APPLICABILITY OF STANDARDS

30.1 The Contract invokes a variety of Standard NATO Agreements (STANAGS) and Military and former Standards (MIL-STDs). While these are contractually binding reference documents, there are national and international standards that are considered to be equivalent and are cited as such within these documents. Where there exists a national or international standard that is not specifically referenced in the STANAGs or MIL-STDs as being equivalent, the Contractor may propose to utilise such a standard if he can demonstrate to the satisfaction of the Purchaser that such a standard is equivalent to the STANAG or MIL-STD in question. The Purchaser, however, reserves the right to deny such a request and demand performance in accordance with the standard cited in the Contract.

ARTICLE 31 QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC)

31.1 The Contractor shall be responsible for the control of quality of all deliverables and associated Contractual products throughout the life-cycle of the Contract.

31.2 The QA Programme shall ensure that procedures are developed, implemented and maintained to adequately control the development, design, production, testing and configuration of all deliverables. The QA Programme shall be described in the QA Plan. The programme is subject to approval by the Purchaser, or its delegated representative(s). It shall be subject to review for adequacy, compliance and effectiveness. The overall QA Programme shall adhere to the provisions of AQAP-2110 and be consistent with the project philosophy of integrating Commercial-Off-The-Shelf (COTS) hardware and software as applicable.

31.3 When satisfied that the products and/or services provided by the Contractor are in conformance with the terms of this contract, a Certificate of Conformity (CoC) per Annex B to AQAP-2070 will be countersigned and stamped by the cognisant NATO Quality Assurance Representative(s) (NQAR(s)). The preparation of the CoC(s) shall be the responsibility of the Contractor.

31.4 CoC(s) shall be required for all quantities contained in each contract line item. Two (2) copies of the CoC(s) shall be submitted to the Purchaser.

ARTICLE 32 OWNERSHIP AND TITLE

32.1 Clause 24 “Ownership and Title” of the Contract General Provisions is supplemented by the following.

32.2 Title and Risk of Loss or Damages to all delivered/installed equipment and software (including source code), covered by this Contract shall pass to and vest with the Purchaser upon Final System Acceptance (FSA).

32.3 The Contractor shall be responsible for the equipment on sites until FSA.

ARTICLE 33 CONTRACTOR'S PERSONNEL WORKING AT PURCHASER FACILITIES

33.1 The term "Purchaser Facilities" as used in this clause shall be deemed to include sites, property, utilities, ships or vessels and the term "Facility Representative" shall be deemed to refer to the authority designated by the Purchaser responsible for the site, property, utility, ship or vessel.

33.2 Purchaser reserves the right to provide Purchaser Facilities for Contractor Key Personnel. In the event Purchaser does provide Purchaser Facilities, the Facility Representative shall provide such available administrative and technical facilities for Contractor's personnel working at Purchaser's Facilities for the purpose of the Contract as in the opinion of the Facility Representative may be necessary for the effective and economical discharge of work under the Contract. These facilities may be provided free at the discretion of the Facility Representative. The Contractor shall be responsible for ascertaining what necessary facilities will be available and whether they will be provided free of charge, or determining what charges are payable.

33.3 The Contractor shall have no claim against the Purchaser for any such additional cost of delay occasioned by the closure for holidays, or other reasons, where this is generally published or made known to the Contractor by the Purchaser or his authorized representatives.

33.4 Notwithstanding the provisions of the "Purchaser Furnished Facilities" Clauses above, where those conditions form part of the Contract, the Contractor shall, except as otherwise provided for in the Contract, make good or, at the option of the Purchaser, pay compensation for all damage occurring to any Purchaser's Facilities occasioned by the Contractor, or by his servants, agents or sub-contractors, arising from his or their presence on Purchaser Facilities in connection with the Contract; provided that these conditions shall not apply to the extent that the Contractor is able to show that any such damage was not caused or contributed to, by his neglect, or default or the neglect or default of his servants, agents of sub-contractors, or by any circumstances within his or their control.

33.5 All property of the Contractor while at a Purchaser Facility shall be at the risk of the Contractor, and the Purchaser shall accept no liability for any loss or damage, except to the extent that any loss or damage is the result of a wilful act or gross negligence on the part of the Purchaser's employees or agents.

ARTICLE 34 PURCHASER RIGHTS IN TECHNICAL DATA AND COMPUTER SOFTWARE

34.1 Clause 30 "Intellectual Property" of the Contract General Provisions is supplemented by the following

34.2 The Purchaser reserves the right of early use and disclosure to other parties of all Contractor delivered documentation under this Contract as soon as accepted by the Purchaser.

34.3 Clause 30.2 Contractor Background IPR and Clause 30.5 Subcontractor IPR of the Contract General Provisions are supplemented by the Annexes C and D respectively to the Contract Special Provisions.

34.4 Clause 30.3 – Foreground IPR of the Contract General Provisions is augmented by the following

34.5 Unless the Contractor has advised the Purchaser before Contract award on existing third parties or Contractor's rights on arising otherwise than by virtue of this Contract, and with due regard to national security regulations, all rights in the results of work undertaken by or on behalf of the Purchaser for the purposes of this Contract, including any technical data specifications, report, drawings, computer software data, computer programmes, computer databases, computer software, documentation including software documentation, design data, specifications, instructions, test procedures, training material produced or acquired in the course of such work and, in particular, all rights, including copyright therein, shall vest in and be the sole and exclusive property of the Purchaser.

34.6 All Software and Software Documentation specifically developed under this Contract and for the purpose of this Contract, shall be delivered to the Purchaser with "unlimited rights". "Unlimited rights" are defined as follows: rights to use, modify, reproduce, release, perform, display or disclose in whole or in part, in any manner and for any purpose whatsoever, and to have or authorize others, to include nations and for national purposes, to do so.

ARTICLE 35 PATENT AND COPYRIGHT INDEMNITY

35.1 Clause 29 "Patent and Copyright Indemnity" of the Contract General Provisions is augmented by the following.

35.2 The Contractor shall exclude from its prices any royalty pertaining to patents which, in accordance with agreements reached between NATO countries, may be utilised free of charge by member nations of NATO and by NATO organisation.

35.3 The Contractor shall report in writing to the Purchaser during the performance of this Contract the royalties excluded from its price for patent utilised under the agreements mentioned in paragraph above and the amount of royalties paid or to be paid by the Contractor directly to others in performance of this Contract.

ARTICLE 36 CONTRACTOR AND PURCHASER SYSTEM INSTALLATION RESPONSIBILITIES

36.1 In accordance with the provisions of SOW, the Contractor shall be responsible for the installation and integration of the equipment delivered under this Contract into a functional System on site with its supporting systems and civil works implemented by the Contractor.

36.2 The Contractor shall be responsible for connecting, mounting, installing, integrating and cabling of the delivered equipment within the sites and at the interface with the NATO General Communication System (NGCS) and at the interface with Power Supply System. The Contractor shall be responsible for connecting all the equipment with the requisite utility outlets.

ARTICLE 37 LIAISON WITH PURCHASER DURING SITE PREPARATION ACTIVITIES

37.1 The Contractor acknowledges that it has taken the steps reasonably necessary to ascertain the nature and location of the installation work, and that it has investigated and satisfied itself as to the general and local conditions that can affect the work or its cost, including uncertainties of weather, or similar physical conditions at the site and the character of equipment and facilities needed preliminary to and during work performance.

37.2 It is the responsibility of the Contractor to provide its installation requirements to the Purchaser by submitting the Site Preparation Data Package as stated in SOW, in order that these requirements are considered into the site preparation activities of the Purchaser. Failure to provide such information in complete and timely manner may lead to site preparation delays for which the Purchaser may hold the Contractor liable.

37.3 It is the responsibility of the Contractor to insure that its installation requirements have been incorporated into the final architectural and engineering drawings of each site or to document to the Purchaser where such drawings and plans are deficient.

ARTICLE 38 PROTECTION OF WATER, LAND, EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

38.1 The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site that are not to be removed and that do not unreasonably interfere with the work required under this Contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Authority.

38.2 The Contractor shall protect from damage all existing improvements and utilities

a) at or near the work site, and

b) on adjacent property of a third party, the locations of which are made known to or shall be known by the Contractor.

38.3 The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this Contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Purchaser may have the necessary work performed by a third party and charge the cost to the Contractor.

ARTICLE 39 OPERATIONS AND STORAGE AREAS

39.1 The Contractor shall confine all operations (including storage of materials) on site premises to areas authorized or approved by the Purchaser. The Contractor shall hold and save the Purchaser, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

39.2 Temporary buildings (e.g. storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Purchaser and shall be built with labour and materials furnished by the Contractor without expense to the Purchaser. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Purchaser, the buildings and utilities may be abandoned and need not be removed.

39.3 The Contractor shall, under regulations prescribed by the Purchaser, use only established roadways. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any national or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks or roads.

ARTICLE 40 SITE CLEAN UP

40.1 The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Purchaser. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Purchaser.

ARTICLE 41 AVAILABILITY AND USE OF UTILITY SERVICES

41.1 In accordance with the SOW, at Beneficial Occupancy Date (BOD) date the Purchaser will make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies. Unless otherwise provided in the Contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Purchaser. The Contractor shall carefully conserve any utilities furnished without charge.

41.2 The Contractor, at its expense and in a workmanlike manner satisfactory to the Purchaser, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. After Individual Site Acceptance of each site by the Purchaser, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

41.3 The Contractor shall not be billed for utility usage after FSA.

ANNEX A: NCI AGENCY NON-DISCLOSURE DECLARATION

We, the undersigned.....(Company) duly represented by ..... (hereinafter "Contractor") do hereby certify that we shall ensure that the following conditions be accepted and observed by all (Contractor) employees working under CO-14887-BRE1TA

_____

_____Date Full name (in block capitals) Signature

==========

TO BE SIGNED BY THE CONTRACTOR'S EMPLOYEES WORKING IN THE NATO'S PREMISES UPON COMMENCEMENT OF THEIR WORK.

I UNDERSTAND:

That I must preserve the security of all classified /commercial-in-confidence Information which comes to my knowledge as a result of this contract with NATO and that I undertake to comply with all relevant security regulations.

That I must not divulge to any unauthorised person, any classified/commercial-in confidence information gained by me as a result of my contract with NATO, unless prior permission for such disclosure has been granted by the General Manager of the NCI Agency or by his designated representative.

That I must not, without the approval of the General Manager of the NCI Agency, publish (in any document, article, book, CD, video, film, play, or other form) any classified /commercial-in-confidence information which I have acquired in the course of my work under CO-14887-BRE1TA.

That, at the end of contract and after performance of all required tasks, I must surrender any official document or material made or acquired by me in the course of my work under CO-14887-BRE1TA, save such as I have been duly authorised to retain.

That the provisions of the above Declaration apply not only during the period of work under CO-14887-BRE1TA, but also after my contract has ceased and that I am liable to prosecution if either by intent or negligence I allow classified/commercial-in-confidence information to pass into unauthorised hands.

That by accepting the position of Support Contractor for NATO corresponding to the tasks and duties described in the present Contract, I will be considered as a Key personnel as specified in Contract Special Provision Article 20.

That I commit to fulfil my obligations for the period of performance mentioned in the Schedule of Supplies and Services (including the optional periods) unless major events beyond my reasonable control happen.

That shall I decide for personal interest to leave the position, I will do my best effort to fulfil my obligations until the Company that is currently employing me has provided NATO with an acceptable suitable substitute in accordance with Special Provision – Article 20.

That I solemnly undertake to exercise in all loyalty, discretion and conscience the functions entrusted to me and to discharge these functions with the interests of NATO and the Host Nation only in view. I undertake not to seek or accept instructions in regard to the performance of my duties from any government, company or from any authority other than that of NCI Agency or the Host Nation.

That within the next two weeks I shall acquaint myself with Host Nation security regulations and security operating instructions.

Date Full name (in block capitals) Signature

ANNEX B: PERFORMANCE GUARANTEE STANDBY LETTER OF CREDIT

Standby Letter of Credit Number: _____

Issue Date: _____

Initial Expiry Date: _____

Final Expiry Date: _____

Beneficiary: NCI Agency, Financial Management,
Avenue du Bourget 140, B-1140, Brussels
Belgium

1. We hereby establish in your favour our irrevocable standby letter of credit number {number} by order and for the account of (NAME AND ADDRESS OF CONTRACTOR) in the amount of _____. We are advised this undertaking represents fulfilment by (NAME OF CONTRACTOR) of certain performance requirements under Contract No. _____ dated _____ between the NCI Agency ("NCIA and (NAME OF CONTRACTOR).

2. We hereby engage with you that drafts drawn under and in compliance with the terms of this letter of credit will be duly honoured upon presentation of documents to us on or before the expiration date of this letter of credit.

3. Funds under this letter of credit are available to you without question or delay against presentation of a certificate signed by the NCI Agency Contracting Officer which states:

   "(NAME OF CONTRACTOR) has not fulfilled its obligations under Contract No. _____ dated _____ between NCI Agency and (NAME OF CONTRACTOR) (herein called the "Contract"), and the NCI Agency, as beneficiary, hereby draws on the standby letter of credit number _____ in the amount denominated in the currency of the Contract, Amount up to the maximum available under the LOC), such funds to be transferred to the account of the Beneficiary number _____(to be identified when certificate is presented)."

   Such certificate shall be accompanied by the original of this letter of credit.

4. This Letter of Credit is effective the date hereof and shall expire at our office located at _____(Bank Address)_____ on _____. All demands for payment must be made prior to the expiry date.

5. It is a condition of this letter of credit that the expiry date will be automatically extended without amendment for a period of one (1) year from the current or any successive expiry date unless at least 90 (ninety) calendar days prior to the then current expiry date we notify you by registered mail and notify (NAME OF CONTRACTOR) that we elect not to extend this letter of credit for such additional period. However, under no circumstances

will the expiry date extend beyond _____ ("Final Expiry Date") without amendment.

6. We may terminate this letter of credit at any time upon 90 (ninety) calendar days' notice furnished to both (NAME OF CONTRACTOR) and the NCI Agency by registered mail.

7. In the event we (the issuing bank) notify you that we elect not to extend the expiry date in accordance with paragraph 6 above, or, at any time, to terminate the letter of credit, funds under this credit will be available to you without question or delay against presentation of a certificate signed by the NCI Agency Contracting Officer which states:

   "The NCI Agency has been notified by {issuing bank} of its election not to automatically extend the expiry date of letter of credit number {number} dated {date} pursuant to the automatic renewal clause (or to terminate the letter of credit). As of the date of this certificate, no suitable replacement letter of credit, or equivalent financial guarantee has been received by the NCI Agency from, or on behalf of (NAME OF CONTRACTOR). (NAME OF CONTRACTOR) has, therefore, not fulfilled its obligations under Contract No. _____ dated _____ between NCI Agency and (NAME OF CONTRACTOR), and the NCI Agency, as beneficiary, hereby draws on the standby letter of credit number _____ in the amount of (Amount up to the maximum available under the LOC), such funds to be transferred to the account of the Beneficiary number _____ (to be identified when certificate is presented)."

   Such certificate shall be accompanied by the original of this letter of credit and a copy of the letter from the issuing bank that it elects not to automatically extend the standby letter of credit, or terminating the letter of credit.

8. The Beneficiary may not present the certificate described in paragraph 7 above until 20 (twenty) calendar days prior to a) the date of expiration of the letter of credit should {issuing bank} elect not to automatically extend the expiration date of the letter of credit, b) the date of termination of the letter of credit if {issuing bank} notifies the Beneficiary that the letter of credit is to be terminated in accordance with paragraph 6 above.

9. Multiple partial drawings are allowed to the maximum value of the standby letter of credit.

10. This letter of credit sets forth in full the terms of our undertaking, and this undertaking shall not in any way be modified, amended, or amplified by reference to any document, instrument, or agreement referred to herein (except the International Standby Practices (ISP 98) hereinafter defined) or in which this letter of credit is referred to or to which this letter of credit relates, and any such reference shall not be deemed to incorporate herein by reference any document, instrument, or agreement.

11. This Letter of Credit is subject to The International Standby Practices-ISP98 (1998 Publication) International Chamber of Commerce Publication No.590.

ANNEX C: CONTRACTOR BACKGROUND IPR

a) The Contractor Background IPR specified in the table below will be used for the purpose of carrying out work pursuant to the Contract.

ITEM	DESCRIPTION

b) The Contractor has and will continue to have, for the duration of the Contract, all necessary rights in and to the Background IPR specified above.
c) The Background IPR stated above complies with the terms specified in Clauses 29 and 30 of Contract General Provisions.

ANNEX D: LIST OF SUBCONTRACTOR IPR

a) The Subcontractor IPR specified in the table below will be used for the purpose of carrying out work pursuant to the Contract.

ITEM	DESCRIPTION

b) The Contractor has and will continue to have, for the duration of the Contract, all necessary rights in and to the IPR specified above necessary to perform the Contractor's obligations under the Contract.
c) The Subcontractor IPR stated above complies with the terms specified in Clauses 29 and 30 of Contract General Provisions.

IFB-CO-14887-BRE1TA – AMD 4

BOOK II

PART IV – STATEMENT OF WORK (SOW)

Page Intentionally Left Blank

Table of Contents

SECTION 1. INTRODUCTION 1
1.1. OVERVIEW 1
1.2. PURPOSE OF THE PROJECT 1
1.3. STANDARDS FOR INTERPRETATION OF THE STATEMENT OF WORK (SOW) 2

SECTION 2. PROJECT MANAGEMENT 3
2.1. PURCHASER'S PROJECT MANAGEMENT APPROACH 3
2.2. CONTRACTOR'S RESPONSIBILITY, ORGANIZATION AND PERSONNEL 3
2.3. PROJECT IMPLEMENTATION PLAN (PIP) 4
2.4. PROJECT CHECKPOINT REPORTS (PCR) 10
2.5. PROJECT PROGRESS REPORTS (PPR) 11
2.6. PROJECT PROGRESS MEETINGS (PPM) 12
2.7. OTHER PROJECT-RELATED MEETINGS 13
2.8. RISK MANAGEMENT PROGRAMME 13

SECTION 3. SCOPE OF WORK 15
3.1. OVERALL REQUIREMENTS 15
3.2. OPERATIONAL REQUIREMENT 15
3.3. IMPLEMENTATION OBJECTIVES 15
3.4. PURCHASER'S RESPONSIBILITIES 16
3.5. CONTRACTOR'S RESPONSIBILITIES AND ACTIVITIES AT BLOS AP, TX AND RX SITES 18
3.6. SITE SURVEY REPORTS (SSR) 22
3.7. SITE INSTALLATION SPECIFICATIONS (SIS) 22

SECTION 4. SYSTEM ENGINEERING AND DESIGN 26
4.1. GENERAL 26
4.2. SYSTEM ENGINEERING AND DESIGN PLAN (SEDP) 27
4.3. SYSTEM SAFETY ENGINEERING PLAN (SSEP) 28
4.4. ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY (EMI/EMC) 30
4.5. TEMPEST REQUIREMENTS 33
4.6. SYSTEM DESIGN 33
4.7. WORKMANSHIP, LABELLING AND CABLING 38

SECTION 5. SYSTEM SECURITY REQUIREMENTS 39
5.1. PURPOSE 39
5.2. REFERENCES 39
5.3. BRIPES SYSTEMS SECURITY REQUIREMENTS 40
5.4. BRIPES PROJECT SECURITY REQUIREMENTS 42
5.5. INFORMATION EXCHANGE 43
5.6. RESOURCING 43

5.7. RESPONSIBILITIES 43

SECTION 6. QUALITY ASSURANCE (QA) 45
6.1. INTRODUCTION 45
6.2. QUALITY CONTROL SYSTEM 45
6.3. QUALITY ASSURANCE (QA) PROGRAMME 46
6.4. QUALITY ASSURANCE PLAN (QAP) 47
6.5. CERTIFICATES OF CONFORMITY (COC) 48

SECTION 7. CONFIGURATION MANAGEMENT (CM) 49
7.1. REFERENCE DOCUMENTATION 49
7.2. CONFIGURATION MANAGEMENT PROGRAMME 49
7.3. CONFIGURATION MANAGEMENT PLAN (CMP) 49
7.4. CONFIGURATION IDENTIFICATION AND DOCUMENTATION (CID) 50
7.5. CONFIGURATION CONTROL (CC) 51
7.6. CONFIGURATION STATUS ACCOUNTING (CSA) 51
7.7. CONFIGURATION AUDITS 51
7.8. CONFIGURATION MANAGEMENT TOOLS 52
7.9. ENGINEERING CHANGE PROPOSALS (ECP) 53
7.10. REQUESTS FOR DEVIATION AND WAIVER 53
7.11. FUNCTIONAL BASELINE 53

SECTION 8. INTEGRATED LOGISTIC SUPPORT 55
8.1. REFERENCE DOCUMENTATION 55
8.2. INTEGRATED LOGISTICS SUPPORT (ILS) PROGRAMME 55
8.3. INTEGRATED LOGISTICS SUPPORT PLAN (ILSP) 56
8.4. RAMT PROGRAMME PLAN 57
8.5. LOGISTIC SUPPORT ANALYSIS PLAN (LSAP) 57
8.6. PARTS OBSOLESCENCE MANAGEMENT PLAN (POMP) 57
8.7. PACKAGING HANDLING STORAGE AND TRANSPORTATION (PHST) PLAN 58
8.8. TECHNICAL PUBLICATIONS DEVELOPMENT PLAN (TPDP) 58
8.9. FAILURE MODES EFFECTS AND CRITICALITY ANALYSIS (FMECA) REPORT 59
8.10. MAINTENANCE CONCEPT 60
8.11. LOGISTIC SUPPORT CONCEPT 64
8.12. LOGISTIC SUPPORT ANALYSIS (LSA) 65
8.13. SUPPLY SUPPORT AND PROVISIONING 67
8.14. PACKAGING, HANDLING, STORAGE AND TRANSPORTATION (PHST) 72
8.15. MARKING OF ITEMS AND COMPONENTS 75
8.16. NATO CODIFICATION OF ITEMS 76
8.17. CUSTOMS FORMS 302 77
8.18. ASSUMPTIONS LIMITATIONS AND EXCLUSIONS 77
8.19. INTERACTIVE ELECTRONIC TECHNICAL PUBLICATIONS (IETP) 79

8.20. LOGISTICS SUPPORT DURING WARRANTY 80
8.21. THREE-YEAR ADDITIONAL CONTRACTOR LOGISTICS SUPPORT (CLS) [OPTION - SUBSEQUENT CONTRACT] 81
8.22. CONTRACTOR LOGISTICS SUPPORT (CLS) PLAN 82

SECTION 9. RELIABILITY, AVAILABILITY, MAINTAINABILITY AND TESTABILITY (RAMT) 84
9.1. REFERENCE 84
9.2. RAMT PROGRAMME PLAN 84
9.3. RAMT CASE REPORT 84
9.4. RELIABILITY 85
9.5. MAINTAINABILITY 86
9.6. TESTABILITY 86
9.7. OPERATIONAL READINESS 87
9.8. AVAILABILITY 87

SECTION 10. TEST AND EVALUATION (T&E) 89
10.1. INTRODUCTION 89
10.2. GENERAL PRINCIPLES 89
10.3. SYSTEM TEST AND EVALUATION PLAN 90
10.4. TESTING 91
10.5. INSTALLATION CHECKOUT 94
10.6. REQUIREMENTS COVERAGE AND TEST MATRIX 95
10.7. FACTORY ACCEPTANCE TEST (FAT) 95
10.8. INDIVIDUAL SITE ACCEPTANCE TESTS (ISAT) 96
10.9. SYSTEM ACCEPTANCE TEST (SAT) 97
10.10. TEST REPORTS 99
10.11. TEST DATA SHEETS (TDS) AND TEST RESULTS 99
10.12. TEST FAILURE PROCEDURE 99

SECTION 11. FINAL SYSTEM ACCEPTANCE (FSA) 101
11.1. INTRODUCTION 101
11.2. DEFINITIONS 101
11.3. DEFICIENCY PROCEDURE 101
11.4. FSA ENTRY CONDITIONS 102
11.5. FSA REPORT (FSAR) 103
11.6. FINAL SYSTEM ACCEPTANCE MEETING (FSA MEETING) 103

SECTION 12. SITE PREPARATION AND INSTALLATION REQUIREMENTS / CIVIL WORKS 105
12.1. GENERAL 105
12.2. LIAISON WITH THE PURCHASER 105
12.3. ACCESS TO THE SITES AND USE OF EXISTING FACILITIES AND UTILITIES 106

12.4. H&S OBLIGATIONS, BUILDING PERMIT AND OTHER ASSOCIATED LEGAL LICENSES 106
12.5. SITE PREPARATION DATA PACKAGE (SPDP) 107
12.6. RECORDING OF ON SITE ACTIVITIES 110
12.7. DISPOSAL OF NON-REUSED EQUIPMENT AND STRUCTURES 110
12.8. HAZARDOUS MATERIAL DISPOSAL 110

SECTION 13. DOCUMENTATION 112
13.1. TECHNICAL DOCUMENTATION 112
13.2. PRESENTATION OF BRIPES USER & MAINTENANCE MANUALS 114
13.3. AS-BUILT DRAWINGS 117
13.4. FORMAT FOR AS-BUILT DRAWINGS 119
13.5. DELIVERY AND VERIFICATION OF AS-BUILT DRAWINGS PER SITE 119
13.6. BRIPES LOGBOOKS PER SITE 119
13.7. FORMAT CRITERIA 120
13.8. PUBLICATION CRITERIA 120
13.9. DRAWINGS, ILLUSTRATIONS AND PHOTOGRAPHS 121
13.10. SOFT COPY FORMAT 121
13.11. AMENDMENTS 122
13.12. LANGUAGE 122
13.13. MANUAL ISSUING SCHEDULE 122
13.14. DOCUMENTATION SUBMISSION PLAN 123

SECTION 14. TRAINING 125
14.1. TRAINING PLAN (TP) 125
14.2. TRAINING PROGRAM 128
14.3. THE BRIPES PERSONNEL QUALIFICATIONS 129
14.4. TRAINING MANAGEMENT 129
14.5. TRAINING COURSES FOR SYSTEM ADMINISTRATORS 130
14.6. TRAINING COURSES FOR TEST PERSONNEL 131
14.7. TRAINING COURSES FOR OPERATORS 131
14.8. TRAINING COURSES FOR MAINTAINERS 131
14.9. TRAINING COURSES FOR INSTRUCTORS (I.A.W. TRAIN-THE-TRAINER PRINCIPLE) 131
14.10. TRAINEE AND TRAINING COURSE COMPLETION REPORT AND CERTIFICATES OF TRAINING 132
14.11. TRAINING DOCUMENTATION 133
14.12. TRAINING DOCUMENTATION APPROVAL SCHEDULE: 136
14.13. QUANTITIES 136
14.14. TIME FRAME FOR TRAINING 136

SOW APPENDIX-1: ABBREVIATIONS

SOW ANNEX A: SYSTEM REQUIREMENTS SPECIFICATION

SOW ANNEX B: PURCHASER FURNISHED EQUIPMENT / PROPERTY

SOW ANNEX C: SUPPORT TO SECURITY ACCREDITATION

SOW ANNEX D: SCHEDULE OF MEETINGS

SOW ANNEX E: RSPL/RCIL – REFERENCE INFORMATION

SECTION 1. INTRODUCTION

1.1. Overview

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 Provide BREITA Software and BLOS Access Point with RMD and Training Capability Project, shortly called BRASS IP Enhanced System (BRIPES) in this document. The SOW is comprised of fourteen (14) sections that describe, from a technical and managerial standpoint, the requirements for the Contractor's performance during the Contract.

1.1.2. The scope of the BRIPES project is to:

a. Deliver the state-of-the-art software (BRIPES SW) implementing the functional and performance requirements of the new generation Broadcast, Maritime Rear Link and Ship Shore (BRASS) systems, renamed Beyond Line of Sight Access Points (BLOS AP), in accordance with the BRASS Enhancement 1 Target Architecture (BRE1TA).

b. Deliver training and remote monitoring and diagnostics capability to the System Test Integration Verification Reference Maintenance and Diagnostic (STIV-RMD) facility in SHAPE, which is also the first BRASS node where the BRIPES Software will be deployed.

c. Enhance the STIV-RMD Information Systems and Communication hardware to enable the system to provide BLOS Access Point capability.

1.1.3. The primary deliverable, the BRIPES Software package, produced by this project will be the foundation of other national BLOS AP projects included in Capability Package CP 9A0101, as the software package will be provided to nations for their BLOS AP implementations.

1.2. Purpose of the Project

1.2.1. The purpose of the project is to modernise the current High Frequency (HF) maritime communication system, to provide adequate HF capability, monitoring and control facilities and to increase management flexibility and communications availability, according to the requirements and standards established in this statement of work, with the aim of achieving the necessary North Atlantic Treaty Organisation (NATO) and National Maritime Command and Control (C2) operational capability.

1.2.2. This project shall deliver a software package that will trigger the upgrade of the services delivered by the current NATO and National Broadcast and Ship Shore (BRASS) stations to the level defined in this document.

1.2.3. The project shall implement the reference, remote monitoring and training facility that will be used for testing, verification, integration, maintenance and diagnostic purposes and be the training centre for the new software package for the NATO Nations.

1.3. Standards for interpretation of the Statement of Work (SOW)

1.3.1. Throughout this Statement of Work (SOW), the following standards 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 order of the SOW requirements is not intended to specify the order in which they must be carried out unless explicitly stated. The SOW defines the activities the Contractor’s process shall cover, i.e. the Contractor’s implementation plans determine the timing of Contractor detailed activities;

d. For purposes of the SOW, the term "the Purchaser" means the NATO Communications and Information Agency (NCI Agency) or its authorised representatives;

e. The convention to be used for dates appearing in free text (e.g. quoting dates of meetings) is day-month-year (dd-mm-yyyy) and not month-day-year.

SECTION 2. PROJECT MANAGEMENT

2.1. Purchaser's Project Management Approach

2.1.1. The Purchaser will manage the project using the PRINCE2 project management methodology. Under this methodology, the Project Executive (the Purchaser) controls the project through a Project Board, which he chairs.

2.2. Contractor's responsibility, Organization and Personnel

2.2.1. The Contractor shall establish a project management organisation for the purpose of performing and managing the efforts necessary to satisfactorily discharge his responsibilities under this Contract.

2.2.2. The names and contact details of the Contractor's project management team and the Purchaser's project management team shall be exchanged at Contract Award.

2.2.3. The Contractor shall provide the necessary manpower and resources to conduct and support the management and administration of his operations in order to meet the overall objectives of the contract.

2.2.4. The Contractor shall get written approval of the Purchaser if any personnel and responsibility changes occur in the contractor's project organization during the Contract.

2.2.5. During project execution, the project shall be controlled in accordance with the contract and the approved Project Implementation Plan. As part of the monitoring and control function, the Contractor shall advise the Purchaser at all times of potential implementation problems and schedule risks.

2.2.6. Contractor's project manager and personnel working at Purchaser premises/sites shall be security cleared to "NATO SECRET" level. Contractor personnel without such a clearance – which is to be confirmed by the appropriate national security authority and transmitted to the cognizant NATO security officer at least twenty-one (21) calendar days prior to any site visit – will be denied access to any of the Purchaser premises/sites. Denial of such access by the Purchaser may not be used by the Contractor as the basis for a claim of adjustment or an extension of schedule nor can the denial of access be considered a mitigating circumstance in the case of an assessment of Liquidated Damages and / or a determination of Termination for Default by the Purchaser.

2.2.7. The requirement 2.2.6 applies also to all personnel involved in this project as a result of subcontracts issued by the Contractor for effort under the prime Contract.

2.3. Project Implementation Plan (PIP)

2.3.1. General

a. The Contractor shall prepare and submit a draft Project Implementation Plan (PIP) for Purchaser's approval that shall describe how the Contractor shall implement the totality of the project, including details of the controls that shall be applied. The PIP shall describe the processes and procedures that the Contractor shall follow to plan, design, test and install all the systems that are part of this Contract.

b. The PIP shall identify all major Contractor operating units and any Sub-contractors involved in the development of BRIPES system and shall describe the portion of the overall effort or deliverable item for which they are responsible for.

c. The PIP shall cover all aspects of the project implementation, including the Contractor's project management structure and project control processes, personnel assignments, and external relationships necessary to provide the capability as required by this Contract.

d. The PIP shall be sufficiently detailed to ensure that the Purchaser is able to assess the Contractor's plans and capability to implement the entire project in conformance with the requirements specified herein.

e. The PIP shall define the major quality checkpoints that shall be implemented while executing the project and the quality process to be used at each checkpoint.

f. The PIP shall cite any references used in the quality management, such as methodologies, tools or best practice material.

g. The PIP shall identify the organisation and responsibilities of the quality assurance team and its relation to the project team.

h. If sub-contracted quality resources are used, the PIP shall describe the controls and processes in place for monitoring the Sub-Contractor's work against agreed timelines and levels of quality.

i. The Contractor shall ensure that the PIP, including associated plans, remains up to date throughout the duration of the Project to reflect the actual state of the Contractor's organisation and efforts.

j. The PIP shall include the following sections and provide the major plans required under this Contract:

i. PIP Section 1: Project Management and Control

ii. PIP Section 2: System Engineering and Design

iii. PIP Section 3: Quality Assurance

iv. PIP Section 4: Configuration Management

v. PIP Section 5: Integrated Logistics Support

vi. PIP Section 6: Test and Evaluation (Including Security Test & Verification Plan – (STVP))

vii. PIP Section 7: Documentation

viii. PIP Section 8: System Acceptance

ix. PIP Section 9: Training

x. PIP Section 10: Reliability, Availability, Maintainability and Testability (RAMT)

xi. PIP Section 11: Contractor Logistic Support (CLS)

xii. PIP Section 12: Security Accreditation Plan (SAP)

xiii. PIP Section 13: Risk Assessment and Management Plan (RAMP)

xiv. PIP Section 14: Site Installations and Civil Works

k. Within 8 weeks from EDC, the Contractor shall submit the Draft PIP to the Purchaser for review. At the first Project Progress Meeting (PPM), a presentation of the Draft PIP shall be included. This presentation shall consist of an outline of the salient features of the planned project management and an assessment of the risk areas involved in the project schedule and meeting the requirements of the Contract. The Purchaser will provide initial comments and an assessment of the draft PIP concerning the need for correction of error and/or inconsistency and the inclusion of material that has been omitted. During the PPM, the Purchaser will also discuss the draft design of the systems (and associated components) that is proposed.

l. The Purchaser will review the Draft PIP and send the comments to The Contractor in two (2) weeks.

m. Two (2) weeks after receipt of the Purchaser's comments, the Contractor shall deliver, for Purchaser's acceptance, the final version of the PIP that shall incorporate all Purchaser comments concerning deviations from and omissions of Contract requirements.

n. The final version of the PIP, as accepted by the Purchaser, 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 Schedule.

o. Purchaser's acceptance of the final version of the PIP does not constitute Purchaser approval 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. This approval in no way relieves the Contractor from its responsibilities to meet the requirements stated in this Contract. The requirements of the Contract supersede the

statements of the PIP in the case of any conflict, ambiguity or omission.

p. The Contractor shall provide copies of all documents, spreadsheets, Work Breakdown Structure (WBS), Gantt Charts, etc. that are presented in the PIP to the Purchaser in the quantities as specified in the SSS and format as specified in SOW Section 13.

2.3.2. PIP Section 1 – Project Management and Control

a. In PIP Section 1 the Contractor shall establish, provide and maintain a Project Management and Control Plan (PMCP) that shall describe how the Contractor shall implement the totality of the project, including details on the project control processes that shall be applied.

b. The Project Management and Control Plan shall define in detail how the Contractor intends to manage this project from EDC through Final System Acceptance (FSA) and throughout the Warranty period. It 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 shall be met. In order to be compatible with the Purchaser's software used for Project management purposes, all documents, worksheets, drawings, slides and schedules/plans shall be prepared using the software tools as indicated in SOW section 13. This Section shall include, but not be limited to, the following aspects:

i. A description of the management structure of the Contractor's Project Team Organisation (PTO) that shall indicate its relationship within the company structure;

ii. A list of personnel assigned to the Contractor's PTO that shall define their respective roles, responsibilities and authority;

iii. A description of Contractor and Sub-Contractor (or any third party) relationships that shall demonstrate how the Contractor effectively manages, monitors and controls the Sub-Contractor(s).

c. As a part of the PMCP of the PIP, the Contractor shall also establish, deliver and maintain a Project Work Breakdown Structure (PWBS), as follows:

i. The PWBS shall define all work packages and the relationship among the work packages and the supplies and services to be delivered to the Purchaser. The contractor shall capture 100% of the work defined by the project scope, as well as all deliverables – internal, external, and interim – in terms of the work to be completed, including project management, in the PWBS.

ii. The PWBS shall include a PWBS Dictionary that describes each component of the PWBS with milestones, deliverables, activities, scope, and dates, resources, costs, quality.

iii. The PWBS shall decompose the work packages to a level that exposes all project risk factors and allows accurate estimate of each work item's duration, resource requirements, inputs and outputs, and predecessors and successors.

iv. Activity or series of activities defined in the PWBS shall not be longer than a single reporting period.

v. The PWBS elements shall be coded sequentially to reveal a hierarchical structure.

vi. The PWBS shall identify the scope of work for all PIP sections and shall capture all associated deliverables – internal, external and interim - in terms of work to be completed.

vii. The PWBS shall define interfaces between the Contractor's deliverables and Purchaser Furnished Equipment (PFE)/Facilities.

d. During the performance of the Contract, the Contractor shall not change the PWBS, its associated definitions, or any of its reporting elements without the approval of the Purchaser.

e. The Contractor shall use the PWBS as the primary framework for Contract planning and reporting to the Purchaser. The PWBS shall define the products to be developed and produced, and relate the elements of work to each other and to the end product.

f. As part of the PMCP of the PIP, the Contractor shall also establish, deliver and maintain a Project Master Schedule (PMS) that contains all contract events and milestones. The PMS shall correlate with the PWBS. The PMS shall show the start and completion dates of each activity, using calendar year timescales divided into weeks and shall show the interfaces with other activities.

i. The PMS shall depict the sequence, duration, and relationship among PWBS tasks, work packages and work items.

ii. The PMS shall identify the start and finish dates, duration, predecessors, successors, and resource requirements for each work item.

iii. The PMS shall include the delivery dates for all project products, including at least the initial version and the final one.

iv. The PMS shall include activity network, activity GANTT, Program Evaluation Review Technique (PERT) charts, developed in formats interoperable with Microsoft (MS) Project 2010, showing detailed and high level schedules with associated resources and dependencies, milestones, and critical path views of the project schedule. Critical paths shall be clearly identified in the PMS.

v. The Contractor shall maintain the baseline version of the PMS on the relevant documentation folder.

g. The PMCP shall cover at least the following areas:

i. Project scope

ii. Major deliverables

iii. Assumptions

iv. Project organisation

v. Internal structure which shall include a project organisational diagram

vi. Roles and responsibilities of each organisational unit

vii. Project resources, key personnel, their qualifications, and their responsibilities (All resources shall be assigned to project task within the PIP).

viii. Organisational boundaries between the project organisation and the parent and subcontracted organisations

ix. Project management processes

x. Project start-up, which shall include staffing, basis of cost and schedule estimates, and project infrastructure.

xi. Project control, which shall include monitoring, reporting, and change management of work packages.

xii. Issue management, which shall include the identification, reporting, assessment, and logging of project issues.

xiii. Communications management, Project Checkpoint Reports (PCR) (refer to 2.4 below), and all other communications with the Purchaser.

xiv. Security management, which shall include personnel and facility (site) security.

xv. Purchaser involvement via meetings, reporting, modification and change, implementation, verification, approval, acceptance and access to facilities.

xvi. Subcontracting plan demonstrating that the Contractor can effectively manage, monitor and control the sub-contractors ~~and that the sub-Contractors will agree to abide by the requirements of the prime Contract as pertains to flow-down provisions~~.

h. The Contractor shall identify in his preliminary Project Management and Control Plan the constraints of the implementation environment, their effects on the project execution and his mitigation measures.

2.3.3. PIP Section 2 - System Engineering and Design

a. The Contractor shall furnish in PIP Section 2 the System Engineering and Design Plan (SEDP) for the BRIPES system addressing the design of the systems proposed in accordance with SOW para-

graph 4.2 below and shall update the design to meet the requirements of the BRIPES environment.

b. The System Engineering and Design Plan shall provide as subplans the System Safety Engineering Plan (SSEP) in accordance with the SOW paragraph 4.3 below. During the presentation of the PIP, the Purchaser will review the draft design of the systems (and associated components) that is proposed.

2.3.4. PIP Section 3 - Quality Assurance

a. PIP Section 3 shall describe the Contractor's Quality Assurance Organisation and Quality Assurance (QA)/Quality Control (QC) System, which shall be in accordance with SOW SECTION 6 below.

2.3.5. PIP Section 4 - Configuration Management (CM)

a. The Contractor shall provide in PIP Section 4 a Configuration Management Plan that shall define the initial configuration items CI(s), the organisation and procedures used to manage the configuration of the functional and physical characteristics of CI(s), including interfaces and configuration identification documents, as set forth in SOW SECTION 7 below.

b. Configuration Management (CM), which shall include Configuration Item (CI) identification, identification and control of change requests and deficiency reports, configuration status accounting, auditing, and co-ordination of Contractor and Purchaser configuration management and change control processes, for both documentation and material deliverables (i.e. services).

2.3.6. PIP Section 5 - Integrated Logistic Support (ILS)

a. The Contractor shall describe in PIP Section 5 how he intends to fulfil all Integrated Logistics Support (ILS) requirements in accordance with SOW SECTION 8 below.

2.3.7. PIP Section 6 - Test and Evaluation

a. The Contractor shall define in PIP Section 6 his proposed test organisation and provide a Test and Evaluation Plan (T&E) in accordance with SOW SECTION 10 below.

2.3.8. PIP Section 7 - Documentation

a. The Contractor shall provide in PIP Section 7 a detailed plan to deliver all documentation in accordance with SOW Section 13 below. The Contractor shall identify the documentation team and the individual responsible within his organisation to ensure such documentation is delivered on schedule and to the Contract requirements.

2.3.9. PIP Section 8 - System Acceptance

a. The Contractor shall provide in PIP Section 8 a System Acceptance plan to accomplish all the activities required and to ensure the suc-

cessful Final System Acceptance (FSA) in order to meet the requirements of SOW SECTION 11 below.

2.3.10. PIP Section 9 - Training

a. The Contractor shall set forth in PIP Section 9 his Training Plan to fulfil the Training requirements of the Contract as specified in SECTION 14 below.

2.3.11. PIP Section 10 - Reliability, Availability, Maintainability and Testability (RAMT)

a. The Contractor shall set forth in Section 10 his Plan to fulfil the Reliability, Availability, Maintainability and Testability (RAMT) requirements of the Contract as specified in SOW SECTION 9 below and in SOW Annex A - System Requirements specifications (SRS).

2.3.12. PIP Section 11 – Contractor Logistics Support (CLS)

a. The Contractor shall provide in Section 11 of the PIP a Contractor Logistics Support (CLS) Plan, which shall describe the services that the Contractor shall perform during the Warranty period as set forth in SOW SECTION 8 below and during all contracted CLS periods, if the Purchaser decides to exercise CLS option after warranty period.

2.3.13. PIP Section 12 - Security Accreditation Plan (SAP)

a. The Contractor shall provide in PIP Section 12 his Security Accreditation Plan to fulfil the Security Accreditation requirements of the Contract as specified in SOW SECTION 5 below.

2.3.14. PIP Section 13 - Risk Assessment and Management Plan (RAMP)

a. The Contractor shall provide in PIP Section 13 his Plan to fulfil the Risk Assessment and Management requirements of the Contract as specified in SOW paragraph 2.8 below. This RAMP shall define the strategy for risk management and the way the risk management process, which shall include risk identification, risk assessment, risk mitigation, risk monitoring and risk reporting shall be conducted throughout the Contract duration.

b. Risk management shall also include the Contractor's and subcontractor's process for risk identification, assessment, mitigation, monitoring, and reporting.

2.3.15. PIP Section 14 – Site Installation and Civil Works

a. The Contractor shall provide in PIP Section 14 his Plan to fulfil the Site Installation and Civil Works requirements of the Contract as specified in SOW paragraph 3.5 and SOW Section 12.

2.4. Project Checkpoint Reports (PCR)

2.4.1. The Contractor shall prepare and submit a Project Checkpoint Report (PCR) to the Purchaser every month after EDC for the duration

of the Contract. The PCR shall contain as a minimum the following information:

a. Date of checkpoint
b. Period covered
c. Follow-ups from previous reports
d. Activities during the period
e. Products completed during the period
f. Quality work carried out during the period
g. Tolerance Status (Costs, Delays and Performances).
h. Actual or potential issues and risk update
i. Work planned for the next period
j. Products to be completed during the next period.

2.4.2. The PCR may be appended to the Project Progress Report for those periods when the two reports coincide.

2.5. Project Progress Reports (PPR)

2.5.1. The Contractor shall prepare and submit a Project Progress Report to the Purchaser Project Management Team every three (3) months after EDC for the duration of the contract.

2.5.2. The Contractor shall submit the PPR reports per schedule to the Purchaser at least two weeks in advance of the next scheduled Project Progress Meeting (PPM). The PPR shall summarise the progress since the previous PPM, accomplishments, schedule of service deliveries against progress, difficulties encountered and resolution of any issues raised in previous PPM.

2.5.3. The PPR shall include, but shall not be limited to:

a. Overall project progress, which shall include the activities performed and works completed during the preceding reporting period.
b. Schedule of deliverables against progress, difficulties encountered, resolution of any issues.
c. The Contractor’s Risk Log and Issue Log, which shall be compliant with PRINCE2.
d. A list of Change Proposals with the current status.
e. Configuration Status Reports (CSR) for the system and all documentation.
f. An up-to-date Project Plan (GANTT chart).
g. A proposed agenda for the upcoming PPM and, if necessary, which may include a summary of items to be discussed.

2.5.4. The Purchaser will confirm in writing the specific agenda with the Contractor, one week prior to each PPM.

2.6. Project Progress Meetings (PPM)

2.6.1. The Contractor shall organise and participate in Project Progress Meetings (PPM) scheduled every 3 months and chaired by the Purchaser. The Contractor shall ensure that the Contractor's Project manager and appropriate support staff attend the meetings.

2.6.2. A Kick-Off Meeting shall be conducted three (3) weeks after EDC. The Contractor shall introduce to the Purchaser the individuals of his organization (including sub-contractors) that are responsible for critical missions in the proposed project implementation.

2.6.3. The first PPM shall be conducted three (3) months after EDC.

2.6.4. A PPM may be cancelled or postponed by the Purchaser without financial impact.

2.6.5. The normal PPM agenda proposed by the Contractor to the Purchaser approval shall include the following agenda items (non-exhaustive):

a. Approval of the Minutes of previous PPM
b. The Contractor's presentation of the Project Progress Report
c. Review of project risks and issues
d. Review of action items from previous meetings
e. Schedule Review
f. Discussion/resolution of problems and areas of concern
g. Any other business.

2.6.6. The Contractor shall be responsible for producing the minutes of PPM and providing a draft copy for Purchaser comments within one week following the PPM.

2.6.7. The Purchaser will then provide comments and/or corrections made against the draft copy to the Contractor within one week of receipt.

2.6.8. The Contractor shall incorporate comments and/or corrections and return a final copy of the minutes to the Purchaser within one week of receipt of the Purchaser's comments and/or corrections.

2.6.9. The Contractor shall not consider the minutes as the basis for changes to the terms and conditions or scope of work of the contract in the absence of a formal contract amendment.

2.6.10. During the meetings the Contractor may be requested by the purchaser to provide detailed presentations on specific items at the subsequent PPM. A copy of the presentation material used at these activity reviews shall be handed over to the Purchaser. The Con-

tractor shall be responsible for the following specific actions in the conduct of reviews:

a. developing a schedule and agenda for accomplishing the required reviews;

b. co-ordinating the review, schedule and agenda with the purchaser, and provide the Purchaser with appropriate Progress Reports prior to the review;

c. ensuring participation of sub-contractors, vendors and suppliers, as necessary;

d. organising and presenting briefings as necessary.

2.7. Other Project-related Meetings

2.7.1. The Contractor shall also support and participate in a variety of other project-related meetings of which a schedule is included in annex D to this SOW. The Contractor shall ensure that the Contractor's Project manager and appropriate support staff attend these meetings as required by the nature of the meeting.

2.7.2. The Contractor shall be responsible for producing the minutes of those meetings and for providing a draft copy for Purchaser comments within one week following the meeting.

2.7.3. The Purchaser will then provide comments and/or corrections made against the draft copy to the Contractor within one week of receipt.

2.7.4. The Contractor shall incorporate comments and/or corrections and return a final copy of the minutes to the Purchaser within one week of receipt of the Purchaser's comments and/or corrections.

2.7.5. The Contractor shall not consider the minutes as the basis for changes to the terms and conditions or scope of work of the contract in the absence of a formal contract amendment.

2.8. Risk Management Programme

2.8.1. The Contractor shall implement and maintain as part of his overall project management process a structured programme of risk identification, assessment and management. The programme shall address as a minimum the following areas.

a. Risk Assessment and Management Plan (RAMP) as described in the PIP Section 13. The RAMP shall define the strategy for risk management and the way the risk management process, which shall include risk identification, risk assessment, risk mitigation, risk monitoring and risk reporting, shall be conducted throughout the Contract duration.

b. The identification of risks for the completion of the SOW related tasks.

c. Analysis of potential risks to identify risk dependent areas.

d. Assessment of the probability of each risk occurring, and quantification of its possible impacts.

e. Identification of a risk owner for each risk.

f. Alternative risk mitigation measures to decrease the effects of the potential risks identified.

2.8.2. The Contractor shall require that each major sub-contractor also implements a programme of risk identification, assessment and management. The Contractor shall be responsible for integrating these programmes into a single programme.

2.8.3. The Contractor shall appoint and identify a risk manager to be the focal point for the implementation of the risk management programme.

2.8.4. Risk Reporting

a. The Contractor shall include in the PPR(s) a section or another report on all identified risks in descending order of priority. The section or report shall include a current assessment of the impact of each risk on work performance and schedules. The Contractor's plans/schedules for risk abatement, mitigation, and work-around shall also be presented.

2.8.5. Risk Status and Alarm Reporting

a. Progress reports submitted by the Contractor shall address the status, potential impact and corresponding planning information for all identified risks. Any new risk area identified by the Contractor/Sub-Contractor having the potential for significant impact on the accomplishment of the Contract tasks or schedules shall immediately be brought into attention of the Purchaser.

SECTION 3. SCOPE OF WORK

3.1. Overall requirements

3.1.1. The BRIPES project shall provide automation support to Maritime Surface Broadcast, Ship-Shore (S-S) and Maritime Rear Link (MRL) HF communication services and to the management of the available resources supporting these services.

3.1.2. The key element of the Project, in line with the BRASS Enhancement One Target Architecture (i.e. BRE1TA), is the Beyond Line of Site (BLOS) Access Point (AP) located in SHAPE, BELGIUM.

3.1.3. The Contractor shall design, procure, manufacture, deliver, install, integrate, test and prepare for acceptance the BRIPES system, as described in this SOW, which shall consist of the following main components (also refer to SOW Annex A section 2.4 for additional details):

a. A BLOS AP located at SHAPE, BEL with own transmitting and receiving assets;

b. A receiving site located at The Hague, NLD;

c. A transmitting site located at Staelduinen, NLD;

d. A receiving site located at Oeiras, PRT;

e. A transmitting site located at Oeiras, PRT.

3.1.4. The Contractor shall link the BLOS AP to the systems in the transmitting and receiving sites over the existing NATO IP networks.

3.1.5. The applicable System Requirements Specification for BRIPES is presented in SOW Annex A. The contractor shall demonstrate that the requirements stated in Annex A are met by the BRIPES system.

3.2. Operational Requirement

3.2.1. The detailed description of the operational requirement is presented in SOW Annex A.

3.3. Implementation Objectives

3.3.1. The Contract shall be implemented in the following three (3) phases;

a. Phase I: The system Design, Development and Factory Acceptance Test (FAT) phase,

b. Phase II: The system Delivery, Installation and integration phase, and

c. Phase III: The system Testing and Acceptance phase.

3.3.2. The system implementation shall be completed and the system handed over by the Contractor to the Purchaser according to the timescale specified in the Schedule of Supplies and Services (SSS) ~~and SOW paragraph 3.3.7~~.

3.3.3. The Contractor shall be responsible for implementation of a fully integrated and operational BRIPES system. The contractor shall provide all the necessary material and perform all the services required to execute the respective installation.

3.3.4. During the Design and FAT phase, and prior to the actual installation of the system, the Contractor shall perform Factory Acceptance Tests (FAT) for the BRIPES system, during which compliance with the technical requirements of this Contract shall be demonstrated to the Purchaser. The FATs shall be completed by EDC plus forty-two (42) weeks.

3.3.5. Following acceptance of the FAT, the Purchaser will authorize the Contractor to start the delivery and installation activities of the complete system.

3.3.6. The Contractor shall perform the installation of the systems at the Purchaser's facilities. The Contractor's activities shall include preparations for and execution of delivery, installation, integration, testing and preparing for acceptance and system for operational use.

3.4. Purchaser's Responsibilities

3.4.1. The Purchaser is responsible for the administration of the Contract, which includes but is not limited to negotiation of contract amendments and payment of invoices.

3.4.2. Annex B includes a list of items that will be provided by the Purchaser as Purchaser Furnished Equipment (PFE) and Purchaser Furnished Property (PFP)[1] to the Contractor.

3.4.3. All PFE and PFP shall be used by the Contractor to the maximum extent possible. The Purchaser is responsible for making the PFE/PFP and services timely available to the Contractor.

3.4.4. To this end, for all 'Standard IT Equipment' that will be delivered as PFE, the Contractor shall establish, as part of his bid proposal, a table including the following information for each PFE item:

a. the PFE equipment description of annex B;

b. the detailed technical specifications of the equipment if the Contractor were to procure and deliver the concerned PFE item;

[1] Existing equipment on site, to be integrated and adapted by the Contractor as required in the SOW.

c. Unit price of each PFE item (Including procurement and delivery, but excluding the installation/integration cost of the PFE item which should already be part of the current project cost);

d. Expected delivery date by the Purchaser of each PFE item.

3.4.5. The Contractor shall in the early stage of the Project – and NLT with delivery of the draft Preliminary Design Review documentation – have performed a final review the PFE equipment specifications and have submitted them to the Purchaser for final review against the Purchaser's third party contract.

3.4.6. The Contractor shall NLT at Critical Design Review have reached agreement with the Purchaser on the delivery timelines of the PFE equipment.

3.4.7. Regarding the PFP of annex B, the Purchaser will provide following services to the contractor:

a. Ensure timely availability of an appropriate installation environment, including prime power lines and sufficient commercial power to be able to support the BRIPES system requirements.

b. Ensure availability and timely access to installation sites and other related premises;

c. Ensure timely availability of the facilities with utilities to house the technical equipment of BRIPES system;

d. Ensure timely availability of existing building and site plans, required by the Contractor to plan, design and execute works according to this contract;

e. Provide a Point of Contact and daily local liaison to the Contractor for each of the sites. However, the Contractor is responsible to the purchaser (NCI Agency) for all works under this contract, including Civil Works as stipulated in Section 12 and in other relevant paragraphs of this SOW.

f. Ensure timely availability of communications lines for external connectivity, such as connections to NGCS (NATO General Communications Segment) and provide crypto equipment required for this connectivity (see SOW annex B);

g. Provide crypto keys for testing purposes of the BRIPES system.

h. Ensure that a pool of frequencies will be available for testing and operation of the BRIPES system by assuring timely coordination with relevant NATO, international and National organizations. These frequencies shall cover the range required to maintain HF communication throughout the day (in summer and winter time) and suitable for different ranges of HF communication distances.

i. Provide Prime Power Supply System of capacity sufficient to support the systems requirements and the main power line terminated at the Main Power Distribution Panel (MPDP).

j. Provide Prime Power Supply system including Main Power Distribution Panel (MPDP) while the Contractor shall provide power distribution and feeding/routing for BRIPES dedicated equipment as well as the provision and installation of electrical circuits to the MPDP and any additional power breakers required at the MPDP. The Contractor is responsible for provision and installation of BRIPES dedicated UPSs.

k. Arrange a site or location to store and transport all PFE and PFP not reused by the Contractor under the Contract.

l. Arrange a locked and environmentally controlled site to store all BRIPES equipment delivered by Contractor under the contract before the installation.

m. Provision of Fire Extinguishing System (FES) and smoke detectors for all BRIPES dedicated rooms. Ensure that smoke detectors are connected to automatic addressable fire alarm systems to enable the registration of smoke generation/fire and alarm activation.

3.5. Contractor's responsibilities and activities at BLOS AP, Tx and Rx sites

3.5.1. The services provided by the Contractor shall consist of design, procurement and delivery of hardware, software and documentation, as well as commissioning activities, installation, integration, testing and training, to meet all the requirements of BRIPES project as detailed throughout this document.

3.5.2. It is also the Contractor's responsibility to test the integration of the Contractor's provided equipment with relevant equipment, elements and systems provided as PFE (including crypto equipment) and demonstrate that both the Contractor's equipment and PFE are compatible and function correctly as stipulated in this SOW.

3.5.3. The Contractor shall inform the Purchaser's Project Manager (PM) and Contracting Officer (CO) as detailed in the Special Contract Provisions of all contractually relevant events.

3.5.4. The Contractor shall notify the Purchaser six (6) weeks before the start of his installation activities at a particular site. The notification shall include names, passport numbers and clearances of the installation team.

3.5.5. Concerning civil works, the Contractor shall provide and install all equipment, material and erect structures as stipulated in section 12 of this SOW.

3.5.6. Concerning civil works, the contractor shall provide all the necessary calculations and fulfil all the necessary formalities (including but not limited to obtaining respective permits and authorizations) as stipulated in section 12 of this SOW.

3.5.7. The Contractor shall establish and provide BRIPES equipment power budget. Equipment power interface requirements shall also be provided by the Contractor.

3.5.8. The Contractor shall provide the required BLOS connectivity to provide connection between the BLOS AP, Tx and Rx sites as stipulated in SOW Annex A.

3.5.9. The Contractor shall design and implement suitable antenna mast foundation works (including relevant earth works) required for the installation of new antenna masts for BRIPES and BLOS systems. The Contractor shall get the National Health and Safety Certification for Tx/Rx sites from relevant national authorities.

3.5.10. The Contractor is responsible for antenna mounting and installation for BRIPES and BLOS systems.

3.5.11. The Contractor is responsible for antenna mast provision and installation (including lightning protection and aircraft warning lights in accordance with International Civil Aviation Organization (ICAO) standards) for BRIPES and BLOS systems.

3.5.12. The Contractor is responsible for all connections (with associated trays and ducts) from antennas to Power Distribution Board (including power cables for aircraft warning lights).

3.5.13. The Contractor shall conduct topographic surveys as well as necessary soil surveys at the locations projected for each antenna for BRIPES and BLOS systems. Hence, it is advisory that the Contractor assures appropriate expertise and equipment (as much as practicable at that stage) to enable at least initial assessment of soil conditions during the site survey.

3.5.14. Demolition of structures or material at Tx and Rx sites, that are to be identified and agreed during the site surveys, and subsequent rubble removal at the sites.

3.5.15. Dismantling, movement and reinstallation of existing utilities (i.e. water pipes, sewage system, gas pipes, communication lines, power lines, etc.) interfering with areas designated for the Contractor's works. This activity will only be exercised with the Purchaser's agreement and only if the Contractor's provided equipment and structures cannot be relocated to other areas that will void utility relocation and at the same time will assure full functionality of the systems.

3.5.16. Complete preparation of BRIPES and BLOS antenna farms for antenna installation (including but not limited to land excavation, ground levelling and compacting, trenching, disposal, bush and vegetation clearing, removal of rubble, removal of hazardous material, demolition works and removal of existing antennas).

3.5.17. Dismantle, dispose, demolish and transport all equipment, structure or material identified by Contractor in the approved Site Preparation

Data Package (SPDP) in or around the antenna farm at the BRIPES sites.

3.5.18. Provision and installation of IT and communication lines, cable trays and external and internal cable ducts provision and installation for power, IT and communication lines and wall penetrations.

3.5.19. Floor and wall finishing including provision and installation of floating floors or suspended ceilings to accommodate cables, ducts etc. when duly justified;

3.5.20. It is the Contractor's responsibility to provide and install BRIPES dedicated Electrical Power Distribution Panels (EDPD) (with associated cabling and plugs) in such a manner that they will be integrated into the Prime Power Supply System (PSS) and the No-Break (NB) PSS at all BRIPES sites.

3.5.21. The NB PSS (provided by the Contractor) shall be fully integrated with the Prime Power Supply System. It is the Contractor's responsibility to assure this integration.

3.5.22. Contractor shall provide and install BRIPES dedicated UPSs (NB PSS) with batteries. The batteries shall be of a type and model that does not require dedicated ventilation.

3.5.23. The Contractor shall connect all BRIPES equipment (except for the transmitters) to BRIPES dedicated UPS.

3.5.24. Ensure the design and installation of the grounding of the BRIPES system equipment to the building earthing network of the buildings, where the BRIPES system will be accommodated (except for antennas), are accomplished according to IEC 60364. When grounding requirement pertains to RED and BLACK equipment, the design and installation shall be implemented according to 'Facility Design Criteria and Installation of Equipment for the Processing of Classified Information (SDIP 29/2).

3.5.25. The contractor shall accomplish associated cabling, cable racks and apertures drilling (including possible fire-rating and/or finishing works after the cable installation and drilling) for BRIPES dedicated EPDP installation.

3.5.26. The Contractor is responsible for provision, installation and connection of the BRIPES dedicated EPDPs to MPDP including TEMPEST requirements for BRIPES system in premises at the BLOS AP, Tx and Rx sites in compliance with SDIP 29/2.

3.5.27. The design and installation of any TEMPEST driven equipment and devices (i.e. Power Line Filters) shall be implemented by the Contractor in compliance with SDIP 29/2.

3.5.28. The Contractor is responsible for design and installation of grounding connections from Contractor's provided equipment in BRIPES dedicated rooms to the existing earth network.

3.5.29. Signal grounding shall be provided by the Contractor in compliance with SDIP-29/2.

3.5.30. The Contractor is responsible for grounding connections of the BRIPES system installed in the BRIPES dedicated premises to the existing grounding network of the buildings.

3.5.31. The Contractor is responsible for Lightning protection and grounding study / grounding resistance measurements at the BRIPES and BLOS antenna locations, masts and surge arresters installed on the antenna feeders (and their earthing) in order to ensure good operation including lightning protection. Contractor will design and install grounding according to IEC 60364. When grounding requirement pertains to RED and BLACK equipment, the design and installation shall be implemented according to 'Facility Design Criteria and Installation of Equipment for the Processing of Classified Information SDIP 29/2.

3.5.32. The antennas shall have a suitable ground and shall be connected to the grounding and earthing network according to respective national regulations. The antenna fields grounding and earthing network as well as connection between earthing networks are the Contractor's responsibility.

3.5.33. Warning signs provision and installation around the antennas (danger zones marking);

3.5.34. Cryptographic equipment at FAT

a. If Factory Acceptance Tests (FAT) for BRIPES requires usage of cryptographic PFE at the Contractor's premises, the Contractor shall request the loan of cryptographic equipment and testing cryptographic keys from Purchaser NLT at Preliminary Design Review (PDR).

b. The Purchaser will make sure the concerned cryptographic equipment is issued to the Contractor's National Security Authorities according to the timelines mutually agreed between the Purchaser and the Contractor at PDR. It is the Contractor's responsibility to ensure transportation of the cryptographic equipment to and from contractor's premises. This shall be at Purchaser's expense.

c. The contractor shall follow NATO instructions for control and safeguarding of NATO crypto material (SDIP-293/1) in contractor's premises.

3.5.35. During the project implementation, the Contractor shall check the CW activities to ensure that infrastructure is suitable for BRIPES accommodation (in terms of floor space allocation, power budget, cooling capacity, etc.).

3.6. Site Survey Reports (SSR)

3.6.1. The Contractor shall perform site surveys at each site (2-3 weeks after the Effective Date of Contract (EDC)) to determine any requirements to prepare the site locations to receive the equipment for installation and to verify the listing of existing equipment and other site specific details. Any possible requirements for civil works shall also be identified.

3.6.2. Following completion of the site survey, the Contractor shall submit (in one week) a draft Site Survey Report (SSR) that provides, but is not limited to, the following information: all available and usable floor plan layouts, cable routing, configuration and wiring assignments, antenna farm layout with associated cabling and ducting, antenna access roads layout, short-break (SB) and No-Break (NB) Power Supply System (PSS) layout and schematics, graphical depiction of contractor provided equipment and its integration with equipment, elements and systems provided as PFE / PFP, basic civil works requirements. Besides the graphics and schematics, the Contractor shall also provide relevant information in narrative form including where applicable matrices, tables and item lists. The Contractor shall submit the draft SSR in quantities specified in SSS and in format specified in SOW paragraph 13.3 below to the Purchaser for review within one (1) week after the relevant Site Survey.

3.6.3. Site Survey Report shall also include a Site Survey Plan. Site Survey Plan shall contain but not limited to: draft site survey workbook of checklists, fill-in forms, installation sketches, contact information, installation specifications and any other documentation proposed to support site surveys.

3.6.4. The Purchaser will review the Site Survey Report in one (1) week and send the comments to Contractor.

3.6.5. One (1) week after receipt of the Purchaser's comments, the Contractor shall deliver, for Purchaser's acceptance, the final version of the SSR that shall incorporate all Purchaser comments.

3.7. Site Installation Specifications (SIS)

3.7.1. The Contractor shall provide to the Purchaser, for each site, a Site Installation Specification (SIS) documentation with information as stipulated below.

3.7.2. The SIS document is a very detailed and upgraded document prepared based on the Site Survey Reports (SSR) and the Site Preparation Data Package (SPDP).

3.7.3. The Contractor shall deliver the SIS to the Purchaser in a First Draft form at EDC + 22 weeks as well as installation drawings, specifications and standards that he intends to employ during production and installation. The Final Draft of the SIS shall be delivered to the Purchaser at EDC + 26 weeks. Before delivery of the Final Draft

version, the first draft version of the SIS is to be reviewed and discussed as laid out in below paragraphs.

3.7.4. The Purchaser will need two (2) weeks for review of the SIS package and to send the comments to the Contractor. The Contractor shall prepare and submit final draft SIS covering each of the sites in one week after receiving Purchaser's comments. This Final Draft SIS shall be detailed enough to allow assessment of the magnitude of site installation works to be performed by the Contractor at each site.

3.7.5. Upon review by the Purchaser of the Final Draft SIS, the Purchaser will co-ordinate a meeting, at EDC + 26 weeks, in order to provide comments on the Final Draft SIS. This meeting may coincide with a PPM. Agreed site availability dates will be recorded at that meeting.

3.7.6. After this meeting, an updated and complete version of the final SIS shall be provided (if required) by the Contractor in one week for approval. Parties will aim at finalising the site facilities requirements so that each site will be ready before delivery of the BRIPES system equipment to the sites.

3.7.7. Approval of the SIS by the Purchaser in no way relieves the Contractor of his responsibilities to achieve the contractual and technical requirements of this Contract.

3.7.8. The schedule for submission of the draft and approved SIS shall be incorporated in the PIP.

3.7.9. The Contractor shall provide for each site a complete SIS with updated "As Designed" drawings of how all of the major assemblies of the Purchaser/Contractor supplied equipment are to be physically installed and mechanically/electrically integrated.

3.7.10. The SIS documentation, as a minimum – but not limited to, shall consist of:

a. All applicable floor and wall plans to include cable penetrations, and routing;

b. Listing of equipment to be installed including functional description of each component as well as general equipment specifications to include;

c. physical specifications - height, length, width, and weight (floor loading) of each equipment rack, cabinet and console,

d. equipment rack, cabinet and console templates,

e. manufacturer's specific machine configuration and space requirements,

f. maintenance access requirements for each equipment rack, cabinet and console;

g. Equipment layout including consideration of space between power and communication lines and RED/BLACK cable runs as stipulated

in the documents listed in SOW Section 4 below (paragraphs 4.1.1. g and h);

h. Location plans of all ancillary equipment, terminations and/or connections;

i. Plans and descriptions presenting all grounding conductors, electrodes, joints and their connections to the existing earthing and grounding systems as per SDIP 29/2[2];

j. Physical details of all cable racking, cable runs and cable routing with length, cable numbers and cable functions to include as appropriate all connections, connectors and sockets;

k. Details covering all wiring termination points including wire numbers and colour coding, if applicable;

l. The functions of all inter-connecting cables with their codes, colour code and the function of each separate conductor;

m. The physical details covering all cable trays and ducts for intercommunication equipment being part of this contract;

n. The list and layout of equipment as well as facing of cabinets to be installed including functional description of each component;

o. Site layout, System/equipment site installation plans and programme, antenna farm area installation;

p. Exact location of Tx and Rx antennas as well as BLOS antennas and systems at BLOS AP, Tx and Rx sites;

q. Definition of civil works, works and other tasks realized as a part of site preparation that are the Contractor's responsibility as stipulated in section 12 of this SOW. Physical details of all Civil Works equipment and structures shall be presented both graphically and in narrative form including where applicable matrixes, tables and item lists;

r. Identification of interfaces throughout the system to ensure interface compatibility as well as interfaces with communications infrastructure, power supply, cooling system and fire extinguishing system.

---

[2] *Ground, Secure: Ground serving as the grounding point for RED equipment. Because compromising emanations may be present on the grounding lead of RED equipment, the grounding electrode should be physically located within an inspectable space.*

Ground, Safety: Ground to protect personnel and equipment from electric shock and damage in the case of faults occurring in the equipment. The safety ground may be considered a secure ground if it is contained within an inspectable space.

Inspectable Space: Inspectable space is the three dimensional space surrounding equipment processing NATO classified information within which TEMPEST exploitation is not considered practical or where legal authority exists to identify and remove a potential TEMPEST exploitation threat

s. Listing and status/working conditions of non-project related equipment that has to be temporarily dismantled to allow works by the Contractor;

t. A heat load budget and Heating, Ventilating and Air Conditioning (HVAC) interface requirements for the BRIPES system equipment that shall contain and not be limited to:

u. heat load calculation of all active electronic equipment to be installed in the BLOS AP, Tx and Rx sites, in the equipments rooms and in the rooms where receiving and transmitting equipments will be installed;

v. operating and none-operating environment conditions (temperature range, relative humidity range, atmospheric pressure, ingress protection (IP rating))

w. pressure and any special heating/cooling capacity requirements.

x. defining possible sources of electromagnetic interference (EMI) or radio frequency interference (RFI) (i.e. large electric motors, power transformers, conduit and cables used for electrical power distribution, etc.) that can render data networks inoperable.

SECTION 4. SYSTEM ENGINEERING AND DESIGN

4.1. General

4.1.1. The contractor shall take into account the following reference documentation for his implementation. Other reference documentation regarding communication system design is mentioned in respective annexes.

a. SECAN Doctrine & Information Publications (SDIP) – 28/1 (2009 December) NATO Zoning Procedures

b. SDIP 29/2 (2015 March) – Selection and Installation of Equipment for the Processing of Classified Information.

c. SDIP 31/2 (2011 March) – Instructions for the Control and Safeguarding of NATO COMSEC Materials for Non-NATO Nations and International Organizations (NNN/IO)

d. STANAG 4370 (Environmental testing and associated Allied Environmental Conditions Test Publications (AECTP))

e. STANAG 7201 (The Human Engineering Test and Evaluation Procedures for systems, equipment and facilities)

f. STANAG 4133 (Method of specifying electrical power supplies: standard types of electrical power)

g. IEC-60364, Part 4, Chapter 41 (Electrical installations of buildings, Protection for safety, Protection against electric shock)

h. IEC 332 (Tests on electric and optical fibre cables under fire conditions)

i. IEC 1034 (Measurement of smoke density of cables burning under defined conditions)

j. ASTM E 662 (Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials)

k. MIL-HDBK-454 (Standard of Workmanship)

l. MIL-STD-1472D (Consoles/Workpositions)

m. MIL-STD-461G (Electromagnetic Interference)

n. MIL-STD-882E (System Safety)

4.1.2. The Contractor shall implement a system engineering programme that shall be a continuing function throughout the duration of the Contract in order to provide technical integration and co-ordination of design, fabrication, installation and test activities.

4.1.3. The system engineering programme shall include:

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 design, fabrication, installation and testing.

4.2. System Engineering and Design Plan (SEDP)

4.2.1. The Contractor shall provide, as part of the PIP, a System Engineering and Design Plan (SEDP) that shall establish and define the system engineering programme.

4.2.2. The plan shall include:

a. Listing of Major and Minor Equipment to be installed. This listing shall contain a brief functional description of each item, its operating characteristics, and any abnormal criteria required for installation;

b. Development and preparation of detailed equipment design specifications in line with the technical approach appropriate to fulfil the Purchaser's performance requirements;

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 and interface control;

f. Analysis of the design approach applied for each sub-system. The analysis shall also describe the design approach applied for equipment and structures that will be installed and implemented by the Contractor under Civil Works package. The Contractor shall also describe the measures taken to ensure efficient and effective integration of sub-systems into respective systems and consequently into complete BRIPES System;

g. Development and preparation of detailed engineering drawings;

h. Technical reviews and reports;

i. Co-ordination with fabrication, installation and testing activities;

j. Engineering Implementation Schedules. These schedules shall cover milestone dates such as delivery of Contractor furnished equipment (CFE) and Purchaser furnished equipment (PFE), installation, number of required tests, interface with other systems;

k. Planned Layout. This section shall contain the criteria for the planned equipment layout, a block diagram to show signal flow, considerations of radio frequency interference and radiation effects,

interface tie-ins, and considerations such as efficiency of the proposed configuration in terms of access requirements for operation, maintenance, installations and removal. Included will be consideration of space between equipment, walls, ceilings, plus recommended distances between power and communication lines and / or red / black cable runs in accordance with the NATO TEMPEST protection practices. Reference shall be made to all applicable system drawings and recommendations for maximum and / or minimum configurations;

l. Protocol of Receipt of the Delivery of HW on Site (DHS): This document constitutes proof of delivery by the Contractor of the hardware items. The HW delivered on site is verified against two lists: shipping list (check quantity / identification of boxes / pallets) and items lists (once the boxes are open, it is verified that the right quantity of equipment has been delivered on site i.a.w. As-Designed products lists). Damages or incidences are recorded in the Protocol of receipt. But this document does not constitute a formal handover of the ownership of the equipment.

m. Checkout procedure: This will cover the checklist to be inspected once the installation is done: equipment is properly installed, labels properly affixed, grounding, equipment labels identification, power connection, all equipment is installed in the rack i.a.w. the cabinet facing and the list of equipment. This checkout procedure can also be used prior to the Acceptance of the Installation / Integration.

n. System Safety Engineering plan (refer to section 4.3 below);

   i. System Safety Hazard Analysis Report

   ii. Environmental and Safety Requirements

4.3. System Safety Engineering Plan (SSEP)

4.3.1. The Contractor shall provide, as part of the SEDP, a System Safety Engineering Plan (SSEP) in accordance with MIL-STD-882E Section 4, to fulfil the safety requirements of the Contract.

4.3.2. The Contractor shall document in his SSEP the procedures to control design, selection, procurement and manufacture of parts and materials. Revisions to the SSEP shall incorporate Purchaser-agreed changes, additions or deletions that have evolved during the conduct of the Programme.

4.3.3. The Contractor shall apply engineering principles, criteria, and techniques to identify and eliminate safety hazards in the BRIPES system in accordance with Military Standards MIL-STD-882E.

4.3.4. The Contractor shall design and/or select all equipment on the basis of inherent safety features that protect not only the human operators and maintainers but also the equipment itself.

4.3.5. Safety verification shall be conducted at each site prior to each ISAT to ensure compliance with the SSEP. The safety verification shall verify the safety requirements for all types of hazards not eliminated by design. The Contractor shall document the safety verification process in the SSEP. The Contractor's responsibilities shall be defined in the SSEP.

4.3.6. The Contractor shall describe his risk assessment method in the SSEP.

4.3.7. Electromagnetic Interference and Compatibility (EMI/EMC) shall be taken into account in the SSEP in accordance with SOW paragraph 4.4.

4.3.8. The System Safety Engineering Plan shall also include System Safety Hazard Analysis Report (SSHAR) as mentioned in MIL-STD-882E.

4.3.9. Environmental and Safety Requirements:
The System Safety Engineering Plan shall also define Environmental and Safety Requirements as defined at following sub-paragraphs:

a. Environmental requirements shall be implemented and verified by the Contractor in accordance with National laws and regulations.

b. The Contractor is obliged to comply with the national legislation concerning job accidents, incident prevention and hygiene at work. The Contractor is also obliged to make legal arrangements for protection of the life and security of all the personnel and to guarantee medical assistance whenever necessary due to job accidents. The same legal arrangements shall be applied to sub-contractor personnel under Contractor's responsibility.

c. Health and Safety Hazards: The physical presence, operation and maintenance of the system shall pose no health or safety hazards to personnel.

d. Carcinogenic and Radio-active Materials, Mercury: Materials containing known carcinogenic substances, radio-active materials or mercury shall only be used with the prior authorization of the Purchaser with the exception of Radium that is not to be used to achieve self-luminosity.

e. Hazard Warning Labels: Equipment warning labels shall be attached wherever there is any potential electrical, chemical, electromagnetic radiation or heat hazard or a potential hazard caused by human contact with materials, particularly when removal of covers will expose the hazard.

f. Production of Toxic or Corrosive Fumes: Materials used, under the specified environmental and service conditions or as a result of heating due to conflagration, shall not liberate:

i. gases that combine with the atmosphere to form an acid or corrosive alkali,

ii. toxic or corrosive fumes that would be detrimental to the performance of the equipment or health of personnel,

iii. gases that will produce an explosive atmosphere.

g. Asbestos Materials: Equipment shall not contain any asbestos material.

h. Glass Fiber Materials: Glass fiber materials shall not be used as the outer surface or covering on cables, wire or other items where they may cause skin irritation to operating personnel.

i. Moving Part Protection: Any rotating or other moving part such as ventilators, blowers, drive belts, etc. shall be shielded or protected adequately to prevent accidental contact by and injury to any personnel during operation and maintenance.

j. Equipment Edges: Projecting and overhanging edges of equipment items shall be kept to a minimum. Edges and corners shall be rounded.

k. Environmental Conditions Indoors, temperature, humidity: Equipment shall function without degradation under the environmental conditions as specified at SOW Annex A.

l. Noise Levels: Noise generated by the system in operation shall not exceed the levels specified in the local regulations or Environmental Noise Directive (2002/49/EC), whichever is more restrictive for operational and maintenance areas.

	Maximum noise level in operational and maintenance areas	**Maximum noise level in all other areas**
Static Sites	55 dB(A)	75 dB (A)

4.4. Electromagnetic Interference and Compatibility (EMI/EMC)

4.4.1. This section shall identify all measures taken to ensure electromagnetic compatibility of the BRIPES systems and its apparatus, in accordance with 2004/108/CE and MIL-STD-461G. The standards / norms applied by the manufacturers shall be mentioned. A Certificate of Compliance to the mentioned norms shall also be included. In his design, the Contractor shall take into account the constraints of the site, number of simultaneous transmissions and EMC. An EMC study of the transmitter sites shall demonstrate that Public and Occupational exposure levels are within limits stipulated in respective international and national guidelines.

4.4.2. With regards to Electromagnetic Compatibility (EMC), the BRIPES system and their electronic equipment, during its lifetime, shall op-

erate within its defined specifications. This shall be assured both in the military and in the civilian environment.

4.4.3. Power supply (including SB and NB PSS), HVAC, lights, other electrical and mechanical equipment and installations as well as buildings and structures shall not have a negative influence on the communication systems and vice versa.

4.4.4. The EMI/EMC section shall contain and not be limited to the following items:

a. Management Controls: Specific organisational responsibilities, lines of authority and the control of implementation planning, etc. shall be stated, together with details of the EMI/EMC requirements imposed on sub-contractors and test requirements placed upon testing establishments.

b. Mechanical Design: The control plan shall describe criteria for selection at the design stage of the materials and manufacturing techniques to be employed so that inherent attenuation to electromagnetic emanations and susceptibility shall be provided, without compromising other mechanical considerations of individual equipment design and specifications.

c. Electrical / Electronic Circuit Design: This section shall fully describe the EMI suppression techniques that shall be applied to all parts and circuitry, in terms of both the generation of undesirable emanations and susceptibility to the fields and voltage levels as specified elsewhere in this Contract and, for the case of sub-systems / equipment units, the levels allocated by the Contractor (including specific requirements placed on sub-contractors) for the various equipment units comprising the BRIPES system.

4.4.5. Electromagnetic Interference Radiated Immunity:

a. The BRIPES system shall remain functional within its specifications during and after exposure to external electromagnetic fields as per applicable EN norms.

b. The BRIPES system shall remain functional within its specifications during and after exposure to external electromagnetic fields caused by transmitters installed nearby, as per applicable EN norms.

c. The Contractor shall provide the EMC compatibility between equipment to demonstrate that the system works as a whole. The interoperability testing shall obviously be part of the system acceptance. EMC equipment level acceptance shall be done by verification of EMC compliance certificates.

4.4.6. Electromagnetic Interference Conducted Immunity:

a. The systems shall remain functional within their specifications during and after exposure to conducted interference currents in general as per applicable EN norms.

b. The systems shall remain functional within their specifications during and after exposure to conducted interference currents entering via the power supply, as per applicable EN norms.

c. The systems shall remain functional within their specifications during and after exposure to conducted interference currents caused by exposure to electromagnetic fields as per applicable EN norms.

d. Transients: The shelters (if required) for equipment shall be able to handle fast transients/ burst as per EN 61000-4-4.

4.4.7. Electrostatic discharge: The systems shall remain functional within their specifications during and after an electrostatic discharge as defined in EN 61000-4-2.

4.4.8. Lightning Protection

a. The BRIPES system shall comply with the international standard for lightning protection – International Electro technical Commission (IEC)-62305.

b. The equipment shall not be damaged and the Communications and Information Systems (CIS) equipment shall continue to operate without degradation when subjected to the lightning waveforms conforming to AECTP 250 - leaflet 254 atmospheric electricity and lightning.

c. Appropriate Surge Protection Devices (SPD) and other lightning protection measures according to EN 61643-11, IEC 61643-12 and IEC 62305 shall be used to provide sufficient protection for the equipment.

d. The earth electrode shall be able to handle the lightning current for dispersal into the ground.

e. The equipment shall withstand the effects of induced currents into the system as per EN61000-4-5, Limit: Level 4.

f. The radio-frequency (RF) coaxial cables from the antennae connected to the related CIS equipment shall be equipped with an appropriate SPD and provide sufficient protection.

g. The SPD devices shall be able to handle the multiple strokes lightning flash consisting of average of 3-4 strikes.

h. The Contractor shall provide and install the lightning protection measures for each equipment and CW that are provided and implemented by the Contractor.

4.4.9. Exposure to Radio Frequency fields

a. The contractor shall apply the doctrine stipulated in STANAG 2345 or equivalent national law for evaluation and control of personnel exposure to radio frequency fields 3 kHz to 300 GHz. It is the contractor's responsibility to obtain the national regulations regarding this issue.

4.5. TEMPEST Requirements

4.5.1. TEMPEST protection shall be achieved by means of TEMPEST counter measures to prevent compromising emanations (CE) exiting the facility.

4.5.2. Unless otherwise stated, the BRIPES installation shall comply with the applicable documents (SOW SECTION 4 above Ref a – c). The following countermeasures shall be used to avoid electromagnetic CE(s):

a. The use of signal and power line low leakage filters.

b. Ensuring sufficient distance between RED equipment and Inspectable Space (IS) perimeter.

c. Minimum Separation between any RED processor and RF transmitters as specified in SDIP 29/2.

d. Ensuring conductor free zones between RED equipment and BLACK equipment / lines.

e. Ensuring adequate separation between RED and BLACK lines.

f. Shielding of lines where needed to minimize CE emanations and/or induction.

g. Connecting all equipment to signal ground rails provided by the HN.

4.5.3. The Power Line Filter (PLF) used for separation of RED processors / Black equipment shall provide a minimum attenuation of 60 dB over the frequency range of 100 kHz to 1 GHz. It shall have low current leakage to avoid unwanted tripping of the Residual Current Detectors (RCD).

4.5.4. The Contractor shall take into account that the BLOS AP location is a CLASS I area.

4.5.5. In order for the Contractor to integrate the crypto devices within BRIPES system, the Contractor shall comply with the requirements as stated in the security reference documents in this SOW paragraphs 4.1.1. & 5.2.1.

4.6. System Design

System Design shall include the following activities, documents and reports:

4.6.1. Detailed Design Specifications (DDS)

a. The purpose of the DDS is to provide visibility for the Purchaser into the proposed system development and to provide documentation against which the Purchaser may evaluate progress, foresee difficulties and provide guidance and recommendations to protect its interests.

b. The DDS shall encompass the areas set forth in PIP Section 2 in a refined and comprehensive manner, at least to the CI level.

c. The DDS shall contain as a minimum:

i. Conformance Matrix linking Contract Requirements to details of the design specification;

ii. Presentation of detailed equipment design specifications;

iii. Security design documentation;

iv. Equipment performance calculations;

v. identification of interfaces throughout the system to ensure interface compatibility;

vi. Presentation of detailed engineering data and drawings;

vii. Definition of the CI(s);

viii. An Interface diagram (detailed);

ix. Software licensing, support and warranty agreements;

x. Design for System Management and Configuration Tools including security considerations;

xi. Proposed antenna definitions and specifications of materials used as to include requirements specified at SOW Annex A;

xii. The physical layout and operation principles of the BRIPES systems for each capability;

xiii. Proposed system topology, routing and transport for each capability;

xiv. All design constraints identified in the Detailed Design Specification Plan, for each capability;

xv. Detailed description of how Contractor's proposed system shall meet the functional requirements in the SRS (SOW Annex A) for each capability;

xvi. Detailed description of the main design features of the interfaces with each relevant other system in the SRS in line with the associated design constraints identified in the SRS for each capability.

xvii. A list of equipment (Hardware and software) planned to be delivered, for each capability.

d. As part of the DDS documentation, the Contractor shall prepare an Interface Requirements Specification (IRS) document that defines the detailed interface requirements among the HW and SW components of the system and resolving methods to ensure interface compatibility, including system design, communications infrastructure and civil works (power supply, HVAC, fire extinguishing system, etc.) related interface issues.

e. “As Designed” Product Drawings and Associated Equipment List

i. The Contractor shall prepare product drawings and associated equipment lists, provide engineering data to support competitive procurement and maintenance for hardware. These drawings represent the highest level of design disclosure.

f. The Purchaser will review the document and provide its comments and observations in the Technical Reviews to be held according to the SSS.

g. The Contractor shall deliver the draft version of the DDS to the purchaser not later than three (3) weeks prior to the Preliminary Design Review (PDR) meeting.

h. The comments and observations provided by the Purchaser shall be incorporated by the Contractor into the DDS.

i. The Contractor shall deliver the final version of the DDS to the Purchaser not later than three (3) weeks prior to the CDR meeting. Where Purchaser comments and observations have not been included into the Final Document, the Contractor shall include a separate annex noting the exclusion of such comments and observations and providing a rationale for the exclusion.

j. It shall be noted that the DDS are the product of the Contractor. Review of the draft version and delivery of the final version does not imply acceptance of the detailed design by the Purchaser. It remains the sole responsibility of the Contractor to prove the design through the regime of testing set forth in the Contract and it shall be the sole responsibility of the Contractor in the event that the design proves deficient in terms of the Contractual functional and/or performance requirements.

4.6.2. System Level Technical Review

a. Technical review shall be conducted to demonstrate progress in converging on viable traceable system requirements that are balanced with cost, schedule and risk.

b. Technical Review shall confirm that the total system detailed design approach (integrated composite of people, product and process solutions) satisfies the functional baseline, that risks are mitigated with closure plans for remaining risks, demonstrating the required progress and that the total system is ready for detailed design.

c. The Contractor's system engineering programme shall include provision for two (2) technical review meetings, the Preliminary Design Review (PDR) and the Critical Design Review (CDR), as follows:

i. Preliminary Design Review (PDR) meeting, no later than 18 weeks after EDC;

ii. Critical Design Review, no later than 26 weeks after EDC.

d. During the technical reviews the Purchaser shall examine the functional requirements and the draft Detailed Design Specifications (DDS). The schedule and planned conduct of the PDR and CDR and resulting report shall be included in the SEDP. The SEDP shall also identify and list specific CI(s) subject to technical review at sub-system and equipment levels. This listing shall be subject to update until such time as the system hardware and software baselines are established.

e. The technical reviews shall consider all aspects of the design and cover all functional and performance requirements. It shall include for each Configuration Item (CI):

   i. Allocated functional and performance requirements derived from overall requirements specified in the Contract;

   ii. CI specifications, this to include drawings, schematic diagrams, models, manuals and other data as appropriate and addressing as a minimum:

      (1) functional specifications;

      (2) performance specifications (technical and environmental) including RAMT requirements;

      (3) interface requirement specifications;

      (4) interface control document (ICD) specifications;

      (5) physical layout (form and fit), including human engineering;

      (6) sub-system integration requirements;

      (7) current fabrication status and test results available to validate the design approach and achievement of relevant specification.

f. In preparation and conduct of a technical review the Contractor shall:

   i. Host and develop the agenda for the reviews;

   ii. Provide the Purchaser with appropriate technical material including draft CI specifications in quantities specified in SSS and in format specified in SOW paragraph 13.7;

   iii. Provide reports from and ensure participation by sub-contractors, vendors and suppliers as necessary;

   iv. Organise and present briefings as necessary;

   v. Provide appropriate facilities, administrative support services and summary meeting reports;

   vi. Provide schedule, test and design data and supporting analysis for the reviews;

   vii. Provide appropriate technical personnel at the reviews;

viii. Provide the Purchaser with draft copies of the summary meeting reports in quantities specified in SSS and in format specified in SOW paragraph 13.3 below not later than two (2) weeks subsequent to the reviews.

g. The principle purpose of Purchaser participation is to 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 and environmental performance specifications contained in this Contract. Sufficient detailed information and test data shall be provided to assure the Purchaser that all functional and performance requirements have been achieved or have been modified to achievable limits without prejudice to contractual specifications.

h. PDR Entry Conditions

i. All following relevant documentation has been delivered:

(1) Approved Final PIP Documentation;

(2) Draft System & Subsystem Detailed Design Specifications (DDS);

(3) Interface Requirement Specifications;

(4) As Designed Product Drawings and Associated Equipment Lists;

ii. The HW for related sites has been proposed by the Contractor.

iii. Approved Agenda;

iv. All documents related to the technical reviews have been submitted and these documents have been reviewed by the Purchaser.

v. Site Preparation Data Package (SPDP) as defined in SOW Section 12 has been finalized and approved.

i. CDR Exit Conditions

i. The documents related to CDR review have been formally submitted by Contractor and approved by the Purchaser.

ii. All actions items, as documented in the minutes of the CDR meeting, have been agreed by the Purchaser as closed.

iii. The HW for sites has been selected.

iv. Overall Summary Schedule provided by Contractor.

v. Technical risks have been assessed and minimised.

vi. RAMT deliverables have been agreed.

vii. Revised PIP Documentation (if required).

viii. Minutes have been recorded and approved.

j. An output of the CDR shall be the CI specifications. The equipment covered by a CI specification shall be subject to configuration management once the specification has been approved. The Contractor shall provide the final version of CI specifications in quantities specified in SSS and in format specified in SOW section 13.7 to the Purchaser four (4) weeks after the CDR meeting.

4.7. Workmanship, Labelling and Cabling

4.7.1. MIL-HDBK-454 Requirement 9 shall be applied for Standard of Workmanship.

4.7.2. Weight Labelling: Items weighing more than the one-person values in table "Weight Limits" shall be prominently labelled with the weight of the object and the lift limitation, e.g. two-person lift, three-person lift, mechanical lift, etc.

Handling Function		Weight Limit (kg)
a.	Lift object from the floor and place it on a surface not greater than 1.5 m above the floor.	16
b.	Lift an object from the floor and place it on a surface not greater than 0.9 m above the floor.	20
c.	Carry an object up to 10 m.	19

4.7.3. European Community EMI Conformity for COTS Items: Each COTS item, including cables, shall bear the European Community (EC) CE conformity marking and the Contractor shall present to the Purchaser a copy of the relevant Manufacturer's Declaration of Conformity, i.a.w the EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

4.7.4. Cables/Connectors:

a. Power cables shall be Low Smoke Zero Halogen (LSZH) cables. All the other cables are highly recommended to be LSZH cables.

SECTION 5. SYSTEM SECURITY REQUIREMENTS

5.1. Purpose

5.1.1. This section describes the minimum security requirements for the BRIPES system, in accordance with the current NATO and National Security Policies concerning the protection of NATO classified information and National classified information.

5.2. References

5.2.1. NATO Security Policies are contained in the following documents for BRIPES project.

a. C-M(2002)49-Corr9 (2002-June-17) – NATO Security Policy

b. AC/35-D/2000-Rev7 (2013-Jan-07) Directive on Personnel Security

c. AC/35-D/2001-Rev2 (2008-Jan-07) Directive on Physical Security

d. AC/35-D/1030 (2005-May-20) – Guidelines on Physical Security

e. AC/35-D/2004-REV3 (2013-Nov-15) – Primary Directive on CIS Security

f. AC/35-D/2002-Rev4 (2012-Jan-17) Directive on the Security of Information

g. C-M(2008)0113 (2008-Nov-27) The Primary Directive on Information Management

h. AC/35-D/1021-Rev 3 (2012-Jan-31) Guidelines for the Security Approval or Security Accreditation of Communication and Information Systems (CIS)

i. AC/35-D/1017-Rev2 (2003-Feb-26) Guidelines for Security Risk Assessment and Risk Management of CIS

j. AC/35-D/1014-Rev3 (2012-Jan-31) Guidelines for the Structure and Content of Security Operating Procedures (SecOps) for CIS

k. AC/35-D/1015-Rev3 (2012-Jan-31) Guidelines for the Development of Security Requirements Statements

l. AC/35-D/1019-Rev1 (2008-Dec-12) Guidelines for the Security Evaluation and Certification of Communication and Information Systems (CIS)

m. AC/322-D/0030-Rev5 (2011-Feb-23) INFOSEC Technical and Implementation Directive for the Interconnection of Communication and Information Systems CIS

n. AC/322-D/0049 (2002-Apr-29) Directive for Transmission Security

o. AC/322-D/0047-Rev2 (2009-Mar-11) INFOSEC Technical and Implementation Directive on Cryptographic Security & Cryptographic Mechanisms

p. AC/322-D(2007)0036 (2007-July-12) Technical and Implementation Directive on Emission Security.

q. AC/322-D(2005)0031 (2005 June 20) – INFOSEC Technical & Implementation Directive for the Protection of the Confidentiality of NATO Information within non-NATO Nation Systems

r. AC/322-D/0048-REV2 (2011-Dec-09) Technical and Implementation Directive on Computer and Local Area Network (LAN) Security

s. NATO Computer Incident Response Capability (NCIRC) security settings for Windows operating systems

t. AC/35-D/2005-Rev2 (2010-Oct-18) INFOSEC Management Directive for communication and information systems

5.2.2. BRASS Associated Security Policies are contained in the following documents

a. Community Security Requirement Statement (CSRS) for BRASS Ver. 4.0 (2011 Sep 19)

b. BRASS System Interconnection Security Requirement Statement (SISRS) v1.0; 2013 Jan 21 (As Annex-B to CSRS for BRASS)

c. System Security Requirement Statement (SSRS) for BICC; 2011 Sep 29; Ver. 1.0 (As Annex A to CSRS for BRASS)

d. Security Accreditation Plan (SAP) for BRASS v 1.0 dated Nov 2010

5.3. BRIPES Systems Security Requirements

5.3.1. General Classification Requirements for BRIPES documentation: The BRIPES Security mode of Operation will be NATO SECRET System-High: all data shall be protected as if it is NATO SECRET and a review and release capability has to be considered.

5.3.2. BRIPES Security Accreditation

a. The overall BRIPES systems shall be subject to security accreditation. Ultimate aim is to achieve the ‘Approval to Operate’ (ATO) status for the entire BRIPES systems before FSA.

b. NATO CIS Security Accreditation Board (NSAB) will approve all security related documentation and will issue interim and final Security Accreditation Statement for BRIPES systems.

c. For more guidance, on accreditation process, see Annex C (Support to Security Accreditation) of this SOW.

5.3.3. Security Evaluation and Certification

a. The BRIPES system components shall possess Product Certification Reports issued by authorised Evaluation and Certification Authorities as results of Security Evaluation and Certification process as referenced in SOW Section 5 paragraph 5.2.1 above, references (h) and (l).

b. Standard of certification process to be employed for the accreditation shall be approved in the Security Testing and Verification Plan (STVP).

c. All software shall, if possible, be selected from NATO approved Fielded Product List (AFPL) for NS networks. All information assurance products shall be selected from NATO Information Assurance Product Catalogue (NIAPC) with 'green' evaluation scheme.

d. If proposed software is not on NATO approved Fielded Product List (AFPL) for NS networks, the contractor shall assist the Purchaser in the process of including the product into AFPL list.

5.3.4. Security Requirements

a. The BRIPES system shall as a minimum have implemented the security mechanisms as defined in the NATO Security Policy and supporting directives and guidelines mentioned in SOW SECTION 5 above para 5.2.1 References (a through l), INFOSEC Technical and Implementation directives mentioned in SOW SECTION 5 above para 5.2.1 References (m through r) and BRASS Community security documents referenced in SOW SECTION 5 above para 5.2.2 References (a through d).

b. Every system that needs to be directly interconnected to BRIPES must follow a series of rules. The security mechanisms given in the SISRS mentioned in SOW SECTION 5 above para 5.2.2 Reference (b) shall as a minimum be implemented. The compliance of external systems to those rules must be written and signed by the responsible Security Accreditation Authority (SAA).

c. It shall be demonstrated that the BRIPES system shall possess all the security features stated in reference documents at SOW SECTION 5 above, paragraphs 5.2.1. and 5.2.2.

d. The BRIPES system shall apply C2 protective mechanism of Windows Operating System identical to the implementation used at the operational sites following NCIRC security settings for Windows operating systems, as set forth in SOW SECTION 5 above Reference (5.2.1.s).

e. Virus protection tools and/or mechanisms shall be applied to provide the integrity of the BRIPES software and firmware. In addition, all new software and firmware versions shall be scanned prior to their installation and shall be periodically checked to ensure that no virus and/or malicious code have been introduced.

f. BRIPES system shall apply the principle of Self-protecting node (SPN) – BRIPES shall treat other CIS as untrusted and implement protection measures to control information exchange with other CIS as set forth in SOW SECTION 5 above Reference (5.2.1.m).

5.3.5. BRIPES Security Testing and Verification

a. It shall be demonstrated and shown that security mechanisms of the BRIPES system work as claimed in the System documentation. The demonstration shall be done to illustrate the mechanism used to prevent that an unauthorized user cannot bypass or otherwise defeat the security protection mechanisms.

b. BRIPES software package shall be subject to security testing as being part of the final integrated system.

5.3.6. Security Deliverables

a. Security Deliverables are stated in Annex C and SOW Section 13 paragraph 13.14.

b. The Security Accreditation Support package shall be integrated into the documentation delivered for FSA.

5.3.7. Interconnectivity

a. The security accreditation shall be done for interconnection of BRIPES system to NATO systems.

5.3.8. BRIPES Crypto

a. The Purchaser will provide Ship-Shore and MRL Crypto.

b. The Purchaser will provide Broadcast Crypto.

5.4. BRIPES Project Security Requirements

5.4.1. General Classification Requirements for BRIPES documentation

a. The existence and purpose of BRIPES system is classified as “NATO UNCLASSIFIED”. The BRIPES security requirements associated with the enforcement mechanism are classified as “NATO RESTRICTED”.

b. Each paragraph in a classified document shall display a classification marking. The classification marking shall be placed prior to the beginning of the text of the paragraph, for example:

"13. (NR) Each paragraph in a classified document ……".

c. If a document contains restricted paragraphs, the document shall be “NATO RESTRICTED”.

5.4.2. The Contractor shall provide the security aspects related to requirements in the contract. The Contractor’s design shall meet the safety and security requirements as set forth in the Contract. The Contractor shall agree to abide by and implement the security mechanisms as defined in the NATO Security Policy and supporting directives as per the Contract references.

5.5. Information Exchange

5.5.1. Soft copies of documentation and information with "NATO RESTRICTED" and lower classification level shall be exchanged between the Contractor and the Purchaser with appropriate ways in accordance with NATO rules.

5.6. Resourcing

5.6.1. The project manager and all personnel working on BRIPES project at Contractor/Purchaser premises/sites shall be security cleared for "NATO SECRET" level.

5.6.2. Contractor and/or Sub-contractor personnel employed under this Contract that will require access to the operational sites but will not be working on any defined mission-critical systems and will not have access to classified installations or material, need not hold a NATO security clearance provided that they are directly supervised by contractor personnel holding a NATO security clearance of "NATO SECRET" and that the Contractor is able to demonstrate that they are:

a. Trustworthy (through a 'Certificate of good conduct', supported by a police criminal record declaration);

b. Originally from or are recognised citizens of a NATO member nation.

c. Legally present in the country concerned.

5.6.3. Requests for visits shall be notified in writing and coordinated in advance with the NCI Agency. All visiting personnel shall comply with the security regulations of NATO. Minimum 21 days is required for notification.

5.6.4. The project manager and the deputy project manager as well as system engineers and other engineers working at Purchaser premises/sites shall be able to write and speak English to Level (3333) (STANAG 6001 (ED 2)).

5.6.5. The Purchaser reserves the right to request a replacement of personnel based on contract performance reasons.

5.7. Responsibilities

5.7.1. The Contractor shall be responsible to develop and implement the BRIPES system in accordance with the Information Assurance (IA) requirements and provide all required security accreditation documentation for BRIPES system (in English language) and support the Purchaser during the overall accreditation of the whole BRIPES system. The Contractor shall perform all activities as stated in the approved security documents complying with entire section 5 of SOW to achieve Approval for Testing before ISAT and the Full

BRIPES System Security Accreditation (Approval To Operate – ATO) before FSA in cooperation with responsible SAAs.

5.7.2. The Contractor shall provide the results of BRIPES system Security Testing and Verification within 2 (two) weeks of the tests.

5.7.3. The Contractor shall coordinate issues related to the security accreditation of the site premises with the Purchaser.

5.7.4. The Contractor shall provide a Security Test & Verification Plan (STVP) that shall be used as an integral part of the overall BRIPES system Testing Activities. The STVP shall address in well-defined scenarios, all security functions required and implemented and shall demonstrate the implemented level of Security Functionality and Assurance in accordance with the Contract requirements and the corresponding NATO directives as stipulated in SOW SECTION 5 above Reference 5.2.1.i.

SECTION 6. QUALITY ASSURANCE (QA)

6.1. Introduction

6.1.1. The following reference documentation applies for QA purposes.

a. NATO Policy on an Integrated Systems Approach to Quality through the Life Cycle Allied Quality Assurance Publication [AQAP 2000]

b. NATO Quality Assurance Requirements for Design, Development and Production [AQAP 2110]

c. NATO Supplementary Software Quality Assurance Requirements to AQAP 2110 [AQAP 2210]

d. NATO Mutual Government Quality Assurance (GQA) Process [AQAP 2070]

e. NATO Integrated Quality Requirements for Software Throughout The Life Cycle [AQAP 160]

f. NATO Guidance on the use of AQAP-160 [AQAP 169]

g. ISO/IEC 12207 – Software Life Cycle Process

h. ISO/IEC 15288 – Systems and Software Engineering – System Life Cycle Process

i. NATO Guidance on the use of the AQAP-2000 Series [AQAP 2009]

j. NATO Project Assessment Model [AQAP 2050]

k. NATO Requirements for Deliverable Quality Plans [AQAP 2105]

l. NATO Quality Management System Requirements for Aviation, Space And Defence Suppliers [AQAP 2310]

m. International Standards 9000 Series

n. International Standard 10012-1 (ISO-10012-1)

o. Applicable NATO Standardisation Agreements

p. STANAG 4107

q. STANAG 4427

6.2. Quality Control System

6.2.1. The Contractor shall establish, document and maintain an effective Quality Control (QC) System in accordance with SOW SECTION 6.1.1 Reference (a) and / or equivalent ISO 9000 Series Standards throughout the life-cycle of the contract.

6.2.2. The Purchaser may delegate the Quality Assurance to the appropriate Government Quality Assurance Authority (GQAA) in accordance with STANAG 4107.

a. The GQAA, when accepting the STANAG 4107 Request for GQAA Services, appoints his QA Representative(s) (QAR).

b. The Purchaser, through their own Quality Assurance, however, will retain the overall supervisory and liaison authority concerning all QA/QC matters, and for this purpose will use their own QA Personnel.

c. The term "National QAR" (NQAR) shall apply to any of the Purchaser appointed QARs, whether nominated by the GQAA or by Purchaser QA.

d. During the entire contract implementation, the NQAR(s) within their own rights, defined in the contract applicable AQAPs, shall assure the Contractor's and Sub-Contractor's compliance with all contractual requirements.

6.3. Quality Assurance (QA) Programme

6.3.1. The Contractor shall be responsible for the control of quality of all deliverables and associated Contractual products throughout the life-cycle of the Contract.

6.3.2. The QA Programme shall ensure that procedures are developed, implemented and maintained to adequately control the development, design, production, testing and configuration of all deliverables.

6.3.3. The QA Programme shall be described in the Quality Assurance Plan as outlined below. The programme is subject to review and/or rejection by the Purchaser, or its delegated representative(s), whenever it does not meet the QA requirements. It shall be subject to review for adequacy, compliance and effectiveness. The overall QA Programme shall adhere to the provisions of SOW SECTION 6.1.1 Reference (a) and be consistent with the project philosophy of integrating COTS hardware and software as applicable.

6.3.4. The QA programme shall apply to all hardware, software and documentation being developed, designed, acquired, integrated, maintained, or used under the Contract. This includes non-deliverable test and support hardware and software. Firmware shall be controlled as software. The QA programme shall also apply to civil works throughout the life cycle of delivered infrastructure (with associated earth, electrical and ducting works, etc.) and systems (such as SB and NB PSS, HVAC, grounding, etc.). The QA programme is also applicable to the whole package of documents, designs, plans and drawings pertaining to Civil Works at any given stage of the project.

6.3.5. The Contractor shall designate at least one person to perform the QA function for this project. Contractor personnel comprising the QA organisation shall have sufficient responsibility, authority, organisational freedom and independence to review and evaluate ac-

tivities, identify problems and initiate or recommend appropriate corrective action.

6.3.6. Personnel performing QA functions shall have specific documented definitions of their assigned duties. In no case shall the Contractor QA personnel performing QA functions be the same personnel responsible for performing other tasks that are reviewed by QA.

6.3.7. Contractor QA personnel shall participate in the early planning and development stages to ensure that attributes of good quality for life-cycle procurement are specified in programme plans, standards, specifications and documentation. After establishment of attributes, controls and procedures, Contractor QA personnel shall ensure that all elements of the QA Programme are properly executed, including inspections, tests, analysis, reviews and audits.

6.3.8. A Contractor QA person shall be designated as the Contractor's QA Management Representative and point of contact to interface on quality control matters with the Purchaser or his delegated National Quality Assurance Representative (NQAR) and identified in the Quality Plan.

6.4. QUALITY ASSURANCE PLAN (QAP)

6.4.1. The Contractor shall provide a QAP to the Purchaser in accordance with the requirements of the above mentioned AQAPs. The QAP shall be structured as a living document subject to revision / update, as and when required.
The QAP shall be submitted to the Purchaser for review as part of the PIP in accordance with the SSS.

6.4.2. The QAP shall reference, or document, and explain the Contractor's QA procedures for analysis, software support, development, design, production, installation, configuration management, control of Purchaser furnished property, documentation, records, programming standards and coding conventions, library controls, reviews and audits, testing, corrective action and certification as specifically related to this project.

6.4.3. The QAP shall be compatible and consistent with all other plans, specifications, standards, documents and schedules that are utilised under this Contract. All Contractor procedures referenced in the QAP shall either be submitted with the plan, or described in the plan and made available for review by the Purchaser upon demand.

6.4.4. The Contractor's corrective action system shall ensure prompt detection, documentation and correction of problems and deficiencies. The corrective action system shall track all reported and recorded problems and deficiencies until their closure and clearance.

6.4.5. In the event that the Contractor sub-contracts any of the work contained in this Contract, the Purchaser reserves the right to perform reviews and audits at any of the Sub-Contractor(s) facilities. Such

reviews and audits shall not be used by the Contractor as evidence of effective control of a subcontractor's quality. The Contractor shall conduct periodic audits of the subcontractors.

6.5. Certificates of Conformity (CoC)

6.5.1. When satisfied that the products and/or services provided by the Contractor are in conformance with the terms of this contract, a Certificate of Conformity (CoC) shall be countersigned and stamped by the cognisant NQAR(s) (as per SOW SECTION 6.1.1 Reference (f) Annex B). The preparation of the CoC(s) shall be the responsibility of the Contractor.

6.5.2. CoC(s) shall be required for all quantities contained in each contract line item. The Contractor shall submit copies of the CoC(s) to the Purchaser on delivery of the equipment and/or (sub) systems.

SECTION 7. CONFIGURATION MANAGEMENT (CM)

7.1. Reference documentation

7.1.1. The following reference documentation applies for CM purposes.

a. NATO Guidance on Configuration Management [ACMP 2009]

7.2. Configuration Management Programme

7.2.1. Configuration Management (CM) applies processes and tools to establish and maintain consistency between products and product requirements. CM establishes a structure for products and product configuration information and selects, defines, documents and baselines product attributes in sufficient detail to support the product lifecycle.

7.2.2. The Contractor shall be responsible for the project HW and SW Configuration Management.

7.2.3. The Contractor shall be responsible for establishing and maintaining an effective CM organization to implement the CM programme in accordance with STANAG 4427 and managing the CM functions:

a. configuration identification and documentation,

b. configuration control,

c. configuration status accounting,

d. configuration audits.

7.2.4. 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 Contract (including warranty phase).

7.2.5. Whenever system/equipment is mentioned; the definitions will also include its supporting systems provided by the Contractor (if applicable e.g.: antenna masts, test equipment, special tools, facilities, warning lights, lightning protection and grounding).

7.3. Configuration Management Plan (CMP)

7.3.1. The Contractor shall provide a CMP in accordance with ACMP-2009 NATO Guidance on Configuration Management, tailored to the requirements of the proposed technical solution. The CMP shall be periodically updated as required. CMP shall be maintained during CLS period as well.

7.3.2. In producing the CMP, the Contractor shall define the organization and procedures used to configuration manage the functional and physical characteristics of CI(s), including interfaces and configuration identification documents. He shall ensure that all required ele-

ments of CM are applied in such a manner as to provide a comprehensive CM programme.

7.3.3. The CMP shall address all disciplines within this SOW section and shall as a minimum include, but not be limited to the following CMP Sections:

a. Introduction

b. Organization

c. Configuration Identification and Documentation (CID)

d. Configuration Control (CC)

e. Configuration Status Accounting (CSA)

f. Configuration Audits

g. Management tools / Interface management

h. Change, deviation and waiver process

7.3.4. The Contractor shall provide detailed proposals for the documents that shall comprise the below baselines to be included in the CMP for approval by the Purchaser.

7.3.5. The Contractor shall propose in the CMP a Requests for Deviation (RFD) (s) and Requests for Waiver (RFW) format based on the requirements given in ACMP-2009 NATO Guidance on Configuration Management

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

7.3.7. The Contractor shall provide structure, content and initial details for this plan in the proposal phase so to show the concept of the activity.

7.4. Configuration Identification and Documentation (CID)

7.4.1. The Contractor shall establish a configuration identification system. The system shall identify all documents necessary to provide a full technical description of the characteristics of the Hardware and Software CID(s) that require control at the time each baseline is established and shall include the relevant deliverables in the Contract.

7.4.2. The Contractor shall propose appropriate CID(s) in the CMP including an explanation of the rational and criteria used in the selection process that shall be based on the criteria for selection of CID(s).

7.4.3. The CID structure shall be in the form of a CI tree structure (an explicit part of the CMP) with the System being the top level CID and shall show the relationships between the lower level CID.

7.5. Configuration Control (CC)

7.5.1. The Contractor shall describe his Configuration Control (CC) procedures in the CMP.

7.5.2. 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. Copies of change pages or documented revisions shall be provided in accordance with the Schedule of Deliverables. Where a change affects more than one 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.

7.5.3. The Purchaser must approve all changes prior to becoming effective.

7.6. Configuration Status Accounting (CSA)

7.6.1. The Contractor shall be fully responsible for the Configuration Status Accounting (CSA) for all CID(s) in accordance with ACMP-2009 NATO Guidance on Configuration Management. This system shall consist of reports that shall be prepared and delivered in a manner, format and schedule that shall be proposed by the Contractor in his CMP and approved by the Purchaser.

7.6.2. In addition, the Contractor shall develop and maintain a CSA Database using the appropriate database management and other related software tools for the entire period of the Contract.

7.6.3. At the end of the contract, the Contractor shall deliver a set of final CSA reports for each CID in quantities as specified in the SSS.

7.7. Configuration Audits

7.7.1. Configuration audits shall be established by the Contractor to verify compliance with the specifications and other Contract requirements in accordance with ACMP-2009 NATO Guidance on Configuration Management. The Contractor shall include in the CMP detailed proposals for the audits.

7.7.2. The audits shall be carried out jointly by the Contractor and the Purchaser in accordance with the Contractor's approved CMP and shall consist of a Functional Configuration Audit (FCA) and Physical Configuration Audit (PCA), see below:

7.7.3. In this Contract, the FCA shall primarily consist of reviews of all the component-based requirements of the Contract, Contract documentation, tests or test results where necessary, to demonstrate the full compliance of the functional requirements of allocated components delivered to the Purchaser.
Functional Configuration Audit (FCA) is the formal examination of functional characteristics of a configuration item, or system to verify that the item has achieved the requirements specified in its functional and/or allocated configuration documentation.

7.7.4. In this Contract the PCA shall consist of a review and verification of design documentation against the delivered system and individual system components. The PCA shall also include a review of system-wise functional and performance requirements that were not reviewed at FCA.
Physical Configuration Audit (PCA) is the formal examination of the 'as-built' configuration of a configuration item and system against the technical documentation to verify the product baseline.

7.7.5. The FCA and the PCA shall be conducted after the FAT at the Contractors site/factory and after ISAT at site respectively. The Contractor is to ensure that after completion of the FCA and PCA Minutes of Meetings detailing these activities are published and distributed to the Purchaser for review.

7.8. Configuration Management Tools

7.8.1. The various baselines referred in this SOW shall be established by the Contractor using automated tools.

7.8.2. The Contractor's software tool shall be agreed with the Purchaser prior to Contract signature.

7.8.3. The Contractor shall deliver the software tools and appropriate licenses to the Purchaser at the kick-off of the project.

7.8.4. The Contractor shall maintain a CSA database using the agreed software tools for the entire period of the Contract.

7.8.5. The Contractor shall transfer the current CSA database to the Purchaser upon request.

7.8.6. The Contractor shall deliver the latest version of CSA database along with the software tool to the Purchaser prior to the FSA of the project.

7.8.7. During the life cycle of the BRIPES project and until the end of the Contractor Logistics Support (see SOW section 8 below), all baselined documents created under this Contract shall be maintained by the Contractor in the CSA database using the agreed software tools to allow efficient update, automated tracking of changes through all affected CID(s) and baseline documents, and continued automated maintenance and printing of these documents, including tables, figures, and readings.

7.9. Engineering Change Proposals (ECP)

7.9.1. Changes to baselined CID(s) shall be processed as either Class I or Class II Engineering Change Proposals (ECPs).

7.9.2. The Contractor shall propose in the CMP an ECP format based on the requirements as laid out at that reference.

7.9.3. The Contractor shall use the CC procedures specified in the CMP for the preparation, submission for approval implementation and handling of ECP(s) to baselined CID(s). When submitting ECP(s), the Contractor shall assign a priority rating of Emergency, Urgent or Routine. Extensions to the target times for processing Class I ECP(s) shall be mutually agreed upon by the Contractor and Purchaser. No Class I ECP shall be implemented until it has been approved by the Purchaser.

7.9.4. Prior to implementation, all Class II ECP(s) shall be submitted by the Contractor to the Purchaser for review and classification concurrence. If the Purchaser's representative does not concur with the classification, Class I ECP procedures shall be applied and the ECP shall be formally submitted to the Purchaser for approval or disapproval.

7.9.5. All design changes shall be appropriately reflected in the technical documentation by the issue of appropriate changes or revisions. The Contractor shall provide all such changes/revisions to the Purchaser.

7.10. Requests for Deviation and Waiver

7.10.1. The Contractor shall (if required) prepare, handle, and submit for approval, Requests for Deviation (RFD) (s) and Requests for Waiver (RFW).

7.10.2. The Contractor shall be aware that permanent departures from a baseline shall be accomplished by ECP action, rather than by RFD.

7.11. Functional Baseline

7.11.1. The Contractor shall propose the CID that he considers to best describe the functional baseline, which includes all necessary functional characteristics, the test requirements, interface characteristics and the design constraints. From this, the Contractor shall establish the Development and Product baselines as described below.

7.11.2. Development (Allocated) Baseline: The Contractor's Development Baseline shall comprise the configuration documentation, which includes:

a. Functional and system design documentation, development specifications, performance specifications, and interface characteristics and documentation,

b. The allocation of functional characteristics to CID(s),

c. Design constraints,

d. The verification and testing deliverables required to demonstrate achievement of the functional baseline.

7.11.3. Product Baseline: The product baseline shall comprise the configuration documentation, which includes:

a. Product, material and process specifications,

b. Engineering drawings,

c. Other technical documentation for CID(s) that satisfactorily reflects the requirements of the functional and development baselines,

d. Production acceptance test results/reports.

7.11.4. The Contractor shall ensure that there is full traceability through all baselines back to the functional baseline.

7.11.5. The Contractor shall maintain the baselines in a database established by the Contractor as specified under CM Tools.

7.11.6. At the end of the Contract, the Contractor shall deliver the baseline documentation in quantities as specified in the SSS and in format that complies with SOW section 13 below.

7.11.7. As part of the CM database the Contractor shall transfer a copy of the current version of all baselines to the Purchaser at Contract completion.

SECTION 8. INTEGRATED LOGISTIC SUPPORT

8.1. Reference documentation

8.1.1. The following reference documentation applies for ILS purposes.

a. NATO Guidance on Integrated Logistics Support for Multinational Armament Programmes [ALP-10 Edition C];

b. International guide for the use of the S-Series Integrated Logistic support (ILS) specifications [SX000i issue 1.1] or last available;

c. International procedure specification for Logistic Support Analysis LSA [S3000L issue 1.1] or last available;

d. International specification for Material management Integrated Data Processing [S2000M issue 6.1] or last available;

e. International specification for technical publications [S1000D issue 4.2] or last available;

f. Electronic reliability design handbook [MIL-HDBK-338B];

g. Reliability prediction of electronic equipment [MIL-HDBK-217F];

h. Electronic Parts Reliability Data [(EPRD)-2014];

i. Non-electronic Parts Reliability Data Publication [(NPRD)-2016];

j. Analysis techniques for dependability – Reliability block diagram and Boolean methods [CEI/IEC 61078:2006];

k. Design and developing of maintainable products and systems [MIL-HDBK-470A];

l. Procedures for performing a Failure Mode, effects and Criticality Analysis [MIL-STD-1629A];

m. Failure Mode / Mechanism Distributions [(FMD)-2016];

n. Guidance for Acquisition of Training Data Products and Services [MIL-HDBK-29612];

o. Language Proficiency Levels” [STANAG 6001 Edition 5].

8.2. Integrated Logistics Support (ILS) Programme

8.2.1. The Contractor shall establish an ILS Programme to manage the ILS activities within this Contract.

8.2.2. The Contractor shall provide evidence that the designed system is for a service life of at least twenty (20) years based on the operational conditions required.

8.2.3. The Contractor shall appoint an ILS manager to conduct the ILS Programme with functional subordinates to reflect the programme ILS managerial structure.

8.2.4. The Contractor shall designate an experienced ILS manager who shall be at a level commensurate with the systems engineering and the software engineering managers.

8.2.5. The Contractor's ILS manager shall serve as the focal point for interface with the Purchaser in all matters relating to the ILS programme.

8.3. Integrated Logistics Support Plan (ILSP)

8.3.1. The Contractor shall provide an Integrated Logistics Support Plan (ILSP) that shall incorporate Purchaser-approved changes, additions and deletions.

8.3.2. The ILSP shall establish/describe the policies, procedures, and methodologies:

a. to ensure the logistic requirements are achieved and

b. to refine the support to the system.

8.3.3. The ILSP shall describe the Contractor’s plans for the management control, interface, and integration of all elements of the Contractor’s Integrated Logistics Support Programme with the system engineering and design processes.

8.3.4. The ILSP shall describe the Contractor’s approach for each logistic element:

a. Reliability Availability Maintainability and Testability (RAMT),

b. Logistics Support Analysis (LSA) including Logistic Data and Supply Support,

c. Packaging Handling Storage and Transportation (PHST),

d. Parts Obsolescence Management,

e. Technical Manuals,

f. Training.

8.3.5. The ILSP shall document the Contractor’s plans, organizational structure, procedures and activities implemented, followed and performed to ensure that logistics and the logistics support elements influence and interface with system design and other functional areas, to satisfy supportability criteria.

8.3.6. The ILSP shall explain the interface of the Contractor’s ILS structure and the overall design process with his subcontractors, vendors and suppliers.

8.3.7. The ILSP shall include a schedule of the ILS Programme and a detailed description of the interaction of the ILS activities with the other activities performed.

8.3.8. The Contractor shall provide structure, content and initial details for this plan in the proposal phase so to show the concept of the activity.

8.3.9. The detailed training requirements to be included as part of the ILS plan are described in section 14.

8.4. RAMT Programme Plan

8.4.1. The Contractor shall provide a RAMT Programme Plan as part of the ILSP.

8.4.2. The RAMT Programme Plan shall describe the strategies, processes, resources, and organization to achieve the RAMT requirements and in particular how the results will be integrated in the Systems Engineering process.

8.4.3. Further requirements regarding the RAMT Programme Plan are included in section 9.

8.5. Logistic Support Analysis Plan (LSAP)

8.5.1. The Contractor shall provide an LSA Plan (LSAP) included in the ILSP.

8.5.2. The LSAP shall describe the strategies, processes, resources, and organization to achieve the LSA requirements and in particular how the results will be integrated in the Systems Engineering process.

8.5.3. The LSAP shall cover the following main disciplines:

a. LSA Process
b. Supply support and provisioning,
c. Support and test equipment,
d. Technical data/technical documentation,
e. Personnel and manpower,
f. IT/Software support,
g. Facilities,
h. Scheduled maintenance/maintenance planning,
i. Packaging, Handling, Storage and Transportation (PHST),
j. Training needs and training devices.

8.6. Parts Obsolescence Management Plan (POMP)

8.6.1. The Contractor shall provide a Parts Obsolescence Management Plan (POMP) included in the ILSP.

8.6.2. The Contractor shall provide a DMS Report included in the Programme Reviews to keep the NATO Contracting Authority informed

on the potential Diminishing Manufacturing Sources (DMS) problems or risks and the mitigation strategies.

8.6.3. The Contractor shall recommend, as part of the DMS Report:

a. a replacement (if available), when the designation of a replacement item becomes necessary due to discontinuance of support;

b. either to implement the OTS solution and modify the requirement accordingly or redesign a suitable alternative, when the recommended OTS item is not fully compliant with the Contract Requirements.

8.6.4. Items with similar form, fit and function will be given first preference to avoid development costs, OTS hardware, software and infrastructure replacement. Implementation of the above recommendations shall be in accordance with ECPs.

8.7. Packaging Handling Storage and Transportation (PHST) Plan

8.7.1. The Contractor shall provide a Packaging, Handling, Storage and Transportation (PHST) Plan included in the ILSP.

8.7.2. The Contractor shall provide a single PHST Plan, which shall include details of the Contractor's proposed/used bar-coding system and shall give consideration to transportability, special handling/storage requirements and other hazards associated with the national/international transportation of items.

8.7.3. The Contractor shall identify all items which will be stored at the site or at the Contractor's repair facility and/or which may need transportation between the site and the Contractor's or vendor’s repair facilities or depot. For these items, the Contractor shall identify the PHST requirements and provide/include this PHST data into the LSAR for reporting purposes.

8.8. Technical Publications Development Plan (TPDP)

8.8.1. The Contractor shall provide a Technical Publications Development Plan (TPDP) included in the ILSP.

8.8.2. The contractor shall deliver a Technical Publications Writing Style Guide (WSG) for the program as part of the TPDP. This style guide shall:

a. identify program style and format when generating Data Modules (DM),

b. provide guidance on formatting, style and specification interpretation to ensure the content and style of all Data Modules (DM) in the Interactive Electronic Technical Publication (IETP) set is consistent,

c. include illustrating guidance and a project Standard Numbering System (SNS) indicating the logistic breakdown and assigned SNS technical names.

8.8.3. The Contractor shall plan, coordinate and conduct a combined Validation/Verification of Technical Publications with the NATO Contracting Authority.

8.8.4. The Contractor shall:

a. issue the Draft Version of Technical Publications;

b. capture and track within the draft Technical Publications all the deficiencies identified during the combined Validation/Verification process;

c. submit to the NATO Contracting Authority a detailed view of the actions taken to correct deficiencies jointly with a Verification Certificate for each technical publication;

d. implement all agreed corrective actions for all errors and/or deficiencies detected;

e. delete, once corrected, the tracked errors and/or deficiencies;

f. issue the Final Version Technical Publications accompanied by a Certificate of Conformity (COC) to the NATO Contracting Authority for Final Review and Acceptance.

8.9. Failure Modes Effects and Criticality Analysis (FMECA) Report

8.9.1. The Contractor shall provide a FMECA in accordance with MIL–STD–1629A, down to the hardware LRU and software CSCI level.

8.9.2. The Contractor shall provide a FTA in accordance with MIL–HDBK–338B, down to the Shop Replaceable Unit (SRU) and Computer Software Component (CSC) level as appropriate for development items where catastrophic and/or safety critical failures have been identified through the FMECA.

8.9.3. The Contractor shall provide detailed description of all the functions that each item (i.e. system, sub-system, equipment, assembly, part) executes and that, according to the FMECA, could be lost as a consequence of a failure (HW or SW).

8.9.4. The Contractor shall perform a functional FMECA:

a. considering the effects of failure of each Maintenance Significant Item (both hardware LRU and software CSCI) directly to the functions that shall be lost or degraded;

b. identifying critical Maintenance Significant Item (both hardware LRU and software CSCI) whose failure induce loss of a critical function;

c. assessing different criticality according to different operational modes.

8.10. Maintenance Concept

8.10.1. A Maintenance Concept is a statement of maintenance considerations, constraints and strategy for the operational support that governs the maintenance levels and type of maintenance activities to be carried out for the equipment under analysis.

8.10.2. A Maintenance Concept is applied both for hardware and software and produces maintenance tasks that will be performed on site, at military maintenance facilities, at industry maintenance facilities.

8.10.3. Maintenance Levels

a. There are four (4) Maintenance Levels to ensure the highest possible availability of the Product.

b. Level 1: implies a fast and easy exchange of LRUs performed on the Product by organizational personnel when a malfunction occurs;

c. Level 2: implies exchange of LRUs and/or the replacement of modules, performed on the Product by organizational personnel when a malfunction occurs;

d. Level 3: implies the repair of subassemblies, modules and LRUs after their replacement at maintenance Level 1 and Level 2. Testing on test-benches or integration tests can be included. This maintenance level can be performed either on Product or at specific repair shops;

e. Level 4: all repairs and overhaul activities beyond Level 1 to Level 3 capabilities must be ensured (e.g.: repair of subassemblies, modules and LRUs after their replacement at maintenance Level 1 to Level 3; major modifications to improve the design and/or operational activities will be prepared and, if necessary, embodied at this level).

8.10.4. Hardware Maintenance and Hardware Change

a. The hardware maintenance is:

i. Corrective/Unscheduled refers to tasks caused by item failure.

ii. Preventive/Scheduled refers to tasks necessitated for correcting latent faults before they become effective failures.

b. The hardware change is an enhancement to the product. These changes are the ones caused mainly by DMS issues.

8.10.5. The hardware maintenance concept is based on the modularity of the equipment. The modules to be removed from the system/equipment for replacement repair or any other off-equipment maintenance will be considered as Line Replaceable Units (LRUs), with the following characteristics:

a. its failure can be detected and indicated by a BIT system or by abnormal condition/failure display, in conjunction with Technical Manuals (TM) and general-purpose test equipment;

b. it is easily accessed for replacement purposes;

c. it is easy to replace, through the use of a plug-in connector, screwed terminal, nut/bolt fixing or similar connector;

d. it has minimal adjustment requirements, such as voltage level settings; adjustments may be carried out with the BIT or with general-purpose tools and test equipment;

e. when only one LRU has failed, its replacement returns the system/equipment to full operational status.

8.10.6. The hardware maintenance levels used are generally known as HL1, HL2, HL3 and HL4.

a. Organizational Maintenance (HL1) is Hardware maintenance capable of being carried out:

i. on-site;

ii. by relatively low technical skill level personnel performing preventive maintenance and changing Line Replaceable Units (LRU) on the basis of diagnostic outputs;

iii. using Built-In-Test (BIT) facilities for start-up and on-line diagnostics, by referring to main equipment Technical Manuals (TM);

iv. no Tools and Test Equipment (TTE) are envisioned to be used;

v. typical tasks will include visual inspection, preventative maintenance tasks, manual reconfiguration if necessary, external adjustments, removal and replacement of repairable LRUs;

vi. includes system failure recovery by the application of simple on-line diagnostics or technician initiated restart of the system and the use of off-line diagnostics which do not require external test module support;

vii. generation of equipment failure reports, supply requisitions and other pertinent maintenance and supply records.

b. Organizational Maintenance (HL2) is Hardware maintenance capable of being carried out:

i. on-site;

ii. by higher technical skill level personnel performing preventive maintenance and changing Line Replaceable Units (LRU) on the basis of diagnostic outputs;

iii. using Built-In-Test (BIT) facilities for start-up and on-line diagnostics, simple Tools and Test Equipment (TTE) (standard and special-to-type) in addition to BIT as a means for on-line and

off-line diagnostics, and by referring to main equipment Technical Manuals (TM) to perform exhaustive fault isolation;

iv. simple either commercial or special to type TTE are envisioned to be used (e.g.: screwdrivers, multimeters, oscilloscope, adapters, peculiar support equipment);

v. where the fault is beyond the capabilities of HL1 technical support, HL2 activities will be performed by Support Site personnel (through on-site intervention);

vi. where remote fault management is not feasible, technicians from the host site will travel to the remote site hand-carrying relevant spares to perform maintenance tasks;

vii. generation of equipment failure reports, supply requisitions and other pertinent maintenance and supply records.

c. Intermediate Maintenance (HL3) is Hardware maintenance capable of being carried out:

i. at maintenance facilities and through technical support and assistance or on-site intervention/work by maintenance personnel with skills enabling tasks to be accomplished within the relevant technologies;

ii. by higher technical skill level personnel performing:

iii. repairing, testing and calibrating Line Replaceable Units (LRU), Shop Replaceable Units (SRU), and spare parts;

iv. on-site investigations and major scheduled servicing/overhaul, detailed inspection, major equipment repair, major equipment modification, complicated adjustments, system/equipment testing;

v. failure trend analysis including reporting to relevant Purchaser authorities and Post Design Services (PDS);

vi. repair tasks will be performed using Automatic Test Equipment (ATE), general purpose and special-to-type TTE, calibration equipment, any applicable support software, and the necessary equipment TMs and a Technical Data Package (TDP);

vii. where the fault is beyond the capabilities of HL1/2 technical support, HL3 activities will be performed by Support Site personnel (through on-site intervention);

viii. generation of equipment failure reports, supply requisitions and other pertinent maintenance and supply records.

d. Depot Maintenance (HL4) is Hardware maintenance capable of being carried out:

i. at maintenance facilities (industry or military) and through technical support and assistance or on-site intervention/work by

maintenance personnel with skills enabling tasks to be accomplished within the relevant technologies;

ii. where the fault is beyond the capabilities of HL1-3 technical support, HL4 activities will be performed by the Contractor;

iii. generation of equipment failure reports, supply requisitions and other pertinent maintenance and supply records.

8.10.7. Software Maintenance and Software Change

a. The software maintenance is:

i. Corrective/Unscheduled refers to tasks necessitated by actual errors in a software product. If the software product does not meet its requirements, corrective maintenance is performed. Is a Reactive modification of a software product performed after delivery to correct discovered problems.

ii. Preventive/Scheduled refers to tasks necessitated by detecting potential errors in a software product. Is a modification of a software product after delivery to detect and correct latent faults in the software product before they become effective faults.

b. The software change is an enhancement to a software product. These changes are those that were not in the design specifications or the released software:

i. Adaptive refers to a change necessary to accommodate a changing environment. Adaptive changes include changes to implement new system interface requirements, new system requirements, or new hardware requirements. Is a modification of a software product performed after delivery to keep a software product usable in a changed or changing environment.

ii. Perfective refers to a change that improves the software product's performance or maintainability. A perfective change might entail providing new functionality improvements for users or reverse engineering to create maintenance documentation that did not exist previously or to change existing documentation. Is a modification of a software product after delivery to improve performance or maintainability.

8.10.8. The software maintenance levels used are generally known as SL1, SL2 SL3 and SL4.

a. Organizational Maintenance (SL1) is software maintenance capable of being carried out with the same characteristics highlighted for HL1. SL1 are those functions/tasks in support of the on-site software that are within the capabilities of site maintenance personnel. This includes software failure recovery by the application of simple diagnostics, or site maintenance personnel initiated restart.

b. Organizational Maintenance (SL2) is software maintenance capable of being carried out with the same characteristics highlighted for

HL2 e.g. SW settings, simple SW customizations (per site/instance), SW reloading/installation with automated or detailed procedures reported in the TMs, execution of scripts, management of users/profiles. SL2 are those functions/tasks in support of the on-site software that are within the capabilities of a System Administrator.

c. Intermediate Maintenance (SL3) is software maintenance capable of being carried out with the same characteristics highlighted for HL3 e.g. SW/FW fine tuning (per site/instance), SW/FW bugs recording and reporting, SW/FW troubleshooting including Operating Systems. SL3 (on-site intervention) comprises those functions/tasks in support of the on-site software that require specialist intervention (SW System architects, SW programmers, experienced Systems' Administrators, Network specialists). The tasks can be performed either by software personnel visiting the site or by remote diagnostics if enabled by the System and allowed by Security.

d. Depot Maintenance (SL4) is software maintenance capable of being carried out with the same characteristics highlighted for HL4 e.g. SW/FW debugging, re-coding and testing (both in simulated and emulated environments), SW/FW patches creation and deployment. The tasks can be performed by software engineers in properly configured environments (SW development and testing facilities) under strict configuration control.

8.11. Logistic Support Concept

8.11.1. The Contractor shall adopt the following maintenance approach when developing the logistic support concept:

a. NATO Maintenance Task (NMT) will be performed by NATO personnel (military or civilian),

b. Industry Maintenance Task (IMT) will be performed by industry personnel under a Contractor Logistics Support arrangement.

8.11.2. Maintenance tasks addressed to:

a. Hardware Maintenance Level HL1, HL2 and Software Maintenance Level SL1, SL2 shall be NMT

b. Hardware Maintenance Level HL3, and Software Maintenance Level SL3, shall be NMT or IMT based on Contractor suggestion and NATO Contracting Authority agreement.

c. Hardware Maintenance Level HL3, and Software Maintenance Level SL3, if agreed to be IMT, will be subject to further investigation during post-warranty phase in order to envision a planned migration into NMT.

d. Hardware Maintenance Level HL4 and Software Maintenance Level SL4 shall be IMT.

8.11.3. For NATO Contracting Authority Provided Hardware and Software, the Maintenance responsibility will be retained by the providing agency.

8.12. Logistic Support Analysis (LSA)

8.12.1. LSA Process

a. The LSA Process is a structured approach to increase in maintenance efficiency and reduction of the cost of providing support by pre-planning all aspects of Integrated Logistics Support by:

i. establishing an effective and economical way to perform the total range and quantity of maintenance tasks applicable to the end item;

ii. identifying and documenting all logistic resources required to support the maintenance tasks for both software and hardware system elements to the level specified in this Contract.

b. The objectives of the LSA Process are to:

i. cause logistic support considerations to influence design decisions while meeting the operational requirements;

ii. identify support problems and cost drivers;

iii. develop logistic support resource requirements;

iv. develop a logistic support data base containing the data necessary to support the system.

c. The Contractor shall provide all LSA relevant data (also known as LSAR) in ASD S3000L (last available issue) format. The LSA database shall record the logistic data gathered as a result of the ILS processes. The data shall be delivered through agreed electronic distribution media (preferably via Data Exchange Sets (DEXs)).

d. The Contractor shall assign a Breakdown Element Identifier (BEI) that identifies the breakdown structure of all items (HW and SW) within the LSA, to give a structured view of the item under analysis concerning functional and physical breakdown, or both in a mixed way and to facilitate LSA and RM&T data management functions.

8.12.2. Operational Task Analysis (OTA)

a. The Contractor shall provide an Operational Task Analysis (OTA) that summarizes the operational tasks covering hardware and software.

8.12.3. Maintenance Task Analysis (MTA)

a. The Maintenance Task Analysis (MTA) is a detailed analysis process that results in the identification of the procedures, spares and materials, tools, support equipment, personnel skill levels, estimated and elapsed times as well as any facility issues that must be considered for a maintenance task.

b. The Contractor shall provide a Maintenance Task Analysis (MTA) covering hardware and software that summarizes the maintenance planning:

i. analysing the results of the FMECA to identify candidate corrective maintenance tasks;

ii. identifying scheduled maintenance tasks and develop a scheduled maintenance programme that is consistent with the maintenance concept described for the intended use of the system. The decision logic used for task selection shall implement the following priorities:

(1) avoidance of safety and mission critical failures;

(2) achievement of system availability requirements;

(3) sustainability of deployed operations in accordance with the intended use and the logistics support environment of the system;

(4) minimization of Life Cycle Cost;

iii. identifying the operation support tasks required to support operational readiness of the system;

iv. assessing for each maintenance task: skill levels, tools and test equipment required, facilities, spares and consumables, duration.

8.12.4. Level Of Repair Analysis (LORA)

a. The Level Of Repair Analysis (LORA) is a prescribed procedure for determining the most economical and efficient level at which maintenance is performed.

b. The Contractor shall provide a Level Of Repair Analysis (LORA) to recommend the most cost efficient solution for the level at which each maintenance task should be performed and the decision to repair or discard unserviceable LRUs:

i. generating a LORA candidate list containing those items whose maintenance task is not clearly allocated as NMT or IMT as a consequence of the MTA and for which a repair/discard decision is not immediately evident;

ii. determining the level (HL1-4 or SL1-4) and the location at which each maintenance task should be performed, including detail on any NMT for which specific limited support by industry personnel is recommended.

8.12.5. Tools and Test Equipment

a. The Contractor shall provide a rationale to demonstrate the need for special tool and test equipment and its minimization identifying for any special tool and test equipment:

i. effective needs and reuse,

ii. requirements for calibration.

b. The Contractor shall provide a fully detailed and priced Recommended Tools and Test Equipment List (RTTL) not later than 8 weeks after CDR, for standard and special-to-type tools, test equipment and test fixtures, cables, connectors, support equipment (e.g.: cranes, lifting platforms, etc.) indicating e.g:

i. quantities of such items (the minimum consistent with the number required per maintenance operation, with no allowances being included for redundancy);

ii. for what maintenance action the recommended item will be used, parameters to be measured (if applicable).

c. After agreement on the lists with the Purchaser, the Contractor shall deliver the Tools and Test Equipment (one set per site) at no additional cost for the purchaser, not later than 4 weeks before Final System Acceptance (FSA).

d. Up to the FSA of the BRIPES system to be installed at the various sites, the Contractor shall provide his own spare parts, tools and test equipment to maintain the equipment to the required performance level.

8.12.6. Facilities and Installation

a. The Contractor shall provide the following details for all facilities and installation requirements:

i. flow chart/schedule outlining for ensuring the facility meets specifications;

ii. installation planning (data should be provided to the logistics engineers for the assessment of life cycle cost impacts related to support facilities);

iii. power requirements, cabling diagrams, physical layouts, and accessibility for maintenance (essential inputs to the project database and maintainability task analyses).

8.13. Supply Support and Provisioning

8.13.1. Supply Support Concept

a. The Contractor shall be responsible for the provision at each site of initial spares in sufficient quantities to ensure the achievement of operational availability and readiness requirements.

b. The Contractor shall provide a fully detailed and priced Recommended Spare Parts List (RSPL) and a Recommended Consumable Items List (RCIL) no later than 8 weeks after CDR that shall detail all spares in a hierarchical breakdown including as a minimum the information of the table of annex E.

c. The Contractor shall provide RSPL and RCIL relevant data in S2000M (issue 6.1 or last available) format. The data shall be delivered through agreed electronic distribution media (preferably via Data Exchange Sets (DEXs)).

d. The contractor shall provide a full set of Spare Parts to be delivered to each site not later than one month before the provisional system acceptance of that site – i.e. the ISAT –, fulfilling the requirements set above and sufficient to meet the Operational Availability Requirements, packed in reusable containers, properly marked and protected, including Part Number, Serial Number (if applicable), NSN and part description (as per OEM part name).

e. Up to the Final System Acceptance (FSA) of the BRIPES system to be installed at the various sites, the Contractor shall provide his own spare parts to maintain the equipment to the required performance level.

8.13.2. Provisioning Conference

a. The Contractor shall organize a Provisioning Conference:

i. providing the agenda and the minutes of the conference (n.b.: purchaser representatives will attend the meetings to ensure that proper assumptions, procedures and calculations are being used);

ii. assigning appropriate technical staff with knowledge of the equipment/project concerned to enable the Purchaser to make a reasoned selection of the spare parts, tools and test equipment etc. required;

iii. at his premises at a time and place to be mutually agreed;

iv. on time to guarantee that the agreed spare parts, tools and consumables are delivered before ISAT granted;

v. no less than 30 days after submission of the RSPL and RCIL and all relevant documentation including the full range of drawings;

vi. no less than 90 days prior to the first ISAT;

vii. making available all relevant data and documentation (including e.g.: LSA documentation and reports, Technical Data Package (TDP), Technical Publications (TP), the most recent Product Base Line (PBL) of equipment).

8.13.3. Supply chain security

a. The Contractor shall warrant that all supplies furnished under this Contract are genuine and free of malicious components, firmware and software.

b. The Contractor shall ensure that all equipment to be delivered are protected from malicious tampering during storage and transportation up to the point of delivery.

c. The Contractor shall confirm in the MDS, per item, that the items to be delivered have been checked for technical integrity and protected from malicious tampering.

d. The Contractor shall also identify in the MDS, per item, the identity of the supplier of the item and the identities of suppliers of major components thereof.

e. The Contractor shall allow and support ad-hoc spot checks and audits by the Purchaser of any of his supply chain security measures at any of the Contractor's locations and facilities used in the Contractor's supply chain relevant to this Contract.

f. The Purchaser reserves the right to reject any equipment delivered which does not conform to the description provided in the MDS or shows evidence of tampering. The Contractor shall replace such rejected goods at no cost to the Purchaser.

8.13.4. Inventory

a. The Contractor shall provide the full and complete inventory/Material Data Sheet (MDS) of all items and documents to be delivered under this contract at least ten (10) (preferably twenty (20) working days before shipment. It shall contain the following information:

Field	Description
CLIN	Contract Line Item Number (number-10 digits maximum). Sequence number assigned to a particular line item in a given contract. The combination CLIN-Contract No. shall always be unique.
Nomenclature	Short Item Description (text- 35 digits). Should always start with the main item name followed if possible by a technical specification, followed by the next higher assembly names in hierarchical order, separated by commas. E.g. for a coax connector of a television cable the nomenclature should read: CONNECTOR, COAX, CABLE, TELEVISION.
EQRE (XB/ND)	Code (text-2 digits). Defines whether an item is repairable (ND) or not (XB) from a technical point of view.
True Manufacturer Part Number	True Manufacturer P/N (text-32 digits). Part Number given to this item by the original manufacturer.

Field	Description
True Manufacturer Code (or complete name and address)	True Manufacturer Code (text-5 digits). Code of the Company that has manufactured this item. This is an internationally recognized 5-digit code which is unique to that company. It corresponds to the "cage code" in the USA. Manufacturer Codes and Cage Codes are obtainable from the national governmental authorities or, if it already exists, from the "NATO Master Cross-Reference List" (NMCRL) obtainable from NAMSA. In case the code cannot be obtained, it will be sufficient to enter the complete name and address information of the true manufacturer.
Vendor/Contractor Code (or complete name and address)	Vendor (Contractor) (text-5 digits). Company which sells the item or the complete system to which this item belongs. The vendor is the company with which the contract is placed but is not necessarily the true manufacturer of the item. If the vendor company has also designed and integrated the complete system it is also known as Original Equipment Manufacturer (OEM). The company code is an internationally recognized 5-digit code which is unique to that company. It corresponds to the "cage code" in the USA. Manufacturer Codes and Cage Codes are obtainable from the national governmental authorities or, if it already exists, from the "NATO Master Cross-Reference List" (NMCRL) obtainable from NAMSA. In case the code cannot be obtained, it will be sufficient to enter the complete name and address information.
Vendor/Contractor Part Number	Vendor (Contractor) P/N (text-32 digits). Part Number given to this item by the company which sells the item or the complete system to which this item belongs. The vendor is the company with which the contract is placed but is not necessarily the true manufacturer of the item.
QTY ordered	Item Quantity (number-5 digits). Shows the quantity of this item ordered as individual item in this contract, i.e. if it is not delivered built-in in another unit. In case the item is not ordered as individual item or as spare unit but is built-in in another assembly, enter "0" (zero) in this field and complete fields: "Part Number of next higher assembly" and "qty in next higher assembly". Serialised items shall only have a quantity of 1.
Order Unit	Order Unit (text-2 digits). Unit under which the item is sold, e.g. each, set, meter, etc.

Field	Description
Serialized Item Tag	Serialized Items Tag (text-1 digit). Add a "Y" if the item carries a serial number independently whether serial numbers is already known or not. If known, complete column "Serial Number".
Serial Number	Serial Number. If Serialized Item Tag is "Y" (yes) then add serial number here. (1 serial number per line). If system is already installed, then the Contractor shall indicate here the serial numbers installed at user site. For items to be delivered to depots the Contractor may not know the serial number in advance, in that case it will be completed by the receiving site.
Serial Number Software Revision Level	Software Revision Level (text- 30 digits but can be expanded as necessary) If item carries a serial number and field "serial number" is completed, add SW revision level / version here if appropriate.
Serial Number Hardware Revision Level	Hardware Revision Level (text- 30 digits but can be expanded as necessary) If item carries a serial number and field "serial number" is completed, add HW revision level / version here if appropriate.
Other Serial Number attributes	Other Serial Number Attributes (text-to be defined). This field will be used and defined on a case by case basis to be decided by NCIA System Manager, NCIA and the Contractor for other attributes which might be required for a particular system.
Subject to Property Accounting	NDSS-MRCS (text-1 digit). NCIA will decide whether or not item is subject to property accounting and is to appear on the customer balance lists. This field will be completed Y or N by NCIA.
Currency	Currency (text-3 digits). International 3-digit code (ISO) representing the currency in which the item purchase price (or the estimated value) is expressed.
Price	Item Price (number-11 digits). Unit price with 2 decimals.
Warranty Expiration Date	Warranty Expiration Date (date: DD/MM/YY). Shows the date on which the warranty of this item expires, which is usually N days after delivery of the item. If delivery is scheduled for a certain date, warranty expiration date = delivery date + warranty period in days.

Field	Description
Receiving / Inspection Depot	Receiving / Inspection Depot (TXT-2 digits). Information will be provided to Contractor by the Purchaser's ILS Officer. This is the depot to where the vendor ships the material. Normally this depot will receive, inspect and put the material in stock against Dues-In to be created in accordance with Qty in column "Qty Ordered". In case of a deviation from this rule, the Purchaser will inform the Contractor of the correct final Depot and through which depot the items shall have to transit.
Issue to customer	Customer Code (text-4 digits - to be completed by NCIA). Code representing the customer to which the item(s) shall be shipped by the receiving/ inspecting depot.
Extended Line Item Description	Extended Line Item Description (text-no limit). Any additional information concerning this item shall be entered here, e.g. technical specifications, configuration, reference to technical drawings or manuals etc.…
Part Number of next higher assembly	Part-Number of Next Higher Assembly (text-32 digits) If item is built-in another assembly, indicate part number of that assembly here.
Qty in next higher assembly	Quantity in Next Higher Assembly (number-3 digits max). This field shows the built-in quantity of the item in the next higher assembly. This information shall be provided for configuration control purposes.
Qty installed at Operating Unit (Customer Site)	Quantity installed. This field is only applicable when the delivery is direct to an operating unit (customer site). However in that case it is mandatory. For non-serialized items it shows total quantity installed. For serialized items quantity shall only be one per serial number. Use a new line for each serial number.

8.13.5. The Contractor may request an electronic version of the MDS to be provided by the Purchaser at EDC.

8.14. Packaging, Handling, Storage and Transportation (PHST)

8.14.1. The Contractor shall provide relevant data for PHST to be added on the LSA database:

a. providing information critical to the PHST of spare parts and consumables;

b. including environmental and hazardous material information mandatory for safe handling storage and transportation.

8.14.2. The Contractor shall provide a bar-coding system, for all hardware, software, training and technical documentation, which shall be compliant with STANAG 4281 and STANAG 4329, providing and marking with bar-code labels equipment items, packaging, containers and documentation.

8.14.3. The Contractor shall pack all spares and Contractor-provided Support Equipment:

a. using reusable containers suitable for the return of unserviceable similar items;

b. according to NATO packaging level 3 of STANAG 4280.

c. providing any special packing instructions;

d. providing any special-to-type container(s) for the shipment of repairable items.

8.14.4. The Contractor shall identify any special packing/removing requirements for equipment as required adding these data in the LSA database.

8.14.5. The Contractor shall be responsible for:

a. customs clearance of all shipments into the destination countries

b. delays at customs;

c. shipment on time.

8.14.6. The contractor shall be responsible for and cover transport and insurance of all supplies covered under this Contract to the destination(s).

8.14.7. Preservation and packaging

a. The Contractor shall, for the purpose of transportation, package, create, 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.

b. The Contractor shall preserve and package items of supply (e.g. spare parts, test equipment and tools) to withstand the following:

i. long term storage for a minimum of five (5) years in a temperate climate and in permanent buildings;

ii. temporary storage of up to six (6) months in enclosed transport vehicles;

iii. movement including road (truck), rail, air, and sea, and handling by any means.

c. The Contractor shall provide detailed advice on how much square meters Contractor will need to store spare parts.

d. The Contractor shall establish the packing lists in such a way to permit easy identification. These packing lists shall accompany the

shipment. Each individual container/box from a consignment shall have a packing list in a weatherproof envelope attached to the outside of each container/box detailing its contents. A second copy of the list is required inside each container/box.

e. The Contractor shall provide the packing lists in English language:

i. for easy identification of the items to be delivered at the sites;

ii. using the same wording and sequence as those used in the Contract schedule of supplies and in the invoices;

iii. in a weatherproof envelope affixed to the outside of each container/box, indicating exactly what is contained inside;

iv. inside each container/box;

v. A copy of the packing list shall also be provided to the Purchaser and to the freight forwarder.

f. The packing list shall include the following information as a minimum:

Serial	Requirement
1	The Shipping Address
2	Package Number
3	Contract Number
4	CLIN Number as per Schedule of Supply and Services
5	Item Description
6	Part Number
7	Serial Number
8	Quantity
9	Weight and Volume details
10	Box number and number of boxes in the consignment
11	Name and address of the Contractor, Purchaser and Consignor

8.14.8. Where manufacture is under Government Quality Assurance Authority (GQAA) surveillance, there is a requirement for Certificates of Conformance to be included with packing containers, three each per pack, one inside and two outside in a waterproof envelope.

8.14.9. Shipping and transportation

a. All goods delivered under each Task Order shall be delivered to the destination detailed in the Task Order. The items being returned after warranty repair shall be shipped to CSSC Brunssum at no additional cost.

b. All materials covered under the Contract, including items being returned after warranty repair, shall be shipped Delivered Duty Paid (DDP) to the addresses specified in accordance with current

INCOTERMS published by the International Chamber of Commerce.

c. The Purchaser shall not be liable for any storage, damage or any other charges involved in such transportation of supplies prior to the actual acceptance of such supplies at destination.

d. The Purchaser will not accept responsibility and/or ownership of the equipment before acceptance is complete.

e. The Purchaser's Point of Contact (POC) for all shipment instructions and shipment requests is:

Mr. Heinz Mueller-Nordmann (NCI Agency)/ILS Office
Tel: + 32 6 544 6160
Fax: + 32 6 544 7609
E-mail: Heinz.Mueller-Nordmann@ncia.nato.int

f. Each shipment shall be composed of one batch of one or more pallets. A pallet shall be defined as the standard Euro-pallet (EUR/EPAL; 1200mm x 800mm), packed to a height as close as practicable to a total maximum height of 1800mm, and not exceeding a total weight of 1000 Kg.

g. Notice of shipment

i. One (1) week prior to the delivery of any shipment of supplies, the Contractor shall provide Notice of Shipment to the Purchaser's ILS Office and to such other persons as are designated, in accordance with the instruction of the Purchaser. This notice shall be provided electronically and shall include the following information:

Serial	Requirement
1	Purchaser Contract Number
2	Contract line Item Number (CLIN), designation and quantities
3	Items Description, Quantity and Manufacturer Part Number
4	Destination
5	Number of packages/containers, dimensions and gross weight
6	Consignor's and Consignee's name and address
7	Mode of shipment, e.g., road, air sea, etc.
8	Date of shipment
9	Number of the Form 302 used (if required)

h. 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): System/sub-system denomination; Purchaser

Contract number; Contract Item Number Manufacturer's name and address; Shipping address.

8.15. Marking of Items and Components

8.15.1. The Contractor shall properly attach in a prominent position on each major assembly to enable reading and control with easy access when installed: a nameplate in English language with non-erasable letters/numbers, giving the serial number, NCI Agency Contract number and the part number.

8.15.2. The marking of Items and Components, with the Original Equipment Manufacturer (OEM) part number, is to ensure proper and quick identification of major equipment assembly, subassembly, module down to printed circuit board or lowest level produced in the programme, as they are procured, stored and issued. This information is also necessary for positive identification upon removal for maintenance purposes and to prevent loss of utilisation of items, which have been separated from their original packages or containers.

8.15.3. The Contractor shall mark the items in a manner which will not adversely affect the life and utility of the item or component.

8.15.4. The marking shall be located in such a manner as to allow it to be visible after installation (whenever practicable).

8.15.5. The marking shall be as permanent as the normal life expectancy of the material on which it is applied and shall be such as required for ready legibility and identification.

8.15.6. Marking shall be capable of withstanding the same environmental tests required of the part and any other tests specified for the marking itself.

8.15.7. When possible, letters, numerals and other characters shall be of such size as to be clearly legible.

8.16. NATO Codification of Items

8.16.1. The Contractor shall conform to the requirements of Clause 20 of the Contract General Provisions entitled “Notice of Shipment and Delivery” prior to the shipping of any items under this Contract (Notice of Shipment and Request for Custom Form 302). A customs declaration form 302 is required for all shipments entering into any EU state from a non-EU Nation.

8.16.2. The Contractor shall support the codification of all equipment / spares to be delivered ensuring that any subcontract, entered into as a result of this contract, shall contain the standard NATO codification clause as above to provide NATO Stock Numbers (NSN) as follows:

a. all LRU(s);

b. all items shown in the RSPL, RCIL and RTTL;

c. all additional items selected at the Provisioning Conference (see paragraph 8.13.2 above);

d. equipment/spare parts affected by Equipment Design Change Notices (EDCN) (s);

e. those items substituted due to a Spare Parts Design Change Notice (SPDCN).

8.16.3. The Contractor shall start the codification process/action whenever the Purchaser has approved any of the items listed above for procurement.

8.17. Customs Forms 302

8.17.1. The Contractor shall be responsible for the timely request of Custom Forms 302, which may facilitate duty free import/export of supplies between EU and Non-EU countries.

8.17.2. The written request for a 302 form shall contain the following information:

Serial	Requirement
1	Purchaser Contract Number
2	Contract line Item Number (CLIN), designation and quantities
3	Items Description, Quantity and Manufacturer Part Number
4	Destination
5	Number of packages/containers, dimensions and gross weight
6	Consignor’s and Consignee’s name and address
7	Mode of shipment, e.g., road, air sea, etc.
8	Date of shipment
9	Number of the Form 302 used (if required)

8.17.3. The Contractor shall ensure that forwarding agents are informed of the availability of Form 302 and how this form is utilised to avoid the payment of Customs Duties. Form 302 must be added to the shipment documents to be provided to the carrier.

8.17.4. Following receipt of the request by the Purchaser, normally ten (10) working days are required for the issue of the form.

8.17.5. These forms shall be originals and must be mailed or delivered by mail/express courier.

8.17.6. If an express courier has to be used by the Purchaser to ensure that the form is available on time before shipment, all associated costs shall be reimbursed by the Contractor.

8.17.7. If a Country refuses to accept the Form 302 and requires the payment of custom duties, the Contractor shall immediately inform the Purchaser by the fastest means available and obtain from the Custom Officer a written statement establishing that its country refuses to accept the Custom Form 302.

8.17.8. Only after having received Purchaser's approval, the Contractor shall pay these customs duties and shall claim reimbursement from the Purchaser.

8.17.9. The carrier shall be fully conversant with the application and use of Custom Form 302.

8.17.10. The Contractor shall add the Custom Form 302 to the shipping documentation.

8.17.11. It shall be noted that documents have to be originals which need to be available for the goods to cross Customs.

8.18. Assumptions Limitations and Exclusions

8.18.1. Under no circumstances the purchaser can be held responsible for delays incurred, even when utilizing Purchaser provided Custom Forms 302.

8.18.2. Items to be returned for repair/exchange from a site to the Contractor, shall be transported through Contractor arrangements.

8.18.3. The HN/Purchaser will provide rooms for storage of the spare parts in permanent heated buildings/rooms.

8.18.4. The Contractor is responsible for the availability of proper storage space and availability of material handling equipment that may be required for the equipment shipped to the destination/location.

8.18.5. The Purchaser cannot be held responsible for any delays in implementation in the case of unavailability of facilities or materials, and the Contractor shall be solely responsible to acquire alternative facilities/material to assure proper storage, handling etc.

8.18.6. All items shall be delivered at Contractor's expense.

8.18.7. The Contractor is responsible for all charges relating to storage, damage and ancillary costs in the transporting of all the items and supplies and for any shipment loss.

8.18.8. The Purchaser shall not be liable for any storage, damage or any other charges involved in such transportation of supplies prior to Acceptance.

8.18.9. The packing and transportation of cryptographic equipment and documentation shall comply with NATO rules and be accomplished in accordance with Allied Military Security Guidelines (AMSG) 293 and AMSG 505.

8.19. Interactive Electronic Technical Publications (IETP)

8.19.1. The Contractor shall provide all technical manuals (operation and maintenance) generated, assembled and based on a single and structured Interactive Electronic Technical Publications (IETP) data repository Common Source DataBase (CSDB).

8.19.2. The Contractor shall deliver data (production and change) through agreed electronic distribution media (preferably via Data Exchange Sets (DEXs)) and managed according to the ASD S1000D (issue 4.2 or last available format).

8.19.3. The Contractor shall develop and issue User Manuals and Maintenance Manuals as per requirements of personnel operating and maintaining the equipment in accordance with the Maintenance Concept:

a. User Manuals: is for the operation of the equipment and describes operation, settings and fine tuning of the equipment to achieve maximum performance.

b. Maintenance Manuals: is for the maintenance of the equipment and includes:

i. Scheduled and Unscheduled Maintenance, Troubleshooting, Installation and dismantling of the equipment, including repair and test procedures for HL3/SL3 NMT activities;

ii. drawings of the mechanical, electrical and electronic assemblies and sub-assemblies that comprise the equipment in sufficient detail to allow technical staff to maintain the system at site level in accordance with the Maintenance Concept;

iii. as-built drawings (ABDs) for full details of how all of the major assemblies of the supplied equipment have been physically installed and mechanically/electrically integrated (e.g.: drawings of intra-rack and inter-rack cabling);

iv. detailed and lower level repair and maintenance of sub-assemblies and components shall be addressed by the Original Equipment Manufacturer's (OEM) manuals unless it has been agreed that specific activities are NMT.

8.19.4. The Contractor shall provide technical requirements for HW (e.g.: laptop, desktop, data storage, tablet), SW (e.g.: IETP Data viewer software and associated licenses) and other peripherals required to accommodate the IETP and to share IETP data between all IETP user sites.

8.19.5. The Contractor shall provide Original Equipment Manufacturer (OEM) Technical Manuals for all the items from other manufacturers/vendors used into the system, equipment and test equipment assuring that they

a. provide detailed information necessary to disassemble and assemble the units down to the lowest Line Replaceable Unit (LRU) level of maintenance;

b. provide the necessary drawings/schematics, specifications, wiring diagrams, etc., to allow the operators to troubleshoot, and fully understand, the design and operation of the particular equipment;

c. supplement but do not substitute User Manuals and/or Maintenance Manuals and thus be expected to be referenced in the latter as a way of providing specific details on a particular piece of equipment;

8.19.6. The Contractor shall provide the OEM TMs:

a. integrated into the IETPs,

b. on electronic format (e.g.: CD, DVD) for each to the HN sites together with the associated equipment,

c. in hardcopy for each to the HN sites together with the associated equipment.

8.19.7. Assumptions Limitations and Exclusions

a. The IETPs are applicable to the HW and SW delivered/installed configuration.

b. The Contractor is responsible for any changes to the manuals required as a result of any omission or inaccuracy discovered in the use, or whenever changes/modifications in equipment or spare parts are made under the Contractor's responsibility. Changes to the final manual shall be done in accordance with changes procedure for IETPs.

8.20. Logistics Support during Warranty

8.20.1. During implementation until FSA, the responsibility for the maintenance of the BRIPES system shall remain with the contractor. Up to Final System Acceptance (FSA), the Contractor shall therefore provide his own spare parts, tools and test equipment to maintain the BRIPES system to the required performance level.

8.20.2. After FSA, the Purchaser will Operate and Manage the BRIPES system.

8.20.3. Starting with the successful completion of FSA, the Contractor shall provide a standard warranty for a period of thirty six (36) months.

8.20.4. The contractor shall have the responsibility to perform, as a minimum, the following services during the Warranty, at no additional cost to the Purchaser, to maintain the BRIPES system to the required performance level:

a. The corrective maintenance for hardware, i.e. repair and/or replacement of all defective technical installations/equipment;

b. The corrective maintenance for software, i.e. remediation/resolution of all bugs, flaws, etc. of all software installations, provided as part of this contract.

8.20.5. The Contractor shall repair repairable items received at the Contractor's plant within ten (10) days (i.e. the maximum Turn Around Time for repairs shall not exceed ten (10) days). This shall include in-processing, trouble shooting, repair and check-out and release to the Site or Depot.

8.20.6. The transportation cost to and from the repair facility shall be covered by Contractor.

8.21. Three-year additional Contractor Logistics Support (CLS) [Option - subsequent contract]

8.21.1. The Contractor may be obliged, in addition to the services to be performed during the Warranty period, to enter into a CLS Frame Agreement, with the Purchaser starting at the completion of the FSA for a 3-year additional Contractor Logistics Support (CLS).

8.21.2. The CLS services shall cover the ILS activities – in analogy to those ILS activities performed under the ILS programme during implementation – related to the following logistic elements:

a. Reliability, Availability, Maintainability and Testability (RAMT);

b. Logistics Support Analysis, but not including Training needs and training devices;

c. Packaging Handling Storage and Transportation;

d. Parts Obsolescence Management;

e. Preventive, Adaptive, perfective SW and HW maintenance

8.21.3. The Contractor shall be responsible for maintaining all stocks of spares, test and other maintenance equipment, Automated Test Equipment (ATE) facilities, and all repair documentation including manuals, etc., to support a CLS contract throughout its life, at no additional cost to the Purchaser.

8.21.4. The Contractor shall also be responsible for the corrective (already covered under the standard warranty of paragraph 8.20) and preventive maintenance of all hardware to ensure that the response times specified can be met.

8.21.5. The contractor shall also be responsible for the corrective (already covered under the standard warranty of paragraph 8.20), preventive, adaptive and perfective maintenance or change of the BRIPES software to ensure that the response times specified can be met.

8.21.6. The Contractor shall guarantee the provision of such equipment replacement/repair services throughout the stipulated period. If at any time the Contractor wishes to withdraw these replacement/repair services, he shall transfer to the Purchaser at no additional cost, all

requisite fault diagnostic and repair expertise and instructions, documentation, etc., and special-to-type software and hardware including Test equipment, mock-ups, etc., to enable such repair at a Purchaser Facility.
Alternatively, if agreed to by both parties, and again at no additional cost, the Contractor may transfer to the Purchaser sufficient spare sub-assemblies, modules, circuit card assemblies, etc. to support a discard maintenance concept for the remaining operational life of the equipment.

8.21.7. The Contractor shall maintain comprehensive repair records to enable detailed fault analysis and early detection of failures/maintenance trends. Periodically, the Contractor shall be required to forward the results of these analyses for review by the Purchaser.

8.21.8. The Contractor shall repair repairable items received at the Contractor's plant within ten (10) days (i.e.: the maximum Turn Around Time for repairs shall not exceed ten (10) days). This shall include in-processing, trouble shooting, repair and check-out and release to the Site or Depot.

8.22. Contractor Logistics Support (CLS) Plan

8.22.1. The Contractor shall provide as part of the PIP Section 11, a CLS Plan describing the basis execution of a prospective CLS Contract. This plan shall be detailed enough to form a comprehensive understanding of how he proposes to meet the logistic support requirements of this SOW for the maximum Support Period of the installed BRIPES System. This Plan shall detail the following:

a. The Contractor shall demonstrate that the Contractor's proposed CLS Management Organisation and Structure, to carry out the CLS effort, have adequate experience in the maintenance and support of major RF defence systems including specialised software. The experience described shall expand on the Corporate Experience descriptions to specifically highlight the Prime Contractor's and subcontractors' contracted maintenance and supply efforts for a similar size RF defence systems concerning BRASS communications in HF (BLOS) radio systems, over the last five (5) years. The description shall identify any similarities between CLS contracts previously delivered and the requirements under this SOW.

b. CLS Strategy, including intervention on each site, preventive and repair activities, spares replenishment plan and process, identifying the items of equipment (assemblies and sub/assemblies) that are to be repaired and services to be provided by the Prime Contractor with its internal "in-house" resources during the support period. The Contractor shall identify the location of the repair facilities that will be utilized, and/or the source within the corporate organization of the service and expertise required. The Contractor shall identify

additional resources not under the direct control of the CLS PM that may be accessed during periods of "surge" demand. The Contractor shall provide the Corporate Structure of the Prime Contractor and the administration of the prospective CLS project within the overall corporate structure.

c. Description of proposed method to meet intervention response and repair times if site or mission critical support availability is endangered.

d. Description of how CLS shall be fulfilled during times of crisis and conflict.

e. Method for site personnel to inform CLS Contractor when spares have been used and when assistance is needed.

f. Method of recording proposed measurable criteria for evaluating the Contractor's performance during CLS.

g. Description of the strategy for replacing hardware that can no longer be economically supported by the Contractor or sub-contractors.

8.22.2. The Contractor shall provide a description of how its proposed CM procedures shall continue to be implemented on the hardware and software/firmware during the CLS periods.

8.22.3. The Contractor shall provide a description of the proposed logistic and maintenance information processes. This description shall detail how the information from sites and the Contractor's maintenance facilities will be collected, stored and made available for evaluation.

8.22.4. The Contractor shall identify its major proposed sub-contractors for the CLS contract. The Contractor shall identify the firm, the nation of origin, the major items (assemblies, sub-assemblies) or services that the proposed sub-contractor shall be required to furnish, repair, modify and perform. The Contractor shall include a letter of intent from the proposed sub-contractor that details its willingness to enter into a sub-contract with the Contractor, if the CLS contract would be awarded.

8.22.5. The Contractor shall provide a description of how the QA/QC Programme of the Prime Contractor and sub-contractors providing CLS services shall meet the provisions of this contract. The Contractor shall include applicable certificates (issued by National Governments or International Organisations such as ISO) that demonstrate that the sub-contractors Quality Programme conforms to the requirement of the Prospective CLS Contract. The Contractor shall also demonstrate how the provisions of the Prospective CLS Contract regarding QA/QC shall be inserted in all subcontracts and enforced by the Prime Contractor.

SECTION 9. RELIABILITY, AVAILABILITY, MAINTAINABILITY AND TESTABILITY (RAMT)

9.1. Reference

9.1.1. NATO Maritime Communications Reference Architecture, December 2006.

9.2. RAMT Programme Plan

9.2.1. As stated in section 8.4 above, the Contractor shall provide a RAMT Programme Plan as part of the ILSP.

9.2.2. The RAMT Programme Plan shall describe the strategies, processes, resources and organization to achieve the RAMT requirements and in particular how the results will be integrated in the Systems Engineering process.

9.2.3. The RAMT programme shall also identify the specific configuration items at the system and subsystem level that are subject to tests.

9.2.4. The contractor is also referred to the SRS (i.e. SOW Annex A) in regard of RAMT requirements.

9.3. RAMT Case Report

9.3.1. The Contractor shall provide a RAMT Case Report showing the results and conclusions of the RAMT analysis including:

a. the complete set of Reliability Block Diagrams (RBDs) relating all items (i.e. hardware down to LRU level and all software modules) based on failure dependencies, and explaining how the reliability of each item contributes to the success or failure of the entire system. Firmware shall be treated as being part of the pertinent LRU;

b. allocations and predictions for reliability, maintainability and intrinsic availability per each block/assembly, aggregated blocks, subsystem, location and for the entire system;

c. all COTS equipment data sheets and references, clearly indicating the COTS equipment's reliability and maintainability characteristics used as data input to any of the RAMT activities;

d. all intermediate and final calculations on intrinsic availability, reliability, maintainability and percentage coverage of failure modes by BIT equipment.

9.3.2. The RAMT Case Report forms a body of evidence that all RAMT requirements have been met providing credibility to the data used and the results achieved in all calculations and models. The RAMT Case Report shall provide rationale and justifications for all data and formulas used in any of the calculations and models.

9.3.3. The RBD captures and displays the MTBF, MTTR and Ai characteristics of each item. The results from the RBD shall be used to calculate and predict the equipment Reliability, Maintainability, and Intrinsic Availability.

9.3.4. A professional tool shall be used to develop and analyse RBDs. A general purpose tool such as Microsoft Excel shall not be used as the main tool. The tool shall be capable of exporting and reporting data and results in electronic formats compatible with MS Office 2010 format. All data and results pertaining to the development and analysis of RBDs in this tool shall be made available to the Purchaser at the request of the Purchaser.

9.3.5. The RAMT requirements of the system shall be verified with the following methods:

a. The Reliability and Availability aspects of the system shall be verified first by inspection and analysis on RBD after System Acceptance Testing (SAT). After the FSA, during the warranty period, the reliability and availability of each item in the RBD shall be observed and the items which don't comply with the Ai specifications in RBD shall be repaired/replaced under warranty case.

b. The Maintainability requirement of the system shall be demonstrated by the contractor according to MIL-HDBK-470A or equivalent. The demonstration shall be performed as part of SAT. The results, conclusion and recommendations of the maintainability demonstration shall be captured in a maintainability demonstration report, to be included in the RAMT case. The result of the demonstration shall be statistically analysed to verify MTTR requirement specified above is met.

9.4. Reliability

9.4.1. The Reliability for an item (i.e.: system / sub-system / equipment / assembly / part) shall be expressed as:

a. Mean Time Between Failures (MTBF) – the basic reliability expressed in hours. A "failure" is understood to mean any condition in which an item is not operating according to specification.

i. MTBF > 100h [target]

b. Mean Time Between Critical Failures (MTBCF) – the mission reliability expressed in hours. A "critical failure" is understood to mean any condition in which the entire system is not operating according to specification.

i. MTBCF > 1000h [target]

9.4.2. It is expected that the system shall experience on average no more than one (1) failure per calendar month of full operation.

9.5. Maintainability

9.5.1. The Maintainability for an item (i.e.: system, sub-system; equipment; assembly; part) shall be expressed as:

a. Mean Time To Repair (MTTR):

i. shall be calculated for all kind of failures (both critical and non-critical);

ii. shall include fault isolation, access, disassembly, remove and replace, reassembly, configuration, check-out and start-up;

iii. shall exclude administrative and logistics delay times;

iv. MTTR < 2h [target]

b. Mean Time to Restore the System (MTTRS):

i. shall be calculated for critical failures only;

ii. shall include fault isolation, access, disassembly, remove and replace, reassembly, configuration, check-out and start-up;

iii. shall exclude administrative and logistics delay times;

iv. MTTRS < 1h [target]

c. The maximum time to repair at the 95th percentile ($TTRMax_{95\%}$):

i. $TTRMax_{95\%}$ < 4h [target]

9.6. Testability

9.6.1. The Testability for an item (i.e.: system, sub-system, equipment, assembly, part) shall be expressed as:

a. Fault Detection (FD) rate: percentage of all failure modes detected on-line;

i. $FD_{On\text{-}line}$ > 90% [target]

ii. $FD_{On\text{-}line+Off\text{-}line}$ = 100%

b. Fault Isolation (FI) rate: percentage of all failure modes that allow isolation of LRU in failure on-line and off-line with a Built–In Test Equipment (BITE). FI shall be detailed with the following level of ambiguity (1LRU, no more than 2LRUs, no more than 3LRUs, no more than 5 LRUs):

i. FI_{1LRU} > 90% [target]

ii. FI_{2LRU} = 95% [target]

iii. FI_{3LRU} = 98% [target]

iv. FI_{5LRU} = 100% [target]

9.7. Operational Readiness

9.7.1. Is the measure of the degree to which an item is in an operable and ready-for-use state at the start of a mission or operation, when the mission or operation is called for at an unknown time.

9.7.2. The operational readiness of a system or equipment is the ability of an item (military unit) to respond to its operation plan(s) upon receipt of an operations order. (Total calendar time is the basis for computation of operational readiness.)

9.8. Availability

9.8.1. Is a measure of the degree to which an item is in an operable and committable state at the start of a mission when the mission is called for at an unknown (random) time (Includes operating time, active repair time, administrative time, and logistic time, but excludes mission time).

9.8.2. The Inherent Availability (Ai) of a system is driven by the reliability and maintainability of the system. It is the probability that it will operate satisfactorily under an ideal support (no lack of support resources):

i. it includes corrective maintenance downtime

ii. it excludes preventive maintenance downtime,

iii. it excludes logistics delay times, waiting or administrative downtime

iv. Ai is derived from analysis of an engineering design and is calculated:
Inherent availability: Ai = MTBCF / (MTBCF + MTTRS).

v. The intrinsic availability of the system shall attain at least 99,8 % on a monthly basis, assuming no scheduled downtime will occur.

9.8.3. The Operational Availability (Ao) of a system is based on Ai and driven by the logistics support of the system. It is the probability that it will operate satisfactorily when used in operating and support environment:

i. it includes corrective maintenance downtime

ii. it includes preventive maintenance downtime,

iii. it includes logistics time, ready time, and waiting or administrative downtime,

iv. This measure extends the definition of availability to elements controlled by the logisticians and mission planners such as quantity and proximity of spares, tools and manpower to the hardware item.

v. Ao is derived from analysis of an engineering design with logistics support constraints and is calculated:
Operational availability: Ao = MTBCF / (MTBCF + MTTRS + MLDT)

9.8.4. Mean Logistic Delay Time (MLDT) consists of:

a. Personnel Delay Time (PDT) – during warranty period the PDT will be assumed equal to zero and will be measured for each level of maintenance (both HW and SW) for post-warranty targets,

b. Spare Parts Delay Time (SPDT) – during warranty period the SPDT will be assumed equal to zero and will be measured for post-warranty targets and feedback on level of spares requirements,

c. Administrative Logistic Delay Time (ALDT) – is the time the system/equipment is inoperable due to delays in maintenance that are attributable to administration and logistics delays.

d. For the purpose of performing Ao calculations, the ALDT per hardware repair or software fault recovery is the sum of the time required to obtain the logistic resources (e.g. spares, tools and technician). It is calculated from the time the fault is reported to the time of commencing the repair task.

Support Level	**ALDT for Manned sites**
HL 1/2	30 min
HL 3	72 hr
SL 1/2	30 min
SL 3	72 hr

SECTION 10. TEST AND EVALUATION (T&E)

10.1. Introduction

This section outlines the testing requirements to be carried out during the implementation and acceptance of contract deliverables.

10.2. General Principles

10.2.1. All deliverables to include hardware, software and firmware supplied by the Contractor under this contract shall be tested to meet the requirements of this contract.

10.2.2. Tests shall be performed for each equipment/subsystem/system as per the following phases:

a. Phase 1 Factory Acceptance Test (FAT)

b. Phase 2 Individual Site Acceptance Test (ISAT)

c. Phase 3 System Acceptance Test (SAT)

10.2.3. Formal testing is initiated by a TRR (Test Readiness Review). The primary purpose of this review is to evaluate test progress and to verify that scheduled tests may begin. There is one TRR per Test Phase. The Contractor shall prepare a TRR Report for each TRR.

10.2.4. System/subsystem tests shall be performed at the Contractor premises during FAT. The Individual Site Acceptance Test and System Acceptance Test shall be conducted at Purchaser sites.

10.2.5. The Contractor shall be responsible for integrating the PFE into his test programme to the extent that PFE is an integral part of the system, sub-system or network, as specified in SOW paragraph 3.4 above.

10.2.6. All the BRIPES testing shall be the responsibility of the Contractor who shall provide all the personnel, documentation, equipment, test data and facilities required for installation, commissioning and execution of the test. The Contractor shall be entirely responsible for the co-ordination and performance of the tests, and shall ensure that an adequate number of Contractor's engineers and technicians are present to ensure the timely completion of all tests. The Contractor shall provide the necessary duly calibrated test equipment, tools and any other items required for the satisfactory completion of the tests and the recording of their results. This shall include but not be limited to the following:

a. Performance Measurement instruments;

b. Protocol Analysers;

c. Installation tools;

d. Test Plans and Procedures;

e. Any transmission services/resources required to achieve test configuration.

10.2.7. The Contractor shall assign and provide a Test Director and Test Operators and the Purchaser and/or his Designated Representative will attend and witness the testing.

10.2.8. The Purchaser shall have the right to demand repetition of tests, proof of the validity of the test equipment calibration, and performance of reasonable additional tests to clarify doubtful or marginal results. The Contractor shall make available to the Purchaser, all facilities, information and assistance necessary to permit a valid interpretation of the test results.

10.2.9. The Test Environment shall be under the control of the Purchaser during the testing period. Prior to the commencement of the tests, the Test Environment shall be baselined and no changes to hardware, software, firmware and/or configuration shall be introduced by the Contractor unless explicitly authorised in writing by the Purchaser. Failure to do so by the Contractor shall render the complete testing null and void.

10.3. System Test and Evaluation Plan

10.3.1. The Contractor shall provide, as part of the PIP Section 6, a system Test and Evaluation Plan describing all the activities necessary to complete the entire test programme as outlined below. The plan shall also indicate the stage at which FSA shall be held in accordance with SOW SECTION 11 below.

10.3.2. The Contractor shall describe in the Test and Evaluation Plan the global organisation, including relationships between the different actors involved (that shall cover all testing stages).

10.3.3. The Contractor shall provide a flow diagram that identifies the overall sequence of tests, the location, and Contractor and Purchaser equipment and personnel involved in each test, and the relationship of test events to project milestones.

10.3.4. The Contractor shall describe the tasks that will permit to meet testing requirements.

10.3.5. The Contractor shall identify all CI(s) that are subject to the test program and shall indicate by which method the items will be evaluated.

10.3.6. The Contractor shall identify (in a Traceability Matrix) for each requirement or derived business use case or derived system use case, the proposed methodology of validation, and where testing is proposed, the associated test case(s).

10.3.7. The Contractor shall identify the tests associated with each testing stage and identify any tests that can only be performed at the Purchaser’s facility (in particular test of interfaces requirements).

10.3.8. The Contractor shall identify the Contractor's requirements for configuration and support of the Purchaser's test facility.

10.3.9. The Contractor shall include in the Test and Evaluation Plan, as annexes, templates for:

a. Test case description (business test cases and system test cases),

b. Test procedure description,

c. Test waiver request,

d. Test results sheet,

e. Test report template.

10.4. Testing

10.4.1. Test Procedures Definitions

a. Analysis/Certification (A/C): Test by A/C consists of design documentation/calculation or certification of recognised third party government laboratory or Manufacturer documentation and/or CoC based mainly on Test Results etc. that can prove that the requirement is met without performing the test. An example is the reliability analysis.

b. Demonstration (DEM): Demonstration is defined as the determination by actual operation and/or adjustments as to whether or not an item has the capability of performing its specific function(s) in accordance with the conditions and the requirements of the performance specifications. This verification method consists essentially in a functional / operational test.

c. Testing: Testing is defined as the determination by comparison of the results of qualitative and/or quantitative data collected by appropriate instrumentation during the systematic exercising of an item to the stated requirements of the performance specification that the item exhibits conformity. Tests shall be carried out whenever a) or b) above do not cover the requirements.

d. Inspection: Inspection is defined as the determination by simply visual inspection as to whether or not an item conforms to the performance specification.

10.4.2. Test Procedures

a. Before each major test (FAT, ISAT and SAT), a Test Readiness Review shall be conducted by the Contractor with the participation of the Purchaser and the Contractor, in accordance with the SSS. The Contractor shall not proceed to a formal test until authorised by the Purchaser.

b. The Contractor shall submit the draft test procedures for FAT, ISAT and SAT to the Purchaser for approval before TRR and no later than eight (8) weeks prior to the execution of the concerned TRR.

c. Following approval by the Purchaser, printed copies of the co-ordinated and approved Test Procedure (Final) shall be issued and distributed one (1) week prior to the first application of the test. Approval of the Test Procedure by the Purchaser will be for application of the tests only and shall not represent an agreement that the test documents supersede the requirements of the Contract.

d. The Contractor shall ensure that four (4) copies of the relevant Test Procedure are made available at each site for Purchaser's use.

e. Each test procedure shall as a minimum include, but not be limited to the following:

i. Scope;

ii. Approach;

iii. Testing Environment with a block diagram of the test layout;

iv. List of all required test equipment;

v. A detailed step-by-step procedure written so that the procedure can be clearly understood and followed by the Test Group;

vi. Objectives and expected test results with permissible test limits;

vii. Test data sheet(s);

viii. Requirements Coverage and Test Matrix;

ix. Observations Sheets;

x. Signature Sheets;

f. The Contractor shall provide the Purchaser with information and assistance as may be necessary during the review and evaluation of the test procedures.

g. Modification of inaccurate or inadequate Test Procedure and any subsequent work arising there from shall be carried out at the Contractor's expense, including retesting due to deficiencies identified by the Purchaser.

10.4.3. Test Readiness Review (TRR) Meeting:

a. TRR Meetings shall be conducted by the contractor before each test stage to determine whether the contractor is in fact ready to begin testing.

b. TRRs shall be conducted, as needed, for each CI to confirm completeness of test procedures, to assure that the CI is ready for testing, and to assure that the performing activity is prepared for formal testing. TRR shall confirm that:

i. test procedures comply with test plans and descriptions, demonstrate adequacy to accomplish test requirements, and satisfy CI specification requirements for verifications;

ii. pre-test predictions and informal test results (if any) indicate testing will confirm necessary performance;

iii. required operation and support documents are complete and accurate.

c. The Contractor shall conduct TRRs at various stages of system development including but not limited to the following:

i. Prior to initiation of In-Plant formal and Contractor formal testing,

ii. Prior to Phase 1 Factory Acceptance Test (FAT)

iii. Prior to Phase 2 Individual Site Acceptance Test (ISAT)

iv. Prior to Phase 3 System Acceptance Test (SAT)

d. The outcome of TRR is the decision to proceed or not with test execution in accordance with the entry criteria required by the TRR checklist approved by the Purchaser. There is one TRR per test event. The decision to proceed is formalised by the Test Order sign-off.

e. The Contractor shall present the following for review (this will compose in more detail the TRR checklist):

i. Any changes on the design (through ECPs) that have been made since CDR and that impact testing;

ii. SW Test Procedures

iii. Description of Configuration items under test (HW/SW/Licenses)

iv. Test environment (test tools)

v. Resources

vi. Problems

vii. Test limitations

viii. Schedules

10.4.4. Test Readiness Review (TRR) Report

a. The Contractor shall prepare a TRR Report for each TRR.

b. Materials used for the review constitute the Test Readiness Review Report. The Test Readiness Review Report associated to a test event will be delivered NLT 10 days before the event.

c. The final TRR Contractual Data Requirements List (CDRL) will then be delivered simultaneously with the draft test report incorporating the TRR minutes and the signed test order.

10.5. Installation Checkout

10.5.1. HW Installation Checkouts consist in a visual inspection of installation workmanship and installed equipment i.a.w. the drawings & as-designed lists, cabling, equipment/cables labelling on the basis of a checklist.

10.5.2. The Installation Checkout shall be part of the Individual Site Installation Acceptance testing and will be the first activity of the ISAT on each site. Exact dates of the Installation checkout on each site shall be mutually agreed upfront.

10.5.3. Contractor and their Subcontractors perform in advance their HW Pre-Checkouts using the checklist.

10.5.4. Results of Contractor HW Pre-Checkouts are recorded in checkout booklets per cabinet and for other installed equipment.

10.5.5. When Contractor HW Pre-Checkouts are completed, the Contractor shall state to the Purchaser their readiness for HW Installation Checkouts.

10.5.6. HW Installation Checkouts are conducted with the participation of the Purchaser and Contractor/Subcontractors.

10.5.7. During HW Checkout findings/results/action items are recorded in the Checkout Checklists and will be corrected/completed by the Contractor/Subcontractors.

10.5.8. The corrections will be checked at the next hardware checkout depending on the deadline.

10.5.9. Contractor needs to provide the following required documentation (10 days in advance):

a. Checkout Checklists
b. Cabinet Drawings
c. Work Station Drawings
d. Operations and Technical Room Layout Drawings
e. PDP Drawings
f. Interconnection Drawings
g. Cable Data Sheets
h. Equipment Certificate of Conformities (CoCs)
i. As-Designed Configuration Index
j. Draft As-Built Drawings (ABDs)
k. Other as required for this specific project, like Antennas

10.5.10. At the end of the Installation checkout activities, minutes shall be recorded with all the findings and Action Items.

10.5.11. Action Items shall be solved to declare the installation finished.

10.6. Requirements Coverage and Test Matrix

10.6.1. The Contractor shall develop and provide as part of the Test and Evaluation Plan the Requirements Coverage and Test Cases Cross Reference Matrix. The matrix shall provide the mapping of the requirements into individual test cases and shall identify Test Case group (i.e. System, Subsystem, etc.) and number. In some cases additional specific detailed requirements might be present in their respective sections, but these requirements are always related to the same overall requirement and shall thus be reflected in the details of the Test Steps to be included in the related Test Case. The matrix shall contain but not be limited to:

a. Contract Reference

b. Requirement Definition

c. Related Test Case Reference

d. Related Test Procedure Overview

10.7. Factory Acceptance Test (FAT)

10.7.1. For BRIPES system, the representative scaled-down system (Test Bed) as approved by the Purchaser shall be assembled and installed at Contractor's facilities at first to perform the FAT. These tests shall demonstrate the functionality and shall include at least one (1) test case for each module/function. The main installation activities for FAT shall include:

a. The material installation at Contractor's Facilities;

b. The connection/integration of the sub-systems:

i. BLOS AP

ii. Transmitting (TX) Sites Equipments

iii. Receiving (Rx) Sites Equipments

c. System Configuration;

d. The site installation, inspection and pre-testing.

10.7.2. For BRIPES system, the FAT shall include:

a. Radio communication equipment (Transmitters and Receivers) functional tests;

b. Switching Sub-System and Modems functional tests for Tx and Rx sites;

c. Remote Supervisory and Control functional tests for Tx and Rx sites;

d. BLOS AP Integration tests that consist of verifying the functional integration of the BLOS AP components;

e. BRIPES Integration test that consists of setting up the BRIPES system at Contractor's factory and checking the functionality between BLOS AP and its remote Rx / Tx stations with the following objectives:

i. To verify that the subsystem conforms to the corresponding Design Specification at Subsystem level;

ii. To ensure that the functional requirements of the Subsystems are fulfilled;

iii. To ensure that the subsystem is a fully integrated and stable entity that is ready to be installed and integrated in the System;

iv. To verify that drawings and manuals meet the documentation requirements.

10.7.3. Entry/Exit conditions

a. Entry conditions as defined by FAT TRR:

i. Sites Survey conducted and reports delivered to Purchaser

ii. PIP delivered to Purchaser, reviewed and accepted by the Purchaser

iii. RSPL delivered to Purchaser

iv. RTTL delivered to Purchaser

v. Site Installation Specifications approved by Purchaser

vi. FAT procedures approved by the Purchaser

vii. CDR approved

b. Exit conditions

i. All test criteria shall be passed successfully;

ii. Recorded deficiencies that the Purchaser classifies as mandatory shall be cleared;

iii. Acceptance of the FAT Report by the Purchaser.

10.7.4. The Purchaser acceptance of FAT Test Report is an essential condition for the Contractor to proceed with the delivery and installation of the BRIPES systems at sites.

10.8. Individual Site Acceptance Tests (ISAT)

10.8.1. After installation and integration, ISAT shall be performed with the following objectives:

a. To verify the functionality of the contractual item hardware, firmware and software of BRIPES equipment as individual subsystems;

b. To demonstrate that the subsystems are fully functional.

10.8.2. During this phase, ISAT functional tests shall take place to verify that BRIPES systems' equipment and subsystems, after installation

and interconnections, are fault-free, working properly and meet the relevant design specifications.

10.8.3. The testing includes:

a. Equipment Functional tests;

b. Subsystems functional tests;

c. Site system tests: including and not limited to testing of the system safety, complete power supply, power load tests, switching between Main Power Supply System and SB PSS (where applicable) and NB PSS, redundancy of power supplies, testing of electrical safety (RCD - Residual Current Detectors), air conditioning units, Aircraft Warning Lights, fire alarm and extinguishing system, compliance, etc.

d. Conformity of Subsystems to the corresponding Detailed Design Specification at subsystem level;

e. The installation and test of the complete software using only the delivered configuration items (installation files, system files, drivers, etc.).

10.8.4. Entry/Exit conditions

a. Entry conditions:

i. TRR and Completion of System Installation report accepted;

ii. ISAT procedures approved by the Purchaser;

iii. Site Installation Specifications (Final) approved by the Purchaser;

iv. Approval for Testing issued by Security Accreditation Authority (SAA);

v. Successful completion of training of the Test personnel.

b. Exit conditions:

i. All test criteria shall be passed successfully;

ii. Recorded deficiencies which the Purchaser classified as mandatory shall be cleared;

iii. Acceptance of the ISAT Report by the Purchaser;

10.8.5. The Purchaser acceptance of all ISAT Test Reports is an essential condition for the Contractor to proceed with the SAT of the BRIPES systems.

10.8.6. The purchaser may decide to perform ISAT and SAT as one event.

10.9. System Acceptance Test (SAT)

10.9.1. After installation and integration, a SAT shall be performed with the following objectives:

a. To verify the integration of the system;

b. To demonstrate that the system is fully functional (i.e. each main function of the system shall be tested under real operational conditions);

c. For BRIPES, to demonstrate that the BLOS AP is able to remote control the radio stations in Tx and Rx sites;

d. For BRIPES, to demonstrate that the BLOS AP is capable of performing operational requirements (broadcast, ship-shore, MRL, etc.).

10.9.2. During this phase, System Acceptance Test (SAT) functional tests shall take place to verify that

a. BRIPES system equipment, subsystems/system, after integration, are fault-free, working properly and meet the relevant design specifications.

b. BRIPES system are able to fully meet all the operational objectives and requirements as set forth in SOW paragraph 3.2 above.

10.9.3. The testing includes:

a. System Functional Integration tests;

b. Conformity of System to the corresponding Detailed Design Specification at system level;

c. The installation and test of the complete system from the delivered configuration items (installation files, system files, drivers, etc.); and

d. Operational tests to verify that the system fully meets the operational requirements as stated in SOW paragraph 3.2 above.

10.9.4. Entry/Exit conditions as per SAT TRR

a. Entry conditions:

i. SAT procedures approved by the Purchaser

ii. ISAT Report(s) accepted

b. Exit conditions:

i. All test criteria shall be passed successfully;

ii. Recorded deficiencies that the Purchaser classifies as mandatory shall be cleared;

iii. Acceptance of the SAT Report by the Purchaser.

10.9.5. Contractor shall prepare at least following documents for Software installation & integration tests:

a. Test Plan

b. Test Description

c. Test reports

d. Test readiness Review Report

10.10. Test Reports

10.10.1. The Contractor shall supply the completed test reports for FAT and ISAT/SAT, that fully document the outcome of the tests, within two (2) weeks of completion of the respective tests procedures, for Purchaser review and acceptance.

10.11. Test Data Sheets (TDS) and Test Results

10.11.1. Test results shall be recorded on Test Data Sheets (TDS)(s). The Test Procedures that shall be issued and submitted to the Purchaser for approval, shall include blank TDS that specify the data to be collected and the method to use for recording the results of the tests. The test data sheets shall contain, as a minimum, space for insertion of:

a. Test location and date;

b. Name and Organisation details for Test Director, Contractor and Purchaser Representative;

c. Equipment type and serial number(s);

d. Test procedure reference number and issue number;

e. Type and serial numbers of test equipment employed;

f. Test results;

g. Observations;

h. Comments;

i. Signature of the official representatives of the Contractor and the Purchasers representative.

10.11.2. One (1) copy of the test data sheets shall be provided to the Purchaser at the completion of testing. Where appropriate, back-up information such as photographs and graphic information used during testing shall be appended to the test data sheets.

10.12. Test Failure Procedure

10.12.1. If the tests to be performed do not result in accordance with the completion criteria relevant to the test being performed (i.e. failures), the subject test(s) will be withdrawn from the testing suit and a preliminary investigation into the cause of the failure shall be carried out and an observation report shall be provided by the Contractor.

10.12.2. Testing may resume with the next test after the withdrawal of the failed tests, if the successful termination of the withdrawn tests is not a prerequisite to the following tests. This shall be subject to the approval of the Purchaser.

10.12.3. The point at which testing of the withdrawn test(s) is to recommence will be proposed by the Contractor who shall provide the reasons for his proposal and details of remedial action taken in a written reply to the observation(s) raised. Either at that time, or subsequently, it shall be subject to the endorsement by the Purchaser.

10.12.4. The procedure shall permit other test series to be carried out should the Contractor propose that it is practical to continue testing, while a particular test has been withdrawn for investigation.

10.12.5. In the event that a particular series of tests meet the criteria after more than one attempt at any test, the Purchaser may request the repeat of the test(s) relating to that specification paragraph.

10.12.6. All tests shall be done to verify that the equipment provided under this contract meets the specified requirements; their results shall be recorded and any failure to complete a test successfully shall be recorded as deficiency.

SECTION 11. FINAL SYSTEM ACCEPTANCE (FSA)

11.1. Introduction

11.1.1. This section outlines the FSA procedure by which the deliverable items for which the Contractor is responsible under this contract will be accepted by the Purchaser. The procedure and documentation necessary at each stage of acceptance are defined to ensure that all contractual requirements are completed and that all deliverables are supplied to the Purchaser. The Contractor shall address the FSA Procedure as part of the PIP Section 8.

11.2. Definitions

11.2.1. A deficiency is a formal record of any aspect that could jeopardise successful completion of the Contract.

11.2.2. A deficiency is cleared when the Purchaser has endorsed that the corrective action taken in respect of the Deficiency has been completed to the Purchaser's satisfaction.

11.2.3. Deficiency Classification is the classification that the Purchaser assigns to a Deficiency. The categories for deficiency classification are defined as:

a. Critical: Departure from the specification that must be rectified prior to the completion of SAT as applicable and before FSA can take place. The date by which this must be completed shall be agreed.

b. Deferment: Departure from the specification that may be rectified before or after the Test Procedure; the date by which this must be completed shall be agreed. Deferments that are not completed by the due date shall become critical for FSA unless the due date is modified by agreement.

c. Omission: A departure from the specification where it is agreed that no remedial action is necessary.

11.3. Deficiency Procedure

11.3.1. Deficiencies shall be handled in accordance with the following procedures. The Contractor shall submit all deficiencies to the Purchaser for endorsement of the clearance action taken.

11.3.2. A Deficiency shall be recorded when recognising any aspect that could damage successful completion of the Contract. These aspects shall include but not be limited to:

a. A design shortage or deficiency revealed in any design, implementation or test specification;

b. Any shortage or deficiency revealed by inspection or application of testing procedures;

c. Any comment raised by the Contractor concerning any aspect of the Contract;

d. Any comment raised by the Purchaser or his designated representative concerning any aspect of the Contract.

11.3.3. Deficiency sheets shall be maintained by the Contractor and shall record the following information:

a. The serial number of the deficiency sheet;

b. The deficiency;

c. Sufficient information to define the context of the deficiency in terms of the articles to which it applies, the state of articles (including any appropriate environmental details, as applicable), and the date of the deficiency;

d. The authorised personnel endorsing the deficiency;

e. Any clearance action taken, such as repair and testing, a specification modification, receipt of a written reply from the Contractor, etc. as applicable;

f. The authorised personnel endorsing the clearance and the date of clearance.

11.4. FSA Entry Conditions

11.4.1. FSA is defined in this Contract as the act by which the Purchaser accepts all supplies and services provided by the Contractor, as defined below.

11.4.2. Entry conditions:

a. All deliverables, including documentation, test equipment, spares, licences, installation media, etc. for which the Contractor is responsible under the contract have been supplied and accepted by the Purchaser; (Documentation includes logbooks delivered in accordance with SOW paragraph 13.6)

b. A deliverables inventory has been provided that details all the deliverables to be supplied under the terms of the contract;

c. The SIS documents have been supplied with updates to accurately reflect the “As Built” configuration and verification of the accuracy of the Documentation has taken place.

d. CoC(s) has been supplied that the equipment conforms to the contractual standards and applicable manufacturing standards;

e. All observations and deficiencies have been resolved by the Contractor;

f. ISAT/SAT Reports have been submitted by the Contractor and accepted by the Purchaser.

g. A QA Report has been supplied by the Contractor's QA Organisation;

h. A complete list of Keys and any Password and/or Code necessary for the Purchaser to operate and maintain the system from day to day, has been supplied to the Purchaser.

i. Successful completion of the training and all contract requirements, except warranty;

j. Approval of Security Accreditation Support package and obtaining the Approval to Operate (ATO) as stipulated at SOW Section 5 and SOW Annex C.

11.5. FSA Report (FSAR)

11.5.1. The Contractor shall provide the Final System Acceptance Report (FSAR) before the FSA meeting.

11.5.2. The documents listed below shall be part of the FSAR that shall be prepared by the Contractor:

a. CoC that the equipment installed conforms to the contractual standards and is in Conformance with the National codes, laws, regulations and local rules and practices of the Country of installation.

b. Deficiency Summary Sheets that shall list all outstanding deficiencies. A Remarks column shall briefly record the technical or operational significance and a decision column shall record the Policy Decision taken in respect of each Deficiency. A clearance date column and a signature column are also required.

c. ISAT/SAT Reports;

d. An Inventory of provided supplies that shall detail all the deliverables furnished by the Contractor to meet the terms of the contract for the FSA. The inventory shall also include all licences identifiers, installation media and keys.

e. SIS documents, with updates, to accurately reflect the “As Built” configuration;

f. Acknowledgement of COTS and other software licences delivery;

g. A QA Report provided by the Contractor's QA Organisation.

h. Acknowledgement by NCI Agency that all Keys and Password lists have been received.

11.6. Final System Acceptance Meeting (FSA meeting)

11.6.1. When there are no deficiencies open from the SAT Report acceptance, regardless of classification type, then the FSA meeting shall take place within four (4) weeks.

11.6.2. The FSA meeting shall be convened and chaired by the Purchaser when he considers that all the deliverables are ready for FSA. The Contractor shall arrange the taking, typing and distribution of minutes of the FSA meeting.

11.6.3. FSA shall be granted in writing from the Purchaser through the FSA document, which shall be signed by both the Purchaser and Contractor. The date of FSA shall be specified in this formal acceptance Document. Except as otherwise provided in the Contract, acceptance by FSA shall be conclusive except as regards latent defects, fraud or such gross mistakes or negligence as to amount to wilful intent.

11.6.4. In signing the FSA document, the Purchaser certifies that the equipment or work concerned is in accordance with the terms of the Contract and thereby grants FSA.

SECTION 12. SITE PREPARATION AND INSTALLATION REQUIREMENTS / CIVIL WORKS

12.1. General

12.1.1. The purpose of this section is to define the scope of the civil works to be implemented by the Contractor.

12.1.2. The Contractor's responsibility consists of:

a. Antenna field preparations including but not limited to land excavation, levelling, trenching and disposal of unused items;

b. Antenna foundations;

c. Antenna mountings and installations;

d. Grounding/lightning protection of antennas and warning signs for BRIPES antennas;

e. Distribution electrical power panels for BRIPES dedicated equipment and associated cable ducts.

12.1.3. All the warning signs and warning labels installed by the Contractor shall be provided in English language.

12.1.4. All the works listed herein shall be planned, designed and implemented according to respective national legislations and Health and Safety (H&S) Regulations (including but not limited to the national Construction Law, Law on Environmental Protection and the Security regulations).

12.1.5. The design and implementation of the works listed herein shall also be compliant with respective HN regulations addressing local seismic conditions.

12.2. Liaison with the Purchaser

12.2.1. Nine (9) weeks after signature of the contract, the Contractor shall provide to the Purchaser, a detailed draft Site Preparation Data Package (SPDP) for all sites. Upon revision of the SPDP, the Purchaser will coordinate a meeting between the Contractor and the Purchaser to finalise the site facilities requirements and to achieve the approval of SPDP by the Purchaser. Planned Beneficial Occupancy Date (BOD), representing the date when the Contractor can start any site preparation works on site(s), will be recorded at the meeting.

12.2.2. The Contractor shall not start any works on the sites of the BRIPES system before receiving a Site Readiness Statement and approval confirming the BOD date from the Purchaser.

12.2.3. The contractor shall plan for, as a minimum, joint (The Purchaser and Contractor) site visits at each site as follows:

a. The Contractor's Site Survey (2 – 3 weeks after the Contract Award) conducted in order to collect necessary information for the SPDP preparation;

b. SPDP co-ordination meeting with the Purchaser per SOW paragraph 12.2.1 above;

c. An independent site visit in the middle of the site construction works. The most convenient time is to be co-ordinated between the Purchaser and the Contractor.

12.2.4. During the site surveys, the Contractor shall:

a. identify the appropriate geographical positions for antennas installation and determine requirements for cable trenches dug for connection from antenna farm to RX / TX buildings;

b. determine the power and power supply circuit requirements for the BRIPES system including location, for each room, of the electrical control panel, specialized plugs or electrical service some equipment may require;

c. assess the space available for installing the BRIPES System including floor treatments requirements and minimum clearance height;

d. assess HVAC ductwork and plumbing routing to ensure that HVAC ductwork and plumbing routing does not conflict with cable tray or telecommunications conduit routing;

e. clarify requirements for the grounding system including fault protection grounds, lightning protection grounds, signal reference grounds and DC power grounds; in particular "CIS Contractor" will determine the most appropriate location where to install the Telecommunications Grounding Bus bar in each BRIPES System room;

12.2.5. It is the Contractor's responsibility to assure protection of the equipment and materials delivered by the Contractor under this contract during the installation phase until FSA.

12.3. Access to the sites and use of existing facilities and utilities

12.3.1. The Purchaser will arrange a secure site to store all BRIPES equipment delivered by the Contractor before the installation.

12.3.2. The Purchaser will not be able to provide access to any communication and / or IT services including internet. It is the Contractor's responsibility to organize his own means of communication.

12.4. H&S obligations, building permit and other associated legal licenses

12.4.1. During the performance of the Works under the Contract, in setting the working schedule for each site, the Contractor shall comply with National and local laws and regulations.

12.4.2. The equipment provided by the Contractor shall comply with MIL-STD 461 and 461E or 2004/108/EEC as well as National laws and regulations to be applied regarding electromagnetic compatibility.

12.4.3. The Contractor shall apply the doctrine stipulated in STANAG 2345 as well as National laws and regulations to be applied regarding protection against exposure to electric, magnetic and electromagnetic fields.

12.4.4. The installation of antennas supplied by the Contractor shall be properly connected to the grounding system in accordance with INFOSEC requirements.

12.4.5. Regarding contractor delivered equipment, the contractor shall conform to human engineering principles and criteria as required by IEC 950 or equivalent as well as national laws and regulations to be applied.

12.4.6. The Contractor shall apply International Civil Aviation Organization (ICAO) requirements for Aircraft Warning Lights to be installed on antenna masts.

12.4.7. The Contractor shall apply engineering principles, criteria and techniques to identify and eliminate safety hazards in the BRIPES System in accordance with MIL-STD-882E as well as national laws and regulations to be applied.

12.4.8. The Contractor is responsible for obtaining all of the required building permits and related documents in accordance with national laws.

12.4.9. Masts and equipment shall be supplied with all required homologation, certifications, operational and maintenance manuals in English language.

12.4.10. All the warning signs and warning labels installed by the Contractor shall be provided in English language. They shall be of sufficient quality and durability to withstand local weather conditions (including solar radiation) and assure at least 7 (seven) years of operation without substantial degradation.

12.5. Site Preparation Data Package (SPDP)

12.5.1. The Contractor shall provide the SPDP that shall include but not be limited to the following detailed information in a form of text and illustration:

a. Listing of the existing equipment and structures to be dismantled / demolished, clearly indicating the ones that are to be reused, disposed or re-installed;

b. Listing and status / working conditions of non-project related equipment that has to be temporarily dismantled to allow works by the Contractor;

c. Listing of equipment to be installed including functional description of each component as well as general equipment specifications to include:

   i. physical specifications - height, length, width and weight (floor loading) of each equipment rack, cabinet and console,

   ii. equipment rack, cabinet and console templates,

   iii. manufacturer's specific machine configuration and space requirements,

   iv. maintenance access requirements for each equipment rack, cabinet and console.

d. Equipment layout including consideration of space between power and communication lines and RED / BLACK cables runs as stipulated in the documents listed in SOW Section 4 above (paragraph 4.1.1. b, g and h);

e. Special requirements for movement of equipment on site;

f. Site facilities and utilities requirements during installation time;

g. Site layout plan including detailed layouts (placement) of all equipment racks, cabinets and consoles, showing equipment racks, Transmitters, Antennas, Short Break (SB) Power Supply Sub-System (PSS), No Break (NB) Power Supply Sub-System (PSS), HVAC, Fire Extinguishing System, etc. including equipment layout;

h. Positioning of the TEMPEST filters and / or isolators-couplers required to meet the requirements as stipulated in the document listed in SOW Section 4 above (paragraph 4.1.1. b, g and h) as well as to comply with the TEMPEST protection practices;

i. Any additional action that the Contractor might need such as provisional dismantling of electrical / electronic equipment during installation of the antennas or CIS equipment under this contract;

j. A heat load budget and Heating, Ventilating and Air Conditioning (HVAC) interface requirements for the BRIPES systems equipment that shall contain and not be limited to:

   i. heat load calculation;

   ii. operating and non-operating environment conditions (temperature range, relative humidity range, atmospheric pressure, ingress protection (IP rating), etc);

   iii. Pressure and any other special heating/cooling capacity requirements.

k. A power budget and equipment power interface requirements, including location for each room of electrical control panel, specialized plugs or electrical service some equipment may require, input voltage and frequency tolerances, inter-unit cabling and connection differentiating their red and/or black nature;

l. Electrical diagrams including location and description of Electrical Power Distribution Panels (EPDP)(s), integration and interface with the SB PSS (where applicable) and Prime Power Supply System (provided by the Purchaser), electirical power utilization plan including;

i. location and description of power supply panel,

ii. input voltages, frequency and tolerances,

iii. safety and secure grounding as per SDIP 29/2,

iv. kVA required for each equipment rack, cabinet and console and the type of termination to power supply, cable connections, terminal strip, etc.,

v. phasing number and colour code of conductors per cabinet / rack,

vi. location of power and signal entry points and their respective penetration sizes,

vii. inter-unit cabling and connections differentiating their red and/or black nature,

viii. UPS (Uninterruptible Power Supply),

ix. Other CW requirements that are the Contractor's responsibility as stipulated in paragraph 3.5.

m. Requirements for the grounding system for antennas including fault protection grounds, lightning protection grounds, signal reference grounds and DC power grounds;

n. Identification of antenna civil works requirements for land excavation, levelling, trenching and disposal to be conducted;

o. Identification of the appropriate geographical positions for antennas installation and requirements for cable trenches dug for connection from antenna farm to RX/TX buildings (required civil works related to trenches and manhole boxes foir transmission lines is Host Nation's responsibility). (If any) List of trees to be removed and structures to be demolished;

p. Special requirements for installation (requirements for vehicle, cranes, movement of equipment on site, wall penetrations, removal of existing antennas, etc.);

q. Electrical works required.

12.5.2. In the SPDP, as defined and listed in the SOW paragraph 12.5.1 above, the Contractor shall thoroughly describe the civil works, power and site preparation requirements, that must be accomplished prior to the start of the installation of the delivered BRIPES Systems as set forth in the SOW Section 12.

12.6. Recording of on Site Activities

12.6.1. Throughout the implementation of the project, the Contractor shall maintain at each site a logbook in which each incident, event and major activity shall be recorded on a daily basis.

a. Incidents or events include, but are not limited to: equipment failure, personnel incident, visitors, power failure, lightning strike affecting the site, etc.

b. Major activities include, but are not limited to: earth works, concrete pouring, antenna assembly, etc.

12.6.2. Additionally, following information (non-exhaustive list) shall be recorded in the logbook: quantity and quality of material and equipment delivered to the sites (including remarks on rejected material/equipment due to non-compliance with required specifications or/and quality standards), number of personnel and names of team leaders conducting major activities, weather and environmental conditions affecting conducted works.

12.6.3. When no incident happened, and no major activities were conducted the words “No significant event to report” shall be noted in the log book.

12.6.4. The logbook records shall be reviewed, approved and signed by the site supervisor on daily basis. The logbook shall be delivered to the Purchaser as a part of the FSA documentation. Nevertheless, the Purchaser reserves the right to review the logbook at any given time during the project implementation. The logbook shall be presented for review either during site visits or sent to the purchaser via email as a scanned copy.

12.7. Disposal of Non-Reused Equipment and Structures

12.7.1. The contractor is responsible for dismantling of all radio and computer equipment, if any, that will not be reused for the BRIPES systems, as approved in the SPDP.

12.8. Hazardous material disposal

12.8.1. In case of finding unexploded ordnance or other explosive remnants coming from military and non–military activities, the Contractor is obliged to report that fact to national authorities. Subsequent disposal will be conducted by the appropriate national military service at no cost to the Contractor.

12.8.2. There is very low risk of finding unexploded ordnance or other explosive remnants coming from military and non–military activities at Tx and Rx sites.

12.8.3. Disposal of any material containing Asbestos is the Purchaser’s responsibility.

12.8.4. Disposal of any hazardous material is the Purchaser's responsibility.

SECTION 13. DOCUMENTATION

13.1. Technical documentation

13.1.1. The Contractor shall provide technical documentation as covered in the various Sections of this SOW. The Purchaser will review the technical documentation and will provide comments to the Contractor within 15 working days after receiving the documents (unless specified otherwise in this SOW).

13.1.2. The technical documentation consists of the following main functional groups:

a. Logistics Documentation

b. Civil Works Documentation

c. Training Documentation

d. Technical Manuals

i. User Manuals

ii. Maintenance Manuals

iii. OEM technical manuals

e. As-Built Drawings

f. Site Maintenance Manual

13.1.3. Logistics Documentation

a. The Contractor shall provide the various Logistics documentations as described in SOW Section 8 above in the appropriate format as described in SOW paragraph 13.3 below.

13.1.4. Civil Works (CW) Documentation

a. Whenever Civil Works documentation is mentioned, the definition includes also documents concerning other devices, equipment and installation, provided by the Contractor, as stipulated in SOW Sections 3.5 and 12.

b. The Contractor shall provide the various Civil Works documentations as described in paragraphs pertaining CW in SOW Sections 3.4, 3.5 and 12 above. The documentation format shall be as described in SOW paragraphs 13.7 to 13.14 inclusive, when applicable.

c. The CW documentation shall address and present graphically, in narrative form and in relevant tables, matrices, part lists and calculations, the requirements stipulated in the EN Eurocodes and other listed below references (including but not limited to):

i. basis of structural design (EN 1990);

ii. actions on structure (EN 1991);

iii. the design of concrete (EN 1992), steel (EN 1993), composite steel and concrete (EN1994), timber (EN 1995), masonry (EN 1996) and aluminium (EN 1999) structures;

iv. geotechnical design (EN 1997);

v. the design, assessment and retrofitting of structures for earth-quake resistance (EN 1998);

vi. Construction Products Directive (COUNCIL DIRECTIVE 89/106/EEC), particularly Essential Requirement 1 "Mechanical resistance and stability" and Essential Requirement 2 "Safety in case of fire";

vii. ISO Standards pertaining technical, construction and building drawings including relevant installations;

viii. ISO standards pertaining technical product documentation and document management;

ix. IEC 60617 – Graphical symbols for use in electro-technical di-agrams;

x. IEC 60417 – Graphical Symbols for Use on Equipment;

xi. ISO 6790 – Equipment for fire protection and fire fighting -- Graphical symbols for fire protection plans – Specification.

13.1.5. Training Documentation

a. The Contractor shall develop all respective BRIPES system hard-ware and software training, organise and conduct training courses and shall provide training documentation support in order to enable the Purchaser personnel to test, operate and maintain the BRIPES System and its support equipment. These documents shall conform to the standards outlined in this section 13 and to the clauses of SOW SECTION 14 below.

b. The contractor is also referred to SOW Annex A (i.e. SRS) section 2.4 regarding the training modules to be provided.

13.1.6. Technical Manuals

a. The Contractor shall furnish BRIPES system user manuals and maintenance manuals that shall be developed to respond to the re-quirements of the personnel in operating and maintaining the BRIPES system and equipment, in accordance with SOW section 8.19 above.

b. Whenever in section 13, BRIPES system or BRIPES sys-tem/equipment is mentioned, the definitions include BRIPES Sup-porting Systems, provided by the Contractor, such as PSS, dedi-cated HVAC and FES, antenna masts, Aircraft Warning Lights, Lightning Protection and Grounding.

c. In-depth specification and lower level repair and maintenance of sub-assemblies and major system components are expected to be

addressed by the Original Equipment Manufacturer's (OEM) Manuals.

d. The contractor shall edit, produce and deliver the required number of copies of the final versions in quantities specified in SSS and in format specified in SOW paragraph 13.7 below.

e. If changes to previously delivered documents have been made, the contractor shall deliver change pages, replacement drawings/schematic diagrams etc. as appropriate.

13.1.7. As-built drawings

a. The as-built drawings shall provide full details of how all of the major assemblies of the supplied equipment have been physically installed and mechanically/electrically integrated. These drawings shall comply with the standards described in SOW paragraph 13.3 below.

13.1.8. Site Maintenance Plan

a. The site maintenance plan shall collect the preventative maintenance operations of all the devices and equipment. The document shall be used by technical personnel as their principle document for their support operations. The document shall contain checklist forms to be used by the personnel for logging and reporting activities.

13.2. User & Maintenance Manuals

13.2.1. The presentation of the BRIPES (User / Maintenance) Manual by the Contractor shall include the following subject areas:

a. Preface;

b. Equipment Descriptions;

c. Installation and Commissioning Instructions;

d. Operating Instructions;

e. Maintenance Instructions

f. Fault finding techniques;

g. Crypto specific issues and procedures:

13.2.2. Preface

a. The Preface Section shall include a summary description of the concept of operation of the BRIPES Systems and its major constituent assemblies, subassemblies and components. The preface shall highlight major design features and restrictions. The preface shall contain a table of contents and a list of illustrations, drawings and acronyms. The preface shall also contain a section concerning Health & Safety and Accident prevention. The Health & Safety and Accident prevention section must be provided in English.

13.2.3. General Equipment Descriptions

a. The General Equipment Description Section shall contain a listing of all the important functional and performance parameters of the BRIPES system/equipment constituent assemblies, subassemblies and components. It shall include as applicable, the following:

i. Power consumption and ventilation data, e.g., quantity of cooling air in cubic meters per minute, temperature, vents, etc;

ii. Characteristics and acceptable deviations of all input signals;

iii. Characteristics and acceptable deviations of all outputs;

iv. The required external power supply voltage and frequency characteristics with acceptable tolerance;

v. Equipment performance and the environmental conditions over which the design performance criteria shall continue to meet;

vi. The overall weight of each major sub-unit;

vii. The overall dimensions and internal dimensions of each major sub-assembly;

viii. Detailed specification giving the accuracy and tolerance of built-in test equipment and facilities.

b. As a sub Section, the Contractor shall indicate whether there is an OEM manual that has been delivered with the system documentation. For all equipment that does not have an OEM Manual, the Contractor shall provide detailed specifications for the equipment, including drawings and diagrams as well as instructions for replacing the LRU for the equipment.

13.2.4. Installation and Commissioning Instructions

a. The Installation and Commissioning Instructions Section shall include the electrical and mechanical information necessary for mounting and de-mounting the major assemblies, subassemblies and components of the related BRIPES system/equipment constituent and step-by-step instructions for the proper installation/de-installation of the BRIPES System as a whole. Items also to be covered in this Section are:

i. Detailed mechanical installation instructions;

ii. Detailed external and inter-unit cabling instructions, including earthing and grounding connections;

iii. Detailed list of checks to be carried out prior to application of power for the first time;

iv. Detailed list of checks to be carried out following application of power and prior to putting the equipment into service. Where these checks are identical to the maintenance procedures, reference may be made to the maintenance procedures as duplication of text is not required;

v. List of tools, test equipment and software, etc. required for fault isolation, exchange and check-out of LRUs.

vi. Detailed sequence of instructions required to install all software in a new computer and run the software.

vii. All relevant administrator instructions pertaining to access control.

13.2.5. Operating Instructions

a. The Operating Instructions Section shall include basic operating procedures covering but no limited to the following:

i. Switching ON power;

ii. Powering up the System;

iii. Logging;

iv. External communications;

v. Interpretation of alarm and warning conditions and associated immediate action instructions;

vi. Emergency procedures and back-up systems;

vii. Powering-down the System;

viii. Switching OFF the equipment;

ix. Emergency Switching OFF.

b. In order to provide a comprehensive description of the operation of the BRIPES System, the Contractor shall, in this Section as applicable, provide a functional and performance description of all equipment that is visible to the operator, when deployed or in storage. The description shall cover the overall physical, electrical and electronic characteristics, as applicable, using as back-up information block diagrams, photographs or other suitable illustrations. All major assemblies shall be clearly identified, and also all operator and maintenance control panels. The function of each control and indicator shall be included in tabular form.

c. The description shall include details of all circuits and mechanisms to permit the reader to obtain a thorough understanding of the design principles and operation of the equipment. It shall include, but not be limited to, the following:

i. Detailed descriptions of all electrical and electronic circuits, as applicable, including circuit functions of integrated circuits where used;

ii. Detailed description of the mechanical construction of all assemblies and sub-assemblies including detailed descriptions of all included mechanisms;

iii. The purpose and associated characteristics of each variable control, and adjustable mechanism;

iv. All interface characteristics;

v. Detailed construction and servicing data to permit maintenance and replacement when necessary.

13.2.6. Maintenance Instructions

a. The maintenance instructions section shall include, but not be limited to, the following:

i. Maintenance operations summary for organizational, intermediate and depot level;

ii. Recommended test equipment;

iii. Procedures for performance tests.

b. The instructions shall be provided in accordance with the prescriptions of SOW section 8 above.

c. The instructions shall include a schedule of preventative maintenance operations indicating the periodicity intervals (daily, weekly, monthly, etc.).

13.2.7. Fault Finding Techniques

a. The Fault Finding Techniques Section shall contain a description of the faults most likely to occur, with the related symptoms, comprehensive procedures for fault tracing, location and repair identifying the required test facility (BIT Equipment, test equipment, test fixtures), and any special servicing instructions.

b. Tables shall be included stating the operating limits of all voltage supply lines and conditions of measurement. Where applicable, corresponding current limits shall be given, the average value of current taken by each stage and by each unit and/or sub-unit shall also be stated.

13.2.8. Crypto specific issues and procedures

a. The handling, packaging and transportation of Cryptographic equipment and documentation shall comply with NATO rules and be accomplished in accordance with SDIP-293/1.

13.3. As-Built Drawings

13.3.1. As-built drawings shall be self-sufficient and independent of any other documents.

13.3.2. There shall be a master list of as-built drawings provided for each site respectively.

13.3.3. The master list of as-built drawings shall contain at the minimum following information: site identification and the master list title, issue of the master list, and following data references of every listed drawing: ordinal number, number, title, issue, and number of sheets.

13.3.4. The as-built drawings shall be compiled in a drawing package for each site respectively. The compilation shall be done against the ordinal numbers assigned to every drawing in the respective master list.

13.3.5. The title of each drawing and each master list plus all included text and annotations shall be in English.

13.3.6. The number and scale of each drawing (where applicable) shall be clearly indicated, in addition to the issue number of each drawing.

13.3.7. Definition(s) may be given on the drawing, where used, or on a summary sheet, or sheets, at the front of the document.

13.3.8. All drawings shall be to a scale of not less than 1:50.

13.3.9. As-built drawings shall cover the following, as applicable:

a. All floor and wall plans to include the physical details of all installed equipment, apparatus and devices plus CW modifications and new structures implemented by the Contractor;

b. The physical details of all installed equipment, apparatus, devices etc., if not visibly depicted due to the original scale of the drawing, shall be presented in an appropriate scale to enable clear identification as to their type and function. If applicable, narrative description shall be inserted;

c. All plans and drawings necessary to represent correctly and completely antenna farms, antennas, masts, theirs foundations, associated cabling and ducting with connections to equipment and devices, roads and other CW implemented by the Contractor;

d. Location plan with complete details of all cross-connection frames and patch panels;

e. A plan showing the descriptions of all grounding and earthing conductors, electrodes and joints and where they are connected to any existing earthing system;

f. Physical details of all cable racking and cable numbers and cable functions to include as appropriate all connections, connectors and sockets;

g. Details covering all wiring termination points including wire numbers and colour coding, if applicable;

h. Ancillary equipment details to include, as appropriate, connection points and termination points;

i. The functions of all inter-connecting cables, with their codes, colour code and the function of each separate conductor;

j. Drawings showing only an axonometric view of any given piece of equipment are not acceptable. The drawings shall depict all the necessary interconnections, inside view of installed equipment and dimensions;

13.3.10. A Purchaser approved “As-Built Product Drawings and Associated Equipment List” are the basis for Acceptance of sites installation and integration.

13.4. Format for As-Built Drawings

13.4.1. The drawings shall be printed on not larger than DIN A-1 sized sheets.

13.4.2. A consistent numbering system for the as-built drawings shall be adopted that reflects the contract, project, system, assembly and/or sub-assembly and sequence number.

13.4.3. The scale of all drawings shall be quoted, where applicable.

13.4.4. The appropriate NATO classification shall be on the top and bottom of each drawing and, in addition, each drawing shall also contain the security classification in the identification block of the drawing, which shall be placed in the lower right hand corner.

13.5. Delivery and Verification of As-Built Drawings per Site

13.5.1. Before the BRIPES Systems are tendered for FSA, the Contractor shall deliver two complete sets of marked-up as-built documentation.

13.5.2. A joint review of the as-built documentation shall be conducted between the Purchaser, Host Nation and the Contractor.

13.5.3. Upon completion of the review the Contractor shall edit, produce and deliver the required number of copies of the final draft version eight (8) weeks prior to conducting the formal FSA activities. The Final version of the as-built documentation shall be delivered at FSA.

13.5.4. If changes to previously delivered documents have to be made, the Contractor shall deliver replacement drawings/schematic diagrams and/or aperture cards as appropriate.

13.5.5. Final Version of the overall BRIPES level As-Built documentation shall be delivered at FSA as specified in SSS, for each BRIPES site.

13.6. BRIPES Logbooks per Site

13.6.1. From the start of each type of integration activities for BRIPES System, the Contractor shall keep a Logbook of all events concerning that system through to FSA.

13.6.2. In particular, the logbook shall record all Contractor activity and equipment performance.

13.6.3. All equipment failures or parts replacements shall be documented in the logbook with a traceable means to determine reasons for failure of the specific (serial numbered) equipment.

13.6.4. The logbook shall be used as an input to assess the reliability of the equipment.

13.6.5. All logbooks shall be periodically countersigned by the Purchaser's representative and a copy handed over to the Purchaser during FSA.

13.6.6. The Contractor may retain the original but shall not maintain a parallel equipment-related activity logbook or similar records for company use only.

13.6.7. The Purchaser reserves the right to review the logbook at any given time during the project implementation. The logbook shall be presented for review either during site visits or sent to the purchaser via email as a scanned copy.

13.7. Format Criteria

13.7.1. Contractor developed documentation and manuals shall be provided in loose-leaf form, and presented bound in stiff backed covers with 4-ringed binders that permit the removal and insertion of individual pages and drawings. The manual shall lie flat when opened at any page.

13.7.2. Drawings contained in the manual shall be on a pull-out sheet and so positioned on the sheet that the complete drawing is clear of the text when the sheet is opened out. As an alternative, drawings may be published in a separate volume without the pull-out feature. In either case, drawings shall not be folded more than twice and when folded be of normal manual page size. Horizontal folding shall be avoided.

13.7.3. Manuals shall also include a cover and title, plus a title page laid out as follows:

a. TOP: NATO classification of the manual and the name of the manufacturer of the equipment;

b. MIDDLE: Name of assembly or unit, type designation, number and name of the part of the manual and contract number;

c. BOTTOM: NATO classification of the manual and the number and date of approval.

13.8. Publication Criteria

13.8.1. The manuals, exclusive of covers shall be produced on the best grade white bond or lithographic paper. All paper used for drawings and calibration curves, etc. shall be of a quality and thickness that will permit repeated folding and opening without tearing and cracking at the folds.

13.8.2. The individual pages in the manuals shall be Deutsches Institut für Normung (DIN) A-4 size (210 mm x 297 mm), pre-perforated and

shall be so arranged and confined (including the titles and page numbers) within standard printing size margins for binding. The pages of the manuals shall be consecutively numbered.

13.8.3. Each page shall contain the appropriate NATO classification of the manual at the top and bottom of each page.

13.8.4. All drawings and schematic diagrams are to be of the same length as other pages of the manuals. The appropriate NATO classification shall be at the top and bottom of each drawing and, in addition, each drawing shall also contain the security classification in the identification block of the drawing.

13.9. Drawings, Illustrations and Photographs

13.9.1. The Drawings, illustrations and photographs Section in manuals shall permit identification of the location of all assemblies and sub-assemblies. The drawings shall show the interconnection of these units and how to isolate and remove the units from the System in order to replace or perform maintenance.

13.9.2. Where Original Equipment Manufacturer Manuals do not exist, or are inadequate in detail, inter-unit and sub-unit cabling and wiring diagrams shall be provided for all electrical and electronic assemblies; annotated line drawings shall be provided to permit identification of all mechanical assemblies and mechanisms and parts thereof. As a minimum, the following drawings shall be included:

a. A block diagram of the system and/or sub-systems;

b. A block diagram of assemblies and sub-assemblies;

c. A block diagram of major units;

d. Layout diagrams of modules and boards/CCAs;

e. Flow diagrams of the signals of the whole equipment with indication of adjustment and tuning parameters - voltages and wave-forms shall be shown not only for test points separately identified on the equipment, but also at all other points necessary to perform routine maintenance, fault diagnosis and corrective maintenance.

13.10. Soft Copy Format

13.10.1. “Soft copies” of all documentation composed and compiled by the Contractor shall be delivered in CD-ROM or DVD format to Purchaser and shall be compatible with latest version of Microsoft Office suite maintaining compatibility with previous versions, MS Project and Portable Document Format (PDF), following a basic naming convention like [BRIPES]-[title]-[date ”yyyy.mm.dd”]-[version]-[originator].

13.10.2. OEM Manuals shall be delivered in the format specified above, if available. If not available in this format, one of the other common

use formats will be accepted. If the commercial documentation is not available in CD-ROM, another form of electronic media is acceptable with the prior authorization of the Purchaser PM.

13.10.3. As-Built Drawings shall be delivered on the Software Graphics Package, AutoCAD, Visio and .PDF.

13.10.4. The physical support of the electronic, optical or soft copies shall display the highest level of the classification of its contents.

13.10.5. The Header and/or Title of the directory structure of the documentation provided in soft copies shall bear a reminder of the highest classification level of its contents.

13.10.6. For ease of handling, unclassified documentation shall be separated from classified documentation and provided on separate CD-ROM or DVD whenever possible.

13.11. Amendments

13.11.1. The Contractor shall be the responsible authority for the issue, control and distribution of amendments to delivered documentation in the format provided for the associated equipment or system until expiration of the warranty period.

13.12. Language

13.12.1. All deliverable documentation shall be provided in the English language, including all documentation affecting Safety Hazard and health protection matters.

13.13. Manual Issuing Schedule

13.13.1. Two releases of manuals shall be issued for each equipment; firstly a draft version and then the final version.

13.13.2. The Contractor shall submit draft copies of each manual (as specified in SSS) to the Purchaser for review not later than two (2) months prior to the delivery of the BRIPES System at the first site location. Any resulting recommended changes, corrections and/or additions submitted by the Purchaser shall be incorporated in the final versions, in the requisite number of copies. The Contractor shall submit the final versions of the manuals within the time frame as specified in the SSS.

13.13.3. However, until the expiration of the warranty, the Contractor shall remain responsible for any changes to the manuals required as a result of any omission or inaccuracy discovered in use or, whenever changes/modifications in equipment or spare parts are made under the Contractor's responsibility. Changes to the final manual may be in the form of change pages, provided that a suitably updated change-page listing of all changes is supplied with each group of loose pages changed.

13.13.4. The Contractor shall deliver the final accepted copies of each manual at the time of FSA for all subsequent systems.

13.13.5. The Contractor shall deliver hard copies and soft copies of the BRIPES Operators' Manuals as specified in the SSS, separately for each BRIPES Site.

13.13.6. The format requirements of electronic media are detailed in SOW paragraph 13.10 above.

13.14. Documentation Submission Plan

13.14.1. The Contractor shall prepare and maintain a complete record of all documentation required under this contract. This Document Record shall be submitted as part of the Documentation and shall be continuously updated throughout the life of the Contract to reflect the current status of all documents.

13.14.2. The Contractor shall also maintain version control of all documentation submitted throughout the Project life cycle.

13.14.3. Following documentation shall be delivered by the Contractor according to the following table, as further specified in SSS. This list does not waive the Contractor from delivering any of the documentation items specifically covered by the Contract and Purchaser approved PIP.

Document	Reference	CLIN in SSS
General Documentation (CDRL)		
Project Implementation Plan (PIP)	SOW 2.3	1.1.1
CDR Documentation	SOW 4; 13	1.1.2.1
Logistics documentation	SOW 13	1.1.2.2
Logbooks	SOW 13	1.1.2.4
As-Built Drawings	SOW 7; 10; 13	1.1.2.6
Technical Manuals (including user and maintenance manuals and site maintenance plan)	SOW 13	1.1.2.7
Site Installation Specifications	SOW 3.7	1.3.2.1
Recommended Spare Parts List	SOW 8.3	1.6.1.1
Recommended Tools and Equipment List	SOW 8.4	1.6.1.1
Training documentation	SOW 13; 14	2.1.2
Reports		
Project Checkpoint Reports	SOW 2.4	1.1.3.1

Document	Reference	CLIN in SSS
Project Progress Reports	SOW 2.5	1.1.3.2
Detailed Design Specifications	SOW 4.6	1.2.1
Site Survey Reports	SOW 3.6	1.1.3.3
Test Reports	SOW 10; 13	1.1.3.5
Installation Checkout Reports	SOW 10.5	1.1.3.10
Configuration Status Accounting	SOW 7.11	1.1.3.13
Test Readiness Review Reports	SOW 10.4	1.1.3.7 1.1.3.9 1.1.3.11
Final System Acceptance Report	SOW 11.7	1.1.3.14
Configuration Item (CI) specifications	SOW 4.6; 7	1.2.2.3
Training Reports	SOW 3.3; 14	2.2.2
Security Documentation		
Security Accreditation Support Documentation	SOW 5	1.1.2.8

SECTION 14. TRAINING

14.1. Training Plan (TP)

14.1.1. The Contractor shall provide a Training Plan (TP) included in the ILSP (Refer to section 8.3 Integrated Logistics Support Plan).

14.1.2. The Contractor shall conduct an effective training program. This program shall be planned, integrated, and developed in conjunction with the equipment design, fabrication, installation and test activities to ensure the achievement of the overall program training objectives.

14.1.3. The Contractor shall provide a Training Needs Analysis (TNA) to draft training requirements:

a. based on a questionnaire submitted by the Contractor to the trainees;

b. to determine the gap between the current and expected knowledge/qualifications of the nominated trainees for all courses (except training for test personnel);

c. to identify the differences between the trainee's current skills and those required to operate and maintain the equipment;

14.1.4. The Contractor shall develop all hardware and software training, organize and conduct training courses providing training support to enable the Purchaser Personnel to test, operate, maintain and repair the equipment and its support equipment.

14.1.5. The Contractor shall conduct a training programme proving the training material necessary to ensure the Purchaser's personnel acquire the necessary skills and knowledge to operate, maintain and repair the equipment and its support equipment.

14.1.6. The Contractor shall design the training programme in course modules supporting the required levels of knowledge and quantities of students to be trained, assuring that trainings, provided at the different levels outlined here below, allows for operation and maintenance of the equipment in accordance with the expected operational requirements and maintenance concept:

Students to be Trained	Purchaser (up to)
System Administrators	20
Operators	20
Maintainers	10
Instructors for Operators	10
Instructors for Maintainers	10
Test Personnel	5

14.1.7. Assumptions: all instructors (Instructors for Operators, and Instructors for Maintainers) will join the normal training courses and are expected to have specific background and experience to provide further effective training.

14.1.8. The Contractor shall develop a TP based on the TNA providing detailed:

a. syllabuses, including e.g.:

i. course title;

ii. Security classification;

iii. total duration in hours (the daily course instruction shall not exceed six (6) hours per day);

iv. course objectives;

v. general course information;

vi. training equipment or special equipment/tools requirements including support equipment to be provided by the HN (e.g. VGA projector and screen, white board, copy machine, etc.);

vii. maximum number of student for working positions;

viii. classroom requirements;

b. training schedule (a course block time table showing the lesson title and its assignment, the sequence of periods of instruction, scheduled on normal working days and not on weekend or public holidays);

c. student prerequisites;

d. evaluation test model;

e. proven experience of their instructors;

f. detailed information for each training module, including:

i. description (a narrative explanation of the subject matter of the specific course);

ii. format, objectives and training materials;

iii. student prerequisites (if required);

iv. duration (in minutes including time devoted to each area of the course);

v. duration for hands-on training (in minutes to be provided to each student);

vi. method of presentation (showing a breakdown of methods, such as lecture, demonstration, hands-on and directed study, etc.);

vii. list of training materiel and training equipment required (including contractor-provided documents or materiel and/or the appropriate standards for electronic data);

viii. recommended maximum number of students;

ix. recommended location of training and type of facility required (classrooms, auditorium, facilities, etc.);

x. method of evaluation (establishing minimum acceptable written and performance standards with a method of evaluation of directed study);

xi. list of measurable objectives/tasks required to demonstrate successful completion of course;

xii. inter-dependencies with other training modules (e.g.: prerequisites);

14.1.9. The Contractor shall provide in the TP detailed justification of proposed commercial training courses (if any).

14.1.10. In addition to the required information for each course, the TP shall include the proposed training schedule for each site, indicating the courses or modules required for each trainee and optimising the trainee's learning and attendance requirements. The TP shall also show the overall training schedule showing how limited resources (such as instructors, training facilities and training equipment) will be provided for each course.

14.1.11. The Contractor shall provide in the TP the Curriculum Vitae (CV) of each proposed instructor.

14.1.12. Language Qualifications: the Purchaser personnel selected to attend the courses will meet the minimum Standardized Language Proficiency (SLP) of 2222 in English corresponding to NATO STANAG 6001.

14.1.13. The Contractor Instructors shall be certified engineer/technicians, and thoroughly familiar with the subject matter. They shall have proven experience in preparing and conducting training. Experience of the selected Instructors shall be proven within the provided CVs.

14.1.14. The Contractor Instructors shall meet a minimum of SLP 3333 in English corresponding to the NATO STANAG 6001. The Instructor is requested to use easily understandable English.

14.1.15. The Contractor Instructors shall have a security clearance of "NATO SECRET".

14.1.16. The Contractor shall be prepared to provide demonstration lessons, randomly selected by the Purchaser in order to provide evidence of the preparedness of the lessons and capabilities of the instructor. The Purchaser can require this demonstration at a mutually agreed time and location prior to the commencement of any formal training.

14.1.17. The Contractor shall prepare and submit a draft Training Plan for Purchaser's approval at least three months before start of any training. The Training Plan shall describe how the Contractor shall conduct the totality of the training.

14.1.18. Two (2) weeks after receipt of the Purchaser's comments, the Contractor shall deliver, for Purchaser's acceptance, the final version of the Training Plan that shall incorporate all Purchaser comments.

14.1.19. The final version of the Training Plan, as accepted by the Purchaser, shall be the official document against which the Contractor is expected to conduct the training.

14.2. Training Program

14.2.1. For the training purposes, student groups shall include the personnel assigned for the following standard posts of a legacy BRASS System:

Student Groups	Posts of BRASS System
FAT, ISAT and SAT "Test Personnel"	System Administrator
BRIPES System Administrators	System Administrator
System Operators	Watch Supervisors Assistant Watch Supervisors Broadcast Operators Ship/Shore Circuit Operators MRL Circuit Operators
BRIPES Maintainers	System Technicians
BRIPES Instructors	System Administrator

14.2.2. The training program shall consist of the following courses, and it is the sole responsibility of the Contractor to assure that all training provided at the different levels outlined here below allows Control, Operation and Maintenance in accordance with the Operational requirements and Maintenance concept.

Required level of knowledge	Type of the course		
	Operators	Maintainers	System Administrators
BRIPES Software and System functionality	Yes	Yes	Yes
BRIPES system administration	No	No	Yes
Radio comms operating	Yes	No	Yes

Radio maintenance	No	Yes	No
BRIPES supporting equipment maintainers / operators	Yes	Yes	No

14.3. The BRIPES Personnel Qualifications

14.3.1. The BRIPES Personnel will have the following qualifications:

a. Operators will have or will acquire knowledge of specific Operating Systems and Tools.

b. System Administrators will have or will acquire knowledge of specific Operating Systems and Servers and will also be instructed in digital radio and transmission techniques.

c. System Administrators and Operators will have or will acquire Allied Communications Publication (ACP) ACP127 knowledge.

d. Maintainers will have or will acquire knowledge of O-level (HL1/HL2/SL1/SL2) and I-level (HL3/SL3) of maintenance as defined below and will also be instructed in digital radio technology and transmission techniques;

e. Instructors will have or will acquire knowledge in communication systems, content management, teaching skill and assessment of trainees;

14.3.2. It is the responsibility of the Purchaser to assure that the students meet the above requirements.

14.3.3. The training for BRIPES personnel shall be developed on the assumption that they are military operators with a minimum electronics and/or information technology background as stated.

14.4. Training Management

14.4.1. The Contractor shall provide a written certification that all required/agreed training staff, facilities, equipment and other resources are ready for the conduct of the training At least two calendar weeks prior to the start of a course.

14.4.2. The Contractor shall provide a Course Report within two weeks after completion of the course. This report shall contain as a minimum:

a. Course designator;

b. Course start date;

c. Course Completion date;

d. Names of attending students;

e. Student attendance and performance record (based on the results of regular test(s) performed by the trainees during/after the training lessons to evaluate their understanding of the taught subject matter);

f. Individual test results;

g. Student course critique;

h. Actions taken or recommended;

i. Problems encountered and lesson learned (if any).

14.4.3. The Contractor shall provide each graduate at the end of the courses with a personal certificate. One copy of each certificate shall be submitted to the Purchaser.

14.4.4. The Contractor is not to release students from the course without the prior approval of the Purchaser's representative.

14.4.5. The Purchaser can nominate up to two (2) members of the Project Team or NCI Agency, to attend each course in a monitoring role; such attendees will be in addition to the planned course size.

14.4.6. Exact dates for the courses shall be mutually agreed by the parties and shall be consistent with the requirements for conducting tests.

14.4.7. For each type of course as per SOW paragraph 14.2.2 above, the Contractor shall recommend the number of courses to be held for the Personnel to be trained.

14.4.8. All training shall be held at the locations of the Purchaser.

14.4.9. The training is to be assessed through threshold knowledge test(s) for nominated personal. If the total test results represent 50%, or more fail results, the Contractor is to report that fact to the Purchaser and HN and repeat the concerned lecture(s) at no additional costs.

14.5. Training Courses for System Administrators

14.5.1. The Contractor shall provide Training Courses for System Administrators.

14.5.2. This training is meant to provide the trainees with the skills needed to administer, configure and operate the BRIPES System and any of its sub-systems taking into consideration the privileges and authorizations of the System Administrators.

14.5.3. It shall include as necessary Control aspects, all Operational and hardware and software configuration aspects.

14.5.4. After the training, the System Administrators shall be able to operate, configure and administer the BRIPES system hardware and software at the relevant locations.

14.6. Training Courses for Test Personnel

14.6.1. The Contractor shall provide Training Courses for Test Personnel.

14.6.2. This training is meant to provide the trainees (test personnel) with the skills needed to:

a. deepen test methods and test procedures.

b. use of the appropriate tools in all the tests.

14.6.3. Exact dates for the course shall be mutually agreed by the parties and shall be consistent with the requirements for conducting tests as required either during FAT, ISAT or SAT.

14.7. Training Courses for Operators

14.7.1. The Contractor shall provide Training Courses for Operators.

14.7.2. This training is meant to provide the trainees with the skills needed to:

a. operate the equipment at their intended use;

b. configure and operate equipment and software functionality including control aspects for all operational features of hardware, firmware and software of the system.

14.7.3. This training shall be held with consideration for the fact that these trainees should become Instructors for Operators.

14.8. Training Courses for Maintainers

14.8.1. The Contractor shall provide Training Courses for Maintainers.

14.8.2. This training is meant to provide the trainees with the skills needed to:

a. configure, maintain (scheduled and unscheduled tasks) and troubleshoot the respective hardware, firmware and software of the equipment and support equipments at their intended use.

14.8.3. This training shall be held with consideration for the fact that the trainees should become Instructors for Maintainers.

14.9. Training Courses for Instructors (i.a.w. Train-the-trainer principle)

14.9.1. The Contractor shall provide Training Courses for Instructors.

14.9.2. For each course provided for personnel as per SOW paragraph 14.2.2 above, the Contractor shall also provide equivalent training for Instructors designated by the Purchaser.

14.9.3. This training is meant to provide the trainees (instructors) with the skills needed to:

a. perform the Operators and Maintainers training courses for personnel;

b. master the subject;

c. transfer the knowledge;

d. maintain the training material and any updates to such materiel as provided by the Contractor.

14.10. Trainee and Training Course Completion Report and Certificates of Training

14.10.1. The Contractor shall provide a Trainee and Training Course Completion Report, including the results and evaluation of training for presentation of each course carried out, with the following:

a. Name of Contractor: the name of Contractor shall be the complete name of the Contractor or Sub-Contractor conducting the course;

b. Instructor in charge;

c. Course information consisting of:

i. Course title

ii. Location of the course

iii. Duration and dates of the course

iv. Course aims and objectives

v. System/equipment/software covered by the course

vi. Grading system for the course (e.g. pass levels, distinction levels)

vii. Total number of trainees

viii. Number of trainees achieving each grade

d. Trainee's information consisting of:

i. Name of each Trainee

ii. Rank/grade of each Trainee

iii. Branch of service/agency and parent unit of each Trainee.

iv. Attendance information for each Trainee

v. Individual and cumulative total grade in quantitative terms for each Trainee

e. Instructor's evaluation of each Trainee.

i. Any specific certification required following training (e.g. for test operators)

f. Instructor evaluation of training consisting of:

i. Considerations regarding course material, course presentation, value of training aids, tools and equipment, remarks and recommendations of overall course.

ii. All problems encountered during the conduct of the course, such as students without agreed pre-requisites, deficient subject coverage, equipment failures and documentation deficiencies. Recommendations for any supplemental training that may be required shall also be included.

g. Format: The format of the completion report shall utilize the Data Item Description (DID) document "DI-ALSS-81522A – Course Conduct Information package" as a guidance.

14.10.2. The Contractor shall provide a Certificate of Training for each trainee who satisfactorily completes the course. The certificate shall contain, as a minimum, the following:

a. Name of organization conducting the training;

b. Title of the course;

c. Subject matter, if not apparent from the course content;

d. Location where the course took place;

e. Dates of the course;

f. Rank/grade of trainee;

g. Parent unit of trainee;

h. Statement of satisfactory (or better) completion of the course;

i. Any specific certification resulting from the course;

j. Signature and name of responsible training officer.

14.11. Training Documentation

14.11.1. The Contractor shall prepare and submit to the Purchaser in advance all material that will be used for the training. The Purchaser-approved training material shall be available before the courses start.

14.11.2. Training material is to be designed and developed in such a way to be suitable for use during the Contractor-conducted training and for the training of all categories of future replacement personnel by the Purchaser Instructors.

14.11.3. The training package shall include the following capabilities as a minimum:

a. Definition of the final training objectives;

b. Emulation of real equipment behavior;

c. Choice between mandatory and optional lessons, steps and points as determined by course entrance tests;

d. Topics to be covered for each lesson, step and point;

e. For each topic, video clips, animation, still photos and tests as necessary for the full explanation of the topic;

f. Exercises for every lesson;

g. Test at the end of every lesson;

h. Results of the tests per lesson and per course;

i. Evaluation of the quality of the course by relating the test results to the course objectives through cumulative statistical analysis.

14.11.4. The Contractor shall make maximum use of available IETPs for the preparation of training material.

14.11.5. Training material shall not duplicate any information readily available in other documents unless justified by specific training needs and shall adhere to documentation standards.

14.11.6. Training documentation will provide the minimum documentation required to conduct and maintain the training programme. Training documentation includes data in electronic media and hardcopy form, as appropriate.

14.11.7. For each course, the training documentation shall consist of training handbooks for trainees and instructor material to support the training programme.

14.11.8. The Contractor shall provide training handbooks for each training course that:

a. are the student's main working document;

b. provide the student with the necessary information on all lesson objectives and contents, guidance for all course learning activities and cross-references to assist the students in achieving the course objectives;

14.11.9. The training course material shall be designed to guide the students in obtaining the required skills through the training programme concerned. Relevant sections shall include a number of exercises to evaluate the student's understanding of the information provided in that section. Each section may refer the student to other supplemental written or audio-visual material (e.g. transparencies, slides, charts, computer discs, DVD format video, or other commercially available electronic medium in the appropriate NATO/European format), which shall be included in the package. Additional topics and material can be added.

14.11.10. Course material shall include the following sections, as appropriate.

a. Required Material. Data indicating all equipment and material required by the student, including test equipment, audio-visual material, tools and supplies,

b. General information about the system, software or equipment for which the training will be carried out,

c. Installation and preparation instructions,

d. Operating information, covering all personnel who interface with the system concerned, during all phases of its use,

e. Technical description,

f. Hardware Maintenance, covering routine inspections and adjustments, preventive maintenance and corrective maintenance (troubleshooting and repair) at relevant maintenance levels,

g. Software Maintenance, covering system recovery following software problems on-site and in-depth adaptive, perfective and corrective software maintenance at the responsible support site,

h. System Management, including the system manager functions and all other specialised areas, such as security, database, network and communications management,

i. Reference data

14.11.11. Instructor material

a. An instructor guide, as a complement to the training handbooks, shall provide the instructor with the necessary additional information on all lesson objectives and contents to prepare, conduct and evaluate lessons, exercises and examinations (including e.g.: fault-finding or fault-isolation exercises and classroom or practical examinations with the associated answers).

b. The instructor guide shall include, as a minimum:

i. Student exercises and all answers, and other marking guidance;

ii. Descriptions of points where instructor involvement, observation or action is necessary or recommended to ensure safety or verify student performance;

iii. Instructional malfunctions to be introduced by the instructor and diagnosed and repaired by the student. A minimum of five malfunctions is required for each separately identifiable system, module or circuit. The malfunctions should approximate as nearly as possible problems likely to occur, and may consist of a combination of system maladjustments and bad components. A listing of malfunctions will be given that shall include:

(1) Action required by instructor to install malfunction; exact component or module to replace or maladjustment to make;

(2) Description of symptom caused by malfunction;

(3) Test equipment and tools required to detect and isolate the malfunction or procedures required to recover software functionality;

(4) Suggested allowable time for student to diagnose malfunction.

14.12. Training documentation approval schedule:

14.12.1. The Contractor shall submit two complete sets of Draft training material within two (2) months of the start of the first training course to permit the Purchaser to review.

14.12.2. The Purchaser will review the material for not more than one (1) calendar month to complete and will provide to the Contractor comments and requests for amendments as appropriate.

14.12.3. The Contractor shall deliver the final version of the training material to the Purchaser not later than two (2) weeks prior to the start of the first training course.

14.13. Quantities

14.13.1. The Contractor shall deliver the following quantities of training documentation for each type of training. This is in supplement to what needs to be provided for each student (E= Electronic, P=Printed Version):

Type	**Draft Qty**	**Final Qty**
Instructor guide	2 E	1 E + 2 P
Student handbook	2 E	1 E + 2 P
Instructor guide for Train the Trainer	2 E	1 E + 2 P
Student handbook for Train the Trainer	2 E	1 E + 2 P

14.14. Time Frame for Training

14.14.1. The Contractor shall apply the following timeframe for trainings:

CLIN in SSS	**Training**	**Time Frame NLT**
II.2.2.1	Training of Testing Personnel	For FAT: NLT EDC + 41 weeks For ISAT: NLT EDC + 50 weeks For SAT: NLT EDC + 60 weeks
II.2.2.2	Training of System Administrators (including reports)	After SAT – Before FSA NLT 68 weeks after EDC
II.2.2.3	Training of Operators (including reports)	After SAT – Before FSA NLT 68 weeks after EDC
II.2.2.4	Training of Maintainers (including reports)	After SAT – Before FSA NLT 68 weeks after EDC
II.2.2.5	Instructor Training (Train the	After SAT – Before FSA NLT 68 weeks after EDC

	Trainer)	

Appendix 1 to Book II Part III

ABBREVIATIONS/ACRONYMS

A	
A/C	Analysis/Certification
ACMP	Allied Configuration Management Publication
ACMS	Automated Control and Management System
ADP	Automatic Data Processing
AMSG	Allied Military Security Guidelines
ARQ	Automatic Repeat Request
ASTM	American Society for Testing and Materials
ATE	Automated Test Equipment
B	
BCOA	BRASS Co-ordinating Authority
BCS	BRASS Control Stations
BCST	Broadcast
BER	Bit Error Rate
BGR	Bulgaria
BICC	BRASS Initial Core Capability
BIT	Built In Test
BOD	Beneficial Occupancy Date
BRASS	Broadcast Maritime Rear Link and Ship/Shore System
BREITA	BRASS Enhancements Increment one (1) Target Architecture
BSAS	BRASS Security Accreditation Strategy
C	
C2	Command and Control
CALS	Computer-aided Acquisition and Logistic Support
CAT	Computer Aided/Assisted Training
CC	Configuration Control
CCA	Circuit Card Assemblies
CCTV	Closed-circuit Television
CDR	Critical Design Review
CE	compromising emanations
CI	Configuration Item
CID	Configuration Identification and Documentation
CIS	Communications and Information Systems
CISS	Communication Interface and Switching System
CLD	Central Logistics Depot
CLIN	Contract Line Item Number
CLS	Contractor Logistic Support
CLS	Contractor Logistics Support
CM	Configuration Management
CO	Contracting Officer

CoC	Certificate of Conformity
COLOC	Change of Location of Command
COTS	commercial off the shelf
CP	Capability Package
CSA	Configuration Status Accounting
CSR	Configuration Status Report
CUN	Common User Network
currents	conducted interferences
CW	Civil Works
D	
DDS	Detailed Design Specifications
DEM	Demonstration
DHS	Delivery of Hardware on Site
DIN	Deutsches Institut für Normung
DTS	Data Terminal Set
E	
ECP	Engineering Change Proposal
EDC	Effective Date of Contract
EDCN	Equipment Design Change Notice
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EMI/EMC	Electromagnetic Interference and Compatibility
EN	European Norms
EPDP	Electrical Power Distribution Panels
EU	European Union
F	
FAT	Factory Acceptance Test
FCA	Functional Configuration Audit
FES	Fire Extinguishing System
FIP	Fleet Interface Point
FSA	Final System Acceptance
FSA	Final System Acceptance
G	
GQAA	Government Quality Assurance Authority
GSM	Global System for Mobile Communications
H	
HF	High Frequency
HMI	Human Machine Interface
HN	Host Nation
HQ	Headquarters
H&S	Health and Safety
HVAC	Heating, Ventilating and Air Conditioning
I	
IAW	In accordance with
ICOA	International Civil Aviation Organization

IEC	International Electronical Commission
IETM	Interactive Electronic Technical Manual
IFB	Invitation for Bid
ILS	Integrated Logistics Support
ILSP	Integrated Logistic Support Plan
INFOSEC	Information Security
IS	Inspectable Space
ISAT	Individual Site Acceptance Test
IT	InformationTechnology
L	
LAN	Local Area Network
LRU	Lowest Replaceable Unit
LSF	Low Smoke and Fume
M	
MIL	Military
MIL-STD	Military Standards
MOD	Ministry of Defence
MPDB	Main Power Distribution Board
MPS	Message Processing System
MRL	Maritime Rear Link
MTBF	Mean Time Between Failure
N	
NATO	North Atlantic Treaty Organisation
NB PSS	No Break Power Supply Sub-System
NCI Agency	NATO Communications and Information Agency
NDN	National Defence Network
NGCS	NATO General Communication System
NLT	Not Later Than
NQAR	National Quality Assurance Representative
NS	NATO SECRET
NSN	NATO Stock Number
O	
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training
ORLA	Optimum Repair Level Analysis
OTAM	Off The Air Monitoring
OU	Operating Unit
P	
PABX	Private Branch Exchange
PAI	Preliminary Acceptance Inspection
PC	Personal Computer
PCA	Physical Configuration Audit
PMCP	Project Management and Control Plan
PCR	Project Checkpoint Report
PDF	Portable Document Format
PDR	Preliminary Design Review

PERT	Program Evaluation Review Technique
PFE	Purchaser Furnished Equipment
PIP	Project Implementation Plan
PLF	Power Line Filter
PM	Project Manager
PMP	Project Management Plan
PMS	Project Master Schedule
PPM	Project Progress Meeting
PPM	Project Progress Meetings
PPR	Project Progress Report
PSK	Phase Shift Keying
PSS	Power Supply System
PTO	Project Team Organisation
PWBS	Project Work Breakdown Structure
Q	
QA	Quality Assurance
QC	Quality Control
R	
RAMP	Risk Assessment and Management Plan
RAMT	Reliability, Availability, Maintainability and Testability
RCD	Residual Current Detectors
RF	radio-frequency
RFD	Requests for Deviation
RFW	Requests for Waiver
RON	Repair On Need
RPM	Revolutions per Minute
RSC	Remote Supervisory and Control
RSPL	Recommended Spare Parts List
RTTL	Recommended Tools and Test Equipment List
Rx	Receiving
S	
SAP	Security Accreditation Plan
SAT	System Acceptance Test
SB PSS	Short Break Power Supply Sub-System
SDD	System Design Document
SDIP	(SECAN) Doctrine and Information Publications
SECAN	Military Committee Communication and Information Systems Security and Evaluation Agency
SecOps	Security Operating Procedures
SEP	System Engineering and Design Plan
SIRS	System Interconnection Requirement Statement
SIS	Site Installation Specifications
SLP	Standardized Language Proficiency
SNMP	Simple Network management Protocol
SOI	Start of Installation

SOW	Statement of Work
SPD	surge protection devices
SPDCN	Spare Parts Design Change Notice
SPDP	Site Preparation Data Package
S-S	Ship-Shore
SRS	System Requirements Specification
SSEP	System Safety Engineering Plan
SSR	Site Survey Report
SSRS	System Security Requirement Statement
SSS	Schedule of Supplies and Services
STANAG	Standardization Agreement
STVP	Security Test & Verification Plan
SITP	System Installation Transition Plan
SUCOC	Succession of Command
T	
TAT	Turn Around Time
TDS	Test Data Sheet
THD	Total Harmonic Distortion
Tx	Transmitting
U	
UPS	Uninterruptible Power Supply
V	
VDC	Volts of Direct Current
VMSS	Voice Management Sub-System
W	
WBS	Work Breakdown Structure
WS	Workstation

Page Intentionally Left Blank

NATO Communications and Information Agency
Agence OTAN d'information et de communication

BRASS IP ENHANCED SYSTEM

Part V

SYSTEM REQUIREMENTS SPECIFICATION

This page is left blank intentionally