

**AIR TRAFFIC AND NAVIGATION SERVICES SOC. LTD
REPUBLIC OF SOUTH AFRICA**



**REQUEST FOR PROPOSAL: ATNS/TPQ/RPF048/23.24/
AMHS-AFTN REPLACEMENT
AMHS/AFTN REPLACEMENT PROJECT**

Volume 4

LOGISTICS SUPPORT REQUIREMENTS

February 2024

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ABBREVIATIONS

ATA	ATNS Training Academy
ATC	Air Traffic Control
ATNS	Air Traffic and Navigation Services State Owned Company Limited
ATNS HO	Air Traffic and Navigation Services State Owned Company Limited Head Office
ATS	Air Traffic Services
ATSU	Air Traffic Services Unit
BITE	Built in Test Equipment
CAA	Civil Aviation Authority
CDRL	Contract Data Requirement List
CMP	Configuration Management Plan
CSCI	Computer Software Configuration Item
COTS	Commercially off-the shelf
EAM	Enterprise Asset Management
DP	Documentation Plan
DME	Distance Measuring Equipment
ET	Engineering Technician
FABL	Bloemfontein Control Centre
FACT	Cape Town Control Centre
FAEL	East London Control Centre
FAGG	George Control Centre
FALE	Durban Control Centre
FAOR	Johannesburg Control Centre
FAPE	Port Elizabeth Control Centre
FAT	Factory Acceptance Test
FIR	Flight Information Region
FRC	Fault Reporting Centre
HAT	Hardware Acceptance Test
ICAO	International Civil Aviation Organization
ICD	Interface Control Document
ILS	Integrated Logistic Support
LAN	Local Area Network
LCC	Life Cycle Costing
LRU	Line Replacement Unit
LS	Logistic Support
LSA	Logistic Support Analysis
LSAP	Logistic Support Analysis Plan
LSAR	Logistics Support Analysis Report
LSIP	Logistic Support Implementation Plan

LSP	Logistic Support Plan
LSPP	Logistic Support Program Plan
MAS	Minimum Acceptable Service
MDT	Mean Down Time
MMS	Maintenance Management System
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
OEM	Original Equipment Manufacturer
OJT	On the Job Training
OJTI	On-the-Job Training Instructor
PBU	Period of Beneficial Use
PC	Personal Computer
PHS&T	Packaging, Handling, Storage and Transportation
RAM/RMA	Reliability, Availability and Maintainability
RAMPP	Reliability, Availability and Maintainability Program Plan
RCMS	Remote Control and Monitoring System
RF	Radio Frequency
RFT	Request For Tender
SAAF	South African Air Force
SAT	Site Acceptance Test
SAN	Storage Area Network
SLA	Service Level Agreement
SME	Subject Matter Expert
SP	Spares Plan
SSR	Software Support Report
SSS	System Support Suite
TEP	Test Equipment Plan
TP	Training Plan
URS	User Requirement Statement
WAN	Wide Area Network

GLOSSARY OF TERMS

Availability

The measure of a hardware or software system, subsystem or equipment operational time represented by a ratio of total actual functional time over the total time it is required or expected to function. The availability will be measured and expressed as a percentage.

MTBF

A measure of the reliability of repairable hardware or software system, subsystem or equipment items, represented by the number of functional life units measured in hours, during which all hardware or software system, subsystem or equipment perform within their specified limits in a given period of time.

MTTR

A measure of the maintainability of repairable hardware or software system, subsystem or equipment items, represented by the average (mean) time measured in hours to repair or restore a failed component of a hardware or software system, subsystem or equipment.

Reliability

It is the ability of a hardware or software system, subsystem or equipment to consistently perform according to its specifications over a specified period. Reliability is determined by the measure of how often an item fails in a given period expressed in terms of (MTBF).

PBU

PBU is the equivalent of a guarantee and warranty period where support validation takes place. During this period, the system is maintained as per the LSP, under the responsibility of the supplier and where there will be concurrent running of both the warranty and the verification of Phase 1 and 2 deliverables.

1 INTRODUCTION

This document defines the basic and minimum logistic support requirements for the supply, installation, commissioning and operational acceptance of the systems that will be implemented for all the sites where the AMHS/AFTN system will be installed. It furthermore describes the Logistic Support (LS) System that is required for the total support of the AMHS/AFTN system during project phase, as well as post implementation during the utilization of the system till the end of economic life of the equipment. With already existing and complementary infrastructure assets in place, ATNS aims to have a maintenance model that will ensure seamless integration to the existing processes and procedures for maintenance. The new AMHS/AFTN system maintenance philosophy should be aligned to the ATNS maintenance and support concept outlined in Section 2, as well as the requirements set out in **Sections 4 - 12. (I)**.

1.1 Overview of the Logistics Support implementation phases

The Logistics Support implementation will run over a course of four (4) phases, that is, Development phase 1A (Submission of Tender); Development phase 1B (Contract Baseline); Implementation phase 2 (Project Roll-Out/Installation); Validation phase 3 (PBU) and the Application phase 4 (System Lifespan).

In responding to this tender, Bidders are required to deliver all the draft documents/plans listed in the "SUBMISSION OF TENDER" column (Phase 1A – Development).

Each phase deliverables will result in the achievement of the following milestones:

Phase 1A – Short-listing

Phase 1B – Contract award

Phase 2 – Site Acceptance Test

Phase 3 - Final System/Operational Acceptance

Phase 4 – Decommissioning

Table 1 – LS implementation phases

SUBMISSION OF TENDER	CONTRACT BASELINE	PROJECT ROLL-OUT	PBU	SYSTEM LIFESPAN
PHASE 1A - DEVELOPMENT	PHASE 1B - DEVELOPMENT	PHASE 2 - IMPLEMENTATION	PHASE 3 - VALIDATION	PHASE 4 - APPLICATION
<ul style="list-style-type: none"> • LSIP - Draft • LSAR - Draft • LSP - Draft • RAMP - Draft • Training Plan – Draft • Spares Plan– Draft • Test Equipment Plan – Draft • Documentation Plan • PHS&T Plan – Draft • CMP – Draft • TOTAL LRU REPAIR COSTS – Draft • ICD Document - Draft • Support Contract -Draft • Transition Plan – Draft • FMECA - Draft 	<ul style="list-style-type: none"> • Review and Issue before Contract award • LSAR – Issue1 • LSP – Issue 1 • RAMP - Issue 1 • Training Plan – Issue 1 • Spares Plan– Issue 1 • Test Equipment Plan – Issue 1 • Documentation Plan - Issue 1 • PHS&T Plan – Issue 1 • CMP – Issue 1 • TOTAL LRU REPAIR COSTS – Issue 1 • ICD Document-Issue 1 • Support Contract • Transition Plan – Issue 1 • FMECA – Issue 1 	<ul style="list-style-type: none"> • Provision of Training Courses • Delivery of Documentation • Delivery of Spares • Issuing of As-built documents • Delivery of Test Equipment 	<ul style="list-style-type: none"> • RAM Verification • Spares Verification • PHS&T Verification • Documentation Acceptance • CMP Verification • LSP Update • Evaluation of Training Effectiveness • As–Built Documents Verification 	<ul style="list-style-type: none"> • Utilization till end of Economic Life

2 ATNS MAINTENANCE AND SUPPORT CONCEPT

The ATNS maintenance is segmented into two regions that comprise of Northern and Southern Regions, where Northern region covers maintenance centres such as O.R. Tambo (Johannesburg), King Shaka (Durban) and Bram Fischer (Bloemfontein) and Southern region covering Cape Town, Chief Dawid Stuurman (Port Elizabeth), George and King Phalo (East London). The ATNS support concept's aim is to ensure that ATNS can achieve the performance objectives as contracted with its customers. To achieve the performance objectives, the ATNS maintenance and support concept is based on a three-tiered support model comprising of Operator, Intermediate and Depot level support, as demonstrated in Figure 1. (I).

2.1 Support concept structure

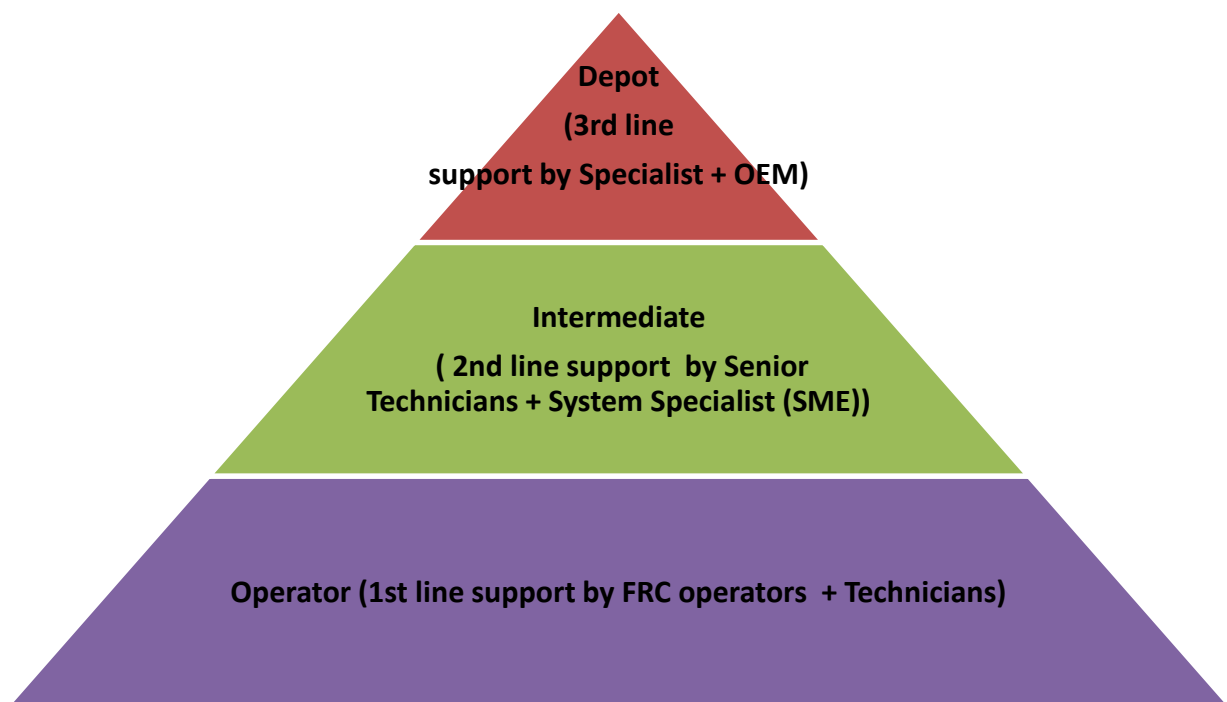


Figure 1 – Support Structure

2.2 Operator (O) Level support

The operator level support is typical 1st line support in the support concept structure. The activities in the O level are carried out by ATNS technical personnel. These activities include first line monitoring through the Fault Reporting Centre, Equipment fault diagnosis and restoration of service, by reconfiguration, is mainly done by means of Remote Control Monitoring Systems from the assigned maintenance Centre. (I)

2.3 Intermediate or (I) Level maintenance

The Intermediate level support is typical 2nd line support within the support concept structure. The “I” level activities will be carried out by ATNS technical staff located both at the different sites and the respective maintenance centres/workshops. The scope of work done during 2nd

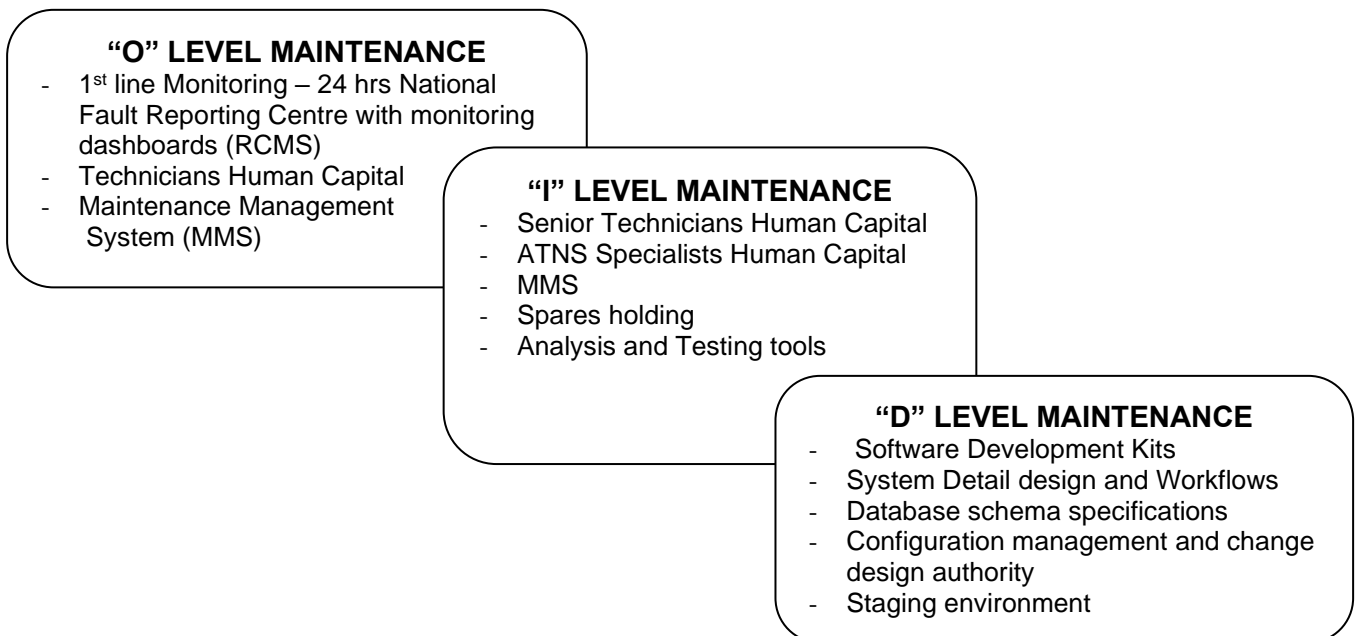
line maintenance includes corrective and (routine) preventative maintenance for software applications, databases (down to CSCI level) and hardware = (module/LRU levels) where applicable. This level of maintenance includes maintenance to the buildings at the site as well as the site itself, such as, roads, grass cutting, fencing, antennae, power and communications from the point of supply. (I)

2.4 Depot or (D) Level maintenance

This maintenance level is typically the 3rd line support within the structure, where “D” level maintenance covers all software and hardware failure investigations, advanced troubleshooting and provision of workarounds, rectifications and enhancements. At hardware level, this would typically be component level maintenance. Hardware faulty modules are normally returned to the Supplier/Contractor or their Agents for repair / exchange under a maintenance and support contract. This applies primarily to relatively newer/modern systems. On very old systems, where support infrastructure is cost effective, “D” level maintenance is carried out by ATNS maintenance personnel. (I)

2.5 Support Resources

In order for ATNS to be able to fulfill the maintenance performance objectives and to effectively operate within the framework of the support concept, typical high-level support resources are demonstrated in the Figure below necessary for the fulfillment of the O, I and D level maintenance activities but not limited to:



For “O” level maintenance activities, the support resources used, but not limited to, include the 24-hour manned Fault Reporting Centre. This serves as the first interface wherein operational clients report faults, on system issues, as well as enables dispatching of technicians on duty. ATNS also has a computerized maintenance management system that has the entire ATNS

asset components loaded on it, for ensuring that all system performance issues are remedied and addressed according to a set out SLA. ATNS has spares stores at each maintenance center for the technical systems. A set of analysis and testing tools are located primarily at the local centers based on the complement of systems that reside in that station.

The “D” level support is predominantly concerned with managing maintenance and support issues that have been escalated from O and I maintenance levels. A set of advanced skills by subject matter experts is required for the fulfillment of “D” level operational requirements using resources such as source codes, advanced troubleshooting, change management plus advanced application and database skills, in order to become change control design authority for software centric systems.

In the past ATNS acquired skills in hardware “D” level support at component level, however with the evolution of technologies to software-based systems, it has become ATNS strategic imperative to up-skill its human capital to be able to conduct “D” level support also for software systems. It is the objective of ATNS to build a partnership model with the successful bidder on the up skilling of ATNS staff to conduct software “D” level support.

3 GENERAL INSTRUCTIONS TO BIDDERS

The Bidder shall submit all responses, diagrams, documentation and drawings according to the GENERAL INFORMATION AND INSTRUCTIONS TO BIDDER'S document and in the English language.

To assist Bidders only, each paragraph or article has been appended throughout with the letters "(M)", "(D)", "(O)" or "(I)", to indicate whether the requirement is **Mandatory**, **Desirable**, **Optional** or for **Information** only.

ALL RESPONSES TO THE REQUIREMENTS IN THIS DOCUMENT SHALL BE PROVIDED AS FOLLOWS:

BIDDERS SHALL RESPOND IN FULL TO EACH ITEM IN THE FORMAT PROVIDED AND REFERENCES (CHAPTER, SECTION, PAGE NUMBER, PARAGRAPH NUMBER) TO DOCUMENTS AND RELEVANT INFORMATION SUPPORTING THE RESPONSES SHALL BE INDICATED IN THE SPACE PROVIDED. THIS INFORMATION WILL BE THE **ONLY RESPONSE USED FOR THE EVALUATION AND ASSESSMENT**.

Responses, provided in the space allowed, that are not clear or inadequate or the lack thereof shall be interpreted as **"Not Compliant"** even though the compliance column is declared as "Comply" and/or the Bidder's offer meets the requirement. Bidders shall ensure that each response correctly addresses the requirement stated. Responses not addressing the requirement of the specific paragraph shall be interpreted as **"Not Compliant"**.

Bidders shall declare compliance to each and every paragraph of this document, based on the paragraph classification, in the response block provided opposite the column labelled "Compliance". Bids will be evaluated as follows:

C: fully compliant = 2 points;
PC: partly compliant = 1 point;
NC: not compliant = 0 points.

Noted: Noted and accepted (applicable to paragraphs marked as "I", not containing requirements)

Bidders shall, for paragraphs declared "PC" or "NC", include a statement as to the nature of the variation and may supply additional supporting information in the space provided to demonstrate how the proposal may still meet the needs of ATNS.

Paragraphs marked "(M)", indicates that the requirement is mandatory and Bidders that do not comply with the requirement **shall** be disqualified for further evaluation.

Paragraphs marked "(D)", indicates that the requirement is desirable, and the Bidder is expected to declare their level of compliance, provide a formal response and reference supporting documents.

Paragraphs marked "(I)", indicates that the requirement is for information, however the Bidder is still expected to respond and provide information if requested. Any information gathered herein may form part of the contractual terms.

Paragraphs marked "(O)", indicates that the requirement is optional, and the Bidder may decide how to respond.

4 BIDDER/CONTRACTOR OBLIGATIONS

The Bidder shall provide a compliance statement to each specification to confirm that, if the Bidder is appointed as the Contractor, all requirements and obligations stated in this specification shall be complied with. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

5 PHASE 1: DEVELOPMENT PHASE

During this first phase, the overall support programme and all the support elements shall be developed and documented. (I)

5.1 System Performance Requirements

- A. The Bidder shall provide a turnkey AMHS/AFTN system with a system availability of be 99.95% (4.4 hours downtime), per site, per year, on a 24 hours, 7 days per week basis, over a complete system lifespan and shall support a restart time of less than 5 minutes at each site, per year, over a system lifespan of 15 years. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall provide a turnkey AMHS/AFTN system with a system reliability of 98.5% per site, over 24 hours. This is equivalent to 6 system failures per site, per year over a system lifespan of 15 years. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- C. In addressing all the failures, the failure severities shall be determined using table 4. The Bidder shall submit a draft plan to manage each of the severity ratings in order to achieve the required System performance. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6 SUPPORT CONCEPT

6.1 Support Concept Proposal

To achieve the system performance requirements stated in Section 5.1 above and 6.4 (below). ATNS uses a support system that is based on a three-level concept (explained in section 2 above). The Bidder shall provide a proposal demonstrating how the requirements of the ATNS support concept will be satisfied. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.2 (LSIP) Logistic Support Implementation Plan

The Bidder shall deliver a Logistics Support Implementation Plan that documents the schedule for all the logistics support deliverables/activities to be implemented during phases 1, 2 and 3, as listed in Table 1 (Section 1.). All the Logistic Support deliverables shall be integrated into the Project Management Plan (PMP). These activities shall be clearly shown on the overall Project Schedule and Work Breakdown Structure. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.3 Logistic Support Plan (LSP)

The Bidder shall deliver a Logistics Support Plan to define the support system that will be implemented for the ongoing support of the AMHS/AFTN system during its life cycle (15 years). The support system used during phase 3 will strictly follow this LSP, in order to verify the effectiveness of this plan prior to final acceptance and implementation in phase 4.

The following sections forms part of this plan:

RAM, Training, Spares, Test equipment, Documentation, PHS&T and Maintenance Planning (Concept, type and level). (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
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[INSERT FULL RESPONSE FOR EVALUATION HERE]
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]

6.4 Reliability, Availability and Maintainability Plan (RAMP)

- A. The Bidder shall deliver a Reliability, Availability, and Maintainability Plan to describe the RAM model to be used and how the RAM studies are to be conducted. The plan shall define the verification process and the classification and definition of failures, as well as, the remedial action to be taken should deviations be found. RAM Programme shall be maintained throughout the life cycle of the equipment.

Tasks: System Models (*Block diagrams of equipment & LRU MTBF and MDT*)
 Predictions (*Reliability, Availability and Maintainability*)
 Analysis (*Reliability, Availability and Maintainability*)
 Verification (*Reliability, Availability and Maintainability*). (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- B. The Bidder shall define and conduct a program aimed at achieving the guaranteed Reliability, Availability and Maintainability of each individual system. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- C. The RAM model shall be applicable to the Turnkey AMHS/AFTN System, but not limited to the components below:

- All Hardware
- Operating System Software
- Application Software
- AMHS/AFTN communication infrastructure
- Firmware (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	

[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]

D. The Bidder shall define under which conditions the RAM models are achievable. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

E. Bidder shall provide the general RAM Models (RAM Flow Diagrams) and relevant figures, examples of calculations, and the results of their predictions, as part of their tender. The reliability predictions shall be based on guaranteed actual MTBFs. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

F. The Bidder shall provide a RAM Report containing all Reliability and Availability calculations of all equipment, sub-systems and the total defined system. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

G. The Bidder shall include a RAM evaluation as part of all design reviews. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

H. Failure Modes Effects and Criticality Analysis (FMECA)

The Bidder shall submit a Failure Modes Effects and Criticality Analysis (FMECA) report, as per the suggested structure, but not limited to, in the table 2 below. (D)

Table 2: FMECA

Action	Output Summary
--------	----------------

Step 1: Identify, Define and List the Possible Hardware and Software Functional Failures	List of identified possible System functional failures
Step 2: Identify and List the Potential Effects of each of the Hardware and Software Failures	List of System and subsystem Effect(s)
Step 3: Assess and rate each effect according to the criticality and consequences of its impact	Criticality assignment for each effect FMECA Table
Step 4: Assign a Probability or likelihood to each Failure Mode	Probability or likelihood assignment for each failure
Step 5: Identify and document any concerns or possible vulnerable areas of the analysis	Documented assumptions, concerns and vulnerable areas of the analysis model
Step 6 Determine the impact of failures on the cost, schedule, and/or technical performance independently or simultaneously	List of impact of failures
Step 7 Prioritize the failure modes by ranking them from the highest priority to the lowest based on the probability of occurrences and their impacts	A prioritized list of failure modes Updated and prioritized table
Step 8: Identify Corrective Actions to Eliminate or Reduce the High Probability Failure Modes	List of actions to eliminate failure modes; or documented workarounds Measures to reduce probability of failure or their impacts; Software/hardware modification to include fault protection.

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.5 Training Plan (TP) (Including provision of training)

- A. Based on the ATNS support concept, the Bidder shall prepare a Training Plan to document the training of ATNS personnel. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. On the training plan, the Bidder shall detail the full training content to be covered, duration of training and location where training will be held. Training shall be provided to both the Technical Maintenance and ATC personnel. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
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[INSERT FULL RESPONSE FOR EVALUATION HERE]
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]

C. The Training Plan shall stipulate minimum requirements for all the respective training courses. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

6.5.1 Operational Training

A. The Bidder shall provide a basic Operational training to twenty (20) personnel. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

B. The Bidder shall also provide advanced Operational training to ten (10) personnel that have completed the basic Operational training. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

6.5.2 Technical Maintenance Training

- A. The Bidder shall provide an Advanced Technical Maintenance Training to eight (8) personnel, that have completed the basic Technical training, based on the ATNS Support Concept. In addition to the Bidder’s recommended training courses, the Bidder shall provide, but not limited to, the following modules as part of the syllabus: (D)
- Architectural Training
 - Application Training
 - Data and communication Model

- Database Management
- System configuration and set-up
- Troubleshooting and fault finding

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. At FAOR/Johannesburg, the Bidder shall provide a technical maintenance training course. This course shall satisfactorily address both the O and I maintenance levels., This intermediary Technical Maintenance Training shall be presented to ten (10) Technicians. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.5.3 Software and Firmware Training

Training provided to technical personnel, shall be to a level that they will be able to perform any setup function and all changes independent of the Supplier’s assistance. Software and Firmware training shall be provided to the level required for normal operation of the system and its upgrades. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.5.4 Hardware Training

Training provided to technical personnel (as per 6.5.2 above), shall address the full system architecture to the level of “O”, “I” & “D” Maintenance and shall include training, where required, for Packaging, Handling, Storage and Transportation. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
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<p><i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i></p>
<p><i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i></p>

6.5.5 Training Requirements

- A. In addition to standard training, the Bidder shall also provide E-Learning training platform or training material in digital format, to ensure effective and comprehensive training of all existing and future system operators and technicians. (D)

<p>COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.</p>	
<p><i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i></p>	
<p><i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i></p>	

- B. The Contractor shall provide on-the-job-training during installation. (D)

<p>COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.</p>	
<p><i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i></p>	
<p><i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i></p>	

- C. The Bidder shall submit a proposal for six (6) Operational instructors (Train the Trainer) to a level that will enable them to provide future training within ATNS. (D)

<p>COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.</p>	
<p><i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i></p>	
<p><i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i></p>	

- D. All proposed training courses shall have competency assessments and issue official certification. (D)

<p>COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.</p>	
<p><i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i></p>	
<p><i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i></p>	

5.1.1 General

- A. The Bidder shall ensure that the medium of instruction, for all training courses, shall be English. The Contractor’s instructor(s) shall present all the training courses in fluent comprehensible English. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall provide course syllabi with Lesson Plans, Training Aids and material stipulating the objectives, level, methodology and duration of each training. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- C. All training shall take place at the ATNS Aviation Training Academy (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- D. The Contractor shall complete all relevant training before the SAT (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.6 Spares Plan (SP)

- A. The Bidder shall deliver a Spares Plan that details the level and distribution of all spares and is based on the results of the Logistic Support Analysis (LSA) process and the MTBF predictions. Total System availability, turnaround times and storage location shall be considered. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall submit a spares plan that will ensure that the required performance (Section 5.1 & 6.4) of the full AMHS/AFTN system (mission equipment and supporting infrastructure) to be delivered through this tender is guaranteed for a minimum of 15 years. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- C. The Bidder shall propose consumable spares that will cover the first two years of operation. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- D. The Bidder shall provide a Spares strategy that shall distinguish between local and overseas sourced items, ATNS reserves the right to procure locally sourced items directly. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- E. The Spares Plan shall identify all recommended spares and their respective quantities, to be kept at FAOR. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
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<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- F. Should the PBU indicate that the Bidder’s recommended spare parts and consumables are deficient, the contractor shall supply additional new spares/consumables at their own cost. The system/project shall be kept in PBU until all identified deficient spare parts are delivered by the contractor. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.7 Test Equipment Plan (TEP)

- A. The Bidder shall submit a Test Equipment Plan that details the requirement, acquisition, distribution, and support of all standard and specialised test equipment, required for the support of the AMHS/AFTN. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall ensure that the Test Equipment Plan shall include details on the type of Test Equipment and its Support plus the allocations to the different Maintenance Levels. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- C. The Bidder shall provide a Plan that describe all Test Equipment calibration requirements. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- D. The Bidder shall provide a Test Equipment Plan that shall cover Built-in Test Equipment and any Diagnostic Software modules. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- E. The Contractor shall validate the sufficiency, capacities and number of Test Equipment during the PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.8 Documentation Plan (DP)

- A. The Bidder shall deliver a Documentation Plan defining all applicable documentation, to be delivered. The delivery of all documentation is completed prior to the commencement of Phase three (Validation Phase/PBU). (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall provide the following documents as a minimum. (D)
- System Documentation (System Installation and Maintenance).
 - Operator Documentation (Operator Handbooks).

- Hardware Maintenance (Equipment maintenance LRU replacement) documentation.
- Software and Firmware Documentation (Basic Software and Firmware, Operating system, utilities).
- Training Documentation (As per the Training Plan).

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

C. The Contractor shall provide copies of equipment, software and firmware Technical documentation to FAOR Maintenance Centres; ATNS HO and ATNS ATA. The documentation will be in a format and quality acceptable to ATNS. All documentation shall be provided in an electronic medium. Hardcopies shall only be accepted based on prior arrangement with ATNS. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

D. The Contractor shall, prior to the commencement of the PBU, ensure that all documentation reflects the true configuration of the As-Built AMHS/AFTN Systems, the serial numbers of all the system LRUs must be recorded on the As-Built documents. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

F. The Bidder shall confirm that they shall supply full documentation for the installation, connection and configuration of all hardware and software modules, and cabling for the As-built installation. As-built document shall consist (but not limited to) the following: (D)

- Training Documentation
- Equipment Specification/ Data Sheets
- Device and system verification sign-off sheets
- OEM and COTS Documentation [to be provided on all relevant equipment]

- Site configuration
 - Software and Firmware configuration
 - Design drawings
 - Equipment Power consumptions schedules
 - Cable schedule
 - List of cables and markings
- E. Interface(s) documentation with drawings (ICD and API)
-

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.9 Package Handling Storage and Transport Plan (PHS&TP)

- A. The Bidder shall deliver a Package Handling Storage and Transport Plan that addresses the requirements for resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly during both the implementation and support phases of the project. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall indicate whether all Packaging material are recyclable. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.10 Configuration Management Plan (CMP)

- A. The Bidder shall deliver a Configuration Management Plan to identify the configuration and control actions and procedures necessary for the configuration management of the

equipment, documentation, logistic resources plus Software and Firmware for the AMHS/AFTN System project during phases 1, 2 and 3. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall ensure that the CMP provides formal standard procedure for addressing all engineering changes and support system changes that may be required. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- C. The CMP shall make provision for procedures to ensure that, at the end of the PBU, the backup software and firmware at each centre, contain all the upgrades and patches implemented during the PBU. This activity is the responsibility of the Contractor and shall take the form of a configuration audit performed by the Contractor. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- D. The Contractor shall confirm that they remain responsible for the system configuration management until the end of the PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- E. Any hardware, Software and Firmware changes to the repaired units shall be recorded by the Contractor and ATNS be formally advised of the new configuration status. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- F. The Bidder shall confirm that an audit of the complete configuration status of all ATFM System hardware, software and Firmware, including all system documentation and support plans shall be performed. The Contractor shall execute this audit before the end of PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.11 Total Estimated LRU Repair Costs (over the System Lifespan)

- A. The Bidder shall provide total LRU repair costs, over the complete system lifespan, using the guide on tables 3. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- B. The Bidder shall submit a complete breakdown of all the LRU’s of the system. The following information, but not limited to the list, should be contained with respect to each LRU in the list. (D)

- The total number of each LRU installed
- Each LRU MTBF figure (based on actual data)
- Is the LRU repairable?
- Number of possible LRU repairs during the system lifespan
- Maximum LRU Repair Cost
- Total Estimated Repair Cost, per LRU, over system lifespan
- Total Estimated Cost of Hardware Repairs over system lifespan

Table 3: Total LRU Repair Costs Over 15 Years

Description	MTBF (Hours)	Site 1	Site 2	Site 3	Total Number Installed	Repairable (Yes/No)	Number of Possible repairs per lifespan (Based on MTBF)	Maximum Repair Cost (as at tender)	Total Estimated Repair cost (over the system lifespan) – [e.g., multiply columns H & I]
LRU 1									
LRU 2									
LRU 3									
LRU4									
TOTAL ESTIMATED COST - HARDWARE REPAIRS OVER 15 YEARS									

COMPLIANCE (C/PC/NC/Noted)	
Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.12 System Lifespan

The required system life cycle shall be 15 years. Bidder shall indicate, in their proposal, proven processes and interventions to ensure that the system satisfy the 15-year required lifespan. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

6.13 Interface Control Document (ICD)

The Bidder shall provide a full list of all ICD’s for all components and interfaces of the proposed system detailed in Volume 2, as per international best practices, as part of the tender response. The System shall be delivered with a complete and comprehensive set of Interface Control Documents that includes a comprehensive and full description for all interfaces, whether implemented at the time of system acceptance and commissioning or not. All relevant information, processes and methods on how to activate and implement the interfaces shall be made available to ATNS before the commissioning date. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

7 PHASE 2: IMPLEMENTATION PHASE

The provision of the deliverables mentioned below must be provided in this phase. (D)

- Provision of Training Courses
- Delivery of all Documentation
- Delivery of Spares
- Issuing of As-built documents
- Delivery of Test Equipment

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

8 PHASE 3 - VALIDATION PHASE

8.1 PBU

- A. The Bidder confirms that the PBU shall start from the SAT of the first site and end one (1) year after the SAT of the last site. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- B. The Bidder confirms that, during the PBU, they shall concurrently execute both the warranty and the verification of Phase 1 and 2 deliverables. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- C. The Bidder shall confirm that their warranty shall cover Turnkey AMHS/AFTN System repairs, modifications and replacements of hardware, software and firmware. The warranty shall also cover the correction of any other system errors not detected during FAT & SAT.

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- D. The Bidder shall ensure that all the Phase 1 and 2 deliverables are provided, to ATNS' satisfaction, that is, before the start of the PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- E. The Bidder confirms that, during the PBU, ATNS technical personnel shall maintain the system in accordance with Phases 1 and 2 deliverables, however, the delivered system remains the responsibility of the Contractor until the end of PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- F. All the Phase 1 and 2 deliverables shall be validated by both ATNS and the Contractor to determine whether the support system is proving effective. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- G. During the PBU, any identified deficiencies in Phase 1 and 2 deliverables, shall be corrected at the Contractor’s cost. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- H. The Bidder shall confirm that the PBU shall end when all the clauses mentioned in Phase 3 (Validation Phase) are performed, as determined by ATNS. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- I. The Bidder shall confirm that the PBU, for the whole system at each site, shall run for a minimum period as stipulated in point 8.1 A above. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- J. The Bidder shall confirm that the PBU will be extended by 12 months should the installed AMHS/AFTN System not satisfy the stipulated performance requirements (sections 5.1 & 6.4). (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- K. The system shall remain in PBU until all PBU deliverables are delivered and outstanding failures are closed. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

8.2 PBU Verification

- A. System Performance Verification

The Contractor shall provide regular equipment failure monthly reports on the actual system performance/RAM figures achieved, as per sections 5.1 & 6.4 herein. The Contractor shall initiate remedial action where deficiencies are identified. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

B. Spares Verification

The Contractor shall verify the adequacy of the proposed list of spares during the PBU phase.

(D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

C. Test Equipment Verification

The Contractor shall verify the sufficiency of their proposed list of specialized Test Equipment.

(D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

D. PHS&T Verification

The Contractor shall ensure that the Packaging, Handling, Storage and Transport of all spares and support material is adequate. The Bidder confirms that they shall pay special attention to the turnaround time of modules returned for repair or replacement. This requirement has a direct bearing on the Bidder's proposed level of spares holding. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

E. Evaluation of Training effectiveness

The Contractor shall ensure that the training received is sufficient. Should ATNS discover that the training provided by the Contractor was not adequate, the Contractor shall retrain the personnel at its cost. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

F. Documentation Acceptance

The Contractor shall ensure that all requisite support documents are delivered. Final acceptance of all support documentation takes place at the end of this phase. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

G. Configuration - Validation and Acceptance

Towards the end of PBU, prior to the final acceptance of the system, the Contractor shall audit the total configuration of the turnkey solution and provide a detailed configuration report. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

8.3 Updates

A. At the end of this validation period, the Contractor shall review and update all the Phase 1 and 2 documents (especially the Logistics Support Plan), verifying their effectiveness and applicability, such that these documents describe the final support methodology of the ATFM System. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

9 PHASE 4: APPLICATION PHASE

The duration of this phase is the economic life of the system, which is considered to be 15 years. This phase commences with the acceptance of all the elements of the Logistic Support Plan, validated during beneficial use, and the transfer of maintenance management responsibility to ATNS. (I)

9.1.1 Application of Logistic Support Plan

The LSP compiled, updated and verified during phases 1, 2 and 3, is now used as the standard control document for the on-going support of the AMHS/AFTN System project. (I)

10 CONTRACT DATA REQUIREMENT LIST

A. The Bidder shall take note of all the phases 1, 2 & 3 Logistics Support requirements/deliverables and the indicated delivery time frames, as depicted in Table 1 (section 1.2). Using the information in Table 1, the Bidder shall provide the CDRL document as specified in Volume 3. (I)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

11 SYSTEM FAILURE DEFINITION AND RELATED CORRECTION SERVICE LEVELS

A. The Bidder shall adhere to the failure priority/severity levels indicated on Table 4 below: (D)

TABLE 4 - Severity levels

Priority Level	Description
Critical (S1)	Emergency with the highest priority, indicating severe and acute operational problems where the availability of the service or essential functionality is severely impaired. Critical impact on business such as, but not limited to: <ul style="list-style-type: none"> • Total outage of primary equipment • Equipment failure or significant reduction in traffic handling capacity • Prevented access to the equipment due to system failure • Severe impairment of system administration • Loss of access to recovery operations • Failure of an important feature (upgrade from Minor service) • Loss of major functionality such as inability to add needed/required services, loss of access to the equipment, inability to perform equipment backups (upgrade from Major) • Failure of redundant equipment (Upgrade from Major)

	<ul style="list-style-type: none"> When 3 Major problems have occurred and are pending resolution, the priority level should be escalated to Critical Priority factor of 1 for critical incidents shall apply for the purpose of calculating penalties
Major (S2)	<p>The availability of the service is considerably restricted. Major impact or potential major impact on business such as, but not limited to:-</p> <ul style="list-style-type: none"> One server non-operational Problem threatens to escalate to Critical priority Prevents collection of data required for the equipment. This can typically include extraction of data/statistics Acute technical problem of primary equipment Loss of diagnostic functionality Significant degradation of access for recovery operations on peripherals Significant degradation of equipment alarms, critical, major or trouble reporting More than 1 (internal to ATNS) operational/technical position experiencing a similar SW or HW related problem. A single external client service failure due to any CSCI or any other system SW or HW failure as a result of any system related SW bug, upgrade, modification, configuration, interference, system design or baseline of the system performed/supplied by the vendor/supplier. <ul style="list-style-type: none"> Priority factor of 0.5 for major incidents shall apply for the purpose of calculating penalties.
Minor (S3)	<p>Queries and problems that are related to non-acute operational problems and important technical queries. Medium impact on the business such as, but not limited to:</p> <ul style="list-style-type: none"> Failure of non-critical warnings and alerts Any problem deemed less significant than the ones above Any item, including documentation that can generate procedural problems. General queries. Minor impact on business such as:- General documentation problems Input / Output message format problems No impact on customers or any other systems integrating to the network Priority factor of 0.2 for minor incidents shall apply for the purpose of calculating penalties.

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

B. The Bidder shall adhere to the failure response times and/or restoration times indicated on table 5 below: (D)

TABLE 5 – SERVICE LEVELS (Fault restoration and resolution response times)

Priority Level	Service cover period	Time to acknowledge and respond	Time to restore	Software Patch (Interim solution)	Software Permanent Solution time
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		(per incident/failure)			
Critical (S1)	24 hours/day x 7 days/week x 365 days/year	10 minutes after fault raised with OEM. (a)	< Total of 1H: 45min per incident (Maximum 4 failures per year.) (b)	1 day after submission of OEM requirements. (c)	1 Month, from the date of successful Patch (d)
Major (S2)	24 hours/day x 7 days/week x 365 days/year	20 minutes after fault raised with OEM. (e)	< 4 Hours per incident (f)	3 days (g)	3 Months (h)
Minor (S3)	24 hours/day x 7 days/week x 365 days/year	30 minutes after fault raised with OEM. (i)	< 2 days per incident (j)	2 Months (k)	6 Months (l)

Notes:

- The calculation of the Response Times listed above shall only start when the Contractor/OEM has received all the required information it has requested from ATNS. The Contractor shall not be penalized for delays caused by ATNS.

COMPLIANCE (C/PC/NC/Noted)	
Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

12 MAINTENANCE AND SUPPORT CONTRACT REQUIREMENTS

- A. **SUPPORT CONTRACT PROPOSAL:** The Bidder shall provide a 15-year Maintenance and Support Contract proposal, as per the ATNS Support Concept. The Maintenance and Support contract will be signed concurrently with the System acquisition contract and shall commence at the end of PBU. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- B. **EXPLICIT INDICATION OF EXCLUSIONS:** Listed below, as requirements, are minimum maintenance and support services, therefore, the Bidder shall detail all their proposed maintenance support services in their bid. The Bidder shall explicitly emphasise the excluded maintenance support services, if any, plus the rationale for their exclusion. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- C. **SUPPORT CONTRACT PRICES:** Bidder shall provide detailed prices of the Maintenance and Support contract proposal only in Volume 1C. The rest of the Support Contract aspects, excluding pricing, shall be provided in Volume 4. During each year, the Maintenance and Support shall cater for quarterly invoicing in arrears, in line with Points O and P below. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- D. **SERVICE & LABOUR RATES:** The Bidder shall submit a schedule of all labour and service rates, for both local and overseas resources, for normal working hours, weekends and public holidays. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
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[INSERT FULL RESPONSE FOR EVALUATION HERE]
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]

- E. **SYSTEM PERFORMANCE GUARANTEE:** The Bidder shall propose a Maintenance and Support Contract that shall guarantee that the specified System Performance Requirements, as mentioned in section 5.1 are achieved, for the complete system lifespan. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- F. **SOFTWARE & HARDWARE SUPPORT:** The Maintenance and Support Contract shall cater for the complete turnkey AMHS/AFTN System, including, but not limited to, third party hardware and software; Turnkey Systems Software, Applications Software, Firmware and Hardware failure corrections. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- G. **RESPONSE TIMES:** For Hardware, Software and Firmware failure corrections, the Maintenance and Support Contract shall adhere to the maximum response times (Service Level Agreement) indicated in table 5. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
[INSERT FULL RESPONSE FOR EVALUATION HERE]	
[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]	

- H. **FAILURE CORRECTION REPORT:** The Contractor shall provide ATNS with a failure correction report, within 7 days of each fault/failure/Error/Bug correction. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- I. **LRU EXPENSES**: The proposed Maintenance and Support Contract shall cover unlimited LRU repairs/replacements, for the System lifespan. The maintenance and support agreement shall also cover all the LRU repair/replacement associated expenses, including, but not limited to, actual repairs/replacements, shipping, insurance, taxes, etc. The incurred expenses shall include, but not limited to, sending away to factory the faulty LRUs and returning the repaired LRUs, to ATNS. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- J. **LRU REPAIR TURN AROUND TIME (TAT)**: The Contractor shall return each repaired LRU/component, to ATNS, within 45 business days of receipt of the faulty one. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- K. **ICAO COMPLIANCY**: The Bidder shall ensured that the system remain compliant with ICAO standards and recommendations during the expected lifespan. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- L. **SYSTEM TO MAINTAIN A CURRENT STATUS:** The Contractor shall ensure that the entire system is always equipped with the latest Systems Software, Applications Software and Firmware versions throughout its expected lifespan (15 years). (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- M. **OBsolescence Management:** The Bidder shall submit an Obsolescence Management strategy that will deal with obsolesce within this system. The Obsolescence Management that will be implemented throughout the system lifecycle shall include the associated costs to ensure that the system remains compliant to performance requirements stipulated herein and in Volume 2. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- N. **RESOURCE PROVISION:** In the event of emergencies, the Contractor shall make available, within 48 hours after ATNS request, a Technical resource to the specific ATNS site. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

- O. **SYSTEM PERFORMANCE REPORTS:** The Support shall cater for both monthly and quarterly system performance and LRU repair TAT reports. Service review meetings shall be held every 3 monthly, for the duration of the maintenance contract. (D)

COMPLIANCE (C/PC/NC/Noted) Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	

P. **PENALTIES:** Should the Contractor breach the LRU REPAIR TAT (Point J. above), ATNS shall impose penalties.

In the event that each LRU Repair TAT exceeds 45 working days, the total number of days for the breach (for all LRUs in breach), over a measurement period of three (3) months, the service provider shall pay a penalty as follows:

Quarterly Service Penalty = Tact [hours]/ Tmax [hours] * (Priority factor) * (10%* Annual Contract value), up to a total maximum of the annual value of the Agreement, per Agreement period, where: Priority factor is as per definition in Table 4.

The Priority Factor for LRU Repair TAT [days] shall be 0.5

Tmax [hours] = corresponding priority level maximum response (time to respond, time to restore, interim solution, permanent solution and LRU Repair TAT)

Actual Downtime/Transgression (Tact) will only be affected if it was a direct result of the equipment failing within the equipment’s specifications, this excludes failures due to external causes.

Note: The penalty only applies to where the service levels (**LRU Repair TAT, fault restoration and resolution times**) have been transgressed. (D)

COMPLIANCE (C/PC/NC/Noted)	
Responding with C/PC/NC only without proof will not be accepted.	
<i>[INSERT FULL RESPONSE FOR EVALUATION HERE]</i>	
<i>[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]</i>	