**AIR TRAFFIC AND NAVIGATION SERVICES CO. LTD**

****

**Request for QUOTATION FOR THE APPOINTMENT OF A SERVICE PROVIDER FOR TRIPOLI NAFISAT TERMINAL INSTALLATION, TESTING AND COMMISSION AT TRIPOLI INTERNATIONAL AIRPORT.**

**REQUEST FOR QUOTATION NO:** **ATNS-CS- TRIPOLI NAFISAT-140223**

**VOLUME 3**

**Project Management Requirement**

**The information contained within this document is confidential to ATNS in all respects and it is hereby acknowledged that the information as provided shall only be used for the preparation of a response to this document. The information furnished will not be used for any other purpose than stated and that the information will not directly or indirectly, by agent, employee or representative, be disclosed either in whole or in part, to any other third party without the express written consent by the Company or its representative.**

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| TABLE OF CONTENTS |

TABLE OF CONTENTS 2

APPENDIX 3

ABBREVIATIONS 4

SPECIFICATION FOR PROJECT MANAGEMENT 5

1 INTRODUCTION 5

1.1 Tender Response 5

1.2 General 5

1.3 Document Structure 5

2 PROJECT MANAGEMENT PLAN 6

2.1 Project Status Reports 6

2.1.1 Risk Report 6

2.1.2 Schedule Analysis 6

2.2 Network Logic Schedule 7

2.2.1 Milestone Schedule 7

2.2.2 Master Logic Network 7

2.2.3 Sub-network 7

2.2.4 Activity Dictionary 7

2.3 Work Breakdown Structure 8

2.4 Progress Review Meetings 8

2.4.1 Requirements 8

2.4.2 Matters for Consideration 8

2.4.3 Participants in Progress Review Meetings 9

2.4.4 Documentation 9

2.4.5 Costs 9

2.5 Technical Reviews and Meetings 9

2.6 Control and Co-ordination 10

2.6.1 Authorization Procedures 10

2.6.2 Change Control 10

2.7 Financial Management 10

2.8 Logistic Management 11

2.8.1 ILS Programme Strategy (I) 11

2.8.2 (LSPP) Logistic Support Programme 11

2.9 Interface Management 11

3 RESOURCE ALLOCATION PLAN 11

4 TEST AND EVALUATION MASTER PLAN 12

5 INSTALLATION, TRANSITION AND COMMISSIONING PLAN 12

6 DEVELOPMENT PLANS 13

6.1 Software Development Plan 13

6.2 Hardware Development Plan 13

7 CONFIGURATION MANAGEMENT PLAN 13

7.1 Configuration Management and Control 13

7.2 Contract Data Requirements List 13

8 RISK MANAGEMENT PLAN 14

8.1 Risk Analysis 14

8.2 Risk Reduction Demonstrations for Human Machine Interface 14

9 QUALITY ASSURANCE PLAN 15

9.1 Quality Assurance Programs 15

9.2 Quality Assurance Plan 15

9.3 Responsibility for Quality Assurance 15

9.4 Quality Assurance Audits 16

|  |
| --- |
| APPENDIX |

[Appendix A: RISK ANALYSIS 2](#_Toc83443767)

[Appendix B: REQUEST FOR CHANGE FORM 2](#_Toc83443768)

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| ABBREVIATIONS |

AM Amplitude Modulation

ATNS Air Traffic and Navigation Services Company

ATA ATNS Training Academy

BITE Built in Test Equipment

CAA Civil Aviation Authority

CD Compact Disk

CMP Configuration Management Plan

DME Distance Measuring Equipment

DP Documentation Plan

DVOR Doppler VOR

ET Engineering Technician

FAT Factory Acceptance Test

FM Frequency Modulation

ICAO International Civil Aviation Organization

ILSP Integrated Logistic Support Plan

LS Logistic Support

LSPP Logistic Support Program Plan

LRU Line Replacement Unit

LSA Logistic Support Analysis

LCC Life Cycle Costing

MAS Minimum Acceptable Service

MDT Mean Down Time

MTBF Mean Time Between Failures

NAVAID Navigation Aid

NAVEQUIP Navigation Aid Equipment (DVOR, VOR, DME)

OEM Original Equipment Supplier

OJT On the Job Training

PC Personal Computer

PCB Printed Circuit Board

PBU Period of Beneficial Use

PMP Project management Plan

PHS&T Packaging, Handling, Storage and Transportation

RAM Reliability, Availability and Maintainability

RAMPP Reliability, Availability and Maintainability Program Plan

RCMS Remote Control and Monitoring System

RF Radio Frequency

RFQ Request For Quotation

SAT Site Acceptance Test

SP Spares Plan

SRU Shop Replacement Unit

SSI Station Standing Instructions

SSR Software Support Report

TEP Test Equipment Plan

TP Training Plan

UPS Uninterruptible Power Supply

VOR VHF Omni-directional Radio Range Equipment

SPECIFICATION FOR PROJECT MANAGEMENT

# INTRODUCTION

## Response

The Bidders shall provide a compliance statement and a written response to each paragraph in this document, unless the paragraph has been marked as ’(I)’ indicating it is for information only. Clear and unambiguous references to supporting information shall be provided in the compliance statement and written response.

## General

1. The Contractor shall establish, implement and maintain extensive and comprehensive Project Management Plan (PMP) for the VSAT terminal installations throughout the period of any Contract arising from this RFQ. These Plans will be used to manage and monitor the project. Summary level plans shall be submitted with the RFQ and will be refined as necessary during the Contract development and reporting phases.

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The Contractor shall divide the plans into activities which can be managed, monitored, and measured in the terms of duration, cost and resources.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Project Management of the VSAT Terminal installations is the responsibility of the Contractor. (I)

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Bidder shall present ATNS with a Project Management plan in the Microsoft Project format for integration into the ATNS Enterprise Project Management (EPM) system.
2. The Contractor shall utilise an automated Project Management tool to assist in the overall control of the VSAT Terminal installations. The Company may require direct access to any such Project Management System for at least monitoring and audit purposes.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Project Management shall encompass the management of all the various facets of the project as defined in the Contract, including design, development, production, supply of ancillary equipment, resource allocation and control, management of sub-contractors, on-site installation and construction, testing, transitioning, commissioning, transportation, all Integrated Logistic Support activities, staff movements and subsistence, etc.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The Contractor shall prepare for, actively participate in, and respond to the Project Meetings, prepare and present comprehensive reports, and produce adequate documentation as described in sections (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Document Structure

1. The Project Management Plan (PMP) for the VSAT Terminal installations will consist of the master plan with an executive summary of each of the project plans attached or referred to in the document.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The PMP shall include following information:

Network Schedules (As an attachment)

Project Status Reports and Progress Review Meetings

Financial Management

Logistic Management

Change Requests

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The following plans are required:

Resource Allocation Plan

Test and Evaluation Master Plan

Installation, Transition and Commissioning Plan

Risk Management Plan

Quality Assurance Plan

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

# PROJECT MANAGEMENT PLAN

1. The Bidder shall submit an outline Project Management Plan (PMP) with the RFQ.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The PMP will be a formally accepted and approved document that will be used to manage and control project execution throughout the project life-cycle phases. The detailed PMP shall be submitted to the Company for approval within the first month after contract award (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The PMP will detail the activities necessary to successfully complete the project and shall refer to the other plans developed under the project.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Project Status Reports

1. The Contractor shall provide at two weekly intervals or at other mutually agreed intervals Project Status Report to the Company (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Project Status Report shall document project performance to date and make recommendations for future implementation and changes. The project status shall be presented relative to schedule critical path and cost (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor shall ensure that the Project Schedule includes all contractually specified milestones, identifies the critical path, and is linked to the WBS (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Master Project Schedule shall be broken down to sufficient level of detail. MS Project will be acceptable (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The schedule shall also address the Logistic Support Programme (I)

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The project status report shall include a risk report and schedule analysis (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Bidder shall submit a Status Report example with the RFQ.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

### Risk Report

1. The Risk Report shall detail the top 10 risks, as identified by the Risk Management Programme implemented by the Contractor (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Schedule Analysis

1. The project status report shall also include the Network Logic Schedule and Schedule Analysis. The Contractor shall promptly submit to the Company any Network Logic Schedule which, when updated, shows a negative float or indicates a significant change to the delivery schedule (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Schedule Analysis shall be a written analysis of project performance, future predictions and recommendations against time and cost objectives. The Analysis shall also contain a statement of current resources applied to the project including materials, plant, space occupied on Company premises, costs and manpower (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Network Logic Schedule

1. The Bidder is required to submit a proposed draft Network Logic Schedule that includes the Master Milestone Schedule and the Master Logic Schedule.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The schedule submitted must indicate how the Bidder propose the project to be completed in the required time period.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

### Milestone Schedule

1. The Master Milestone Schedule will show the major project milestones (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The schedule shall take the form of a Gantt chart with numbered activities listed vertically on a horizontal time-scale (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Each milestone shall be a direct output of a corresponding lower level network (master network) (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Master Logic Network

1. The Master Network shall cover the total project, including logistic support (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Master Network shall show predecessor and successor relationships of the major activities that are required to achieve the master milestones (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. It shall include all internal and external interfaces, management decisions, use of Company resources as specified in this Contract, subcontracted activities, and the complex major activities which are the Major Network level representatives of sub-networks (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Bidders shall show the three paths of highest time criticality, and shall indicate the schedule risk for each of the three paths.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

### Sub-network

1. If a major activity has to be broken down into its constituent parts for effective management, then that activity shall be represented by a sub-network (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Each sub-network shall show predecessor /successor relationship (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Sub-networks shall be interlinked with each other as well as with the Master network in such a way that variation in any of the attributes of any activity will be automatically reflected by the appropriate impact in all the other networks (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Bidders shall show on each sub-network the three paths of highest time criticality and shall indicate the schedule risk for each of the three paths (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Each sub-network may be expanded into further sub-networks. (I)

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Activity Dictionary

The Contractor shall provide the Company with an Activity Dictionary. Each activity definition shall be brief and concise. The activity dictionary shall define at least the following attributes:

state the work to be accomplished;

target start/target finish (if applicable);

actual start/actual finish (if applicable);

minimum, maximum and most likely duration of each activity;

manpower required to complete activity; and

any other resource associated with the activity.

Note: Once the Company is in possession of an approved and comprehensive dictionary, exception reporting only is required in the Project Status Report (i.e.: new activities or a change in an activity). This however does not exclude the requirement to report on the risks on a monthly basis (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Work Breakdown Structure

1. The Work Breakdown Structure is an important tool which will enable the Company to maintain visibility of the project elements (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. An outline WBS shall be included in the response to the Request for RFQ.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Progress Review Meetings

### Requirements

1. The Contractor shall attend Progress Review Meetings at monthly intervals (or at other mutually agreed intervals) to present a Project Status Report (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Regular Progress Review meetings, to be conducted in South Africa, may be held alternately at the Contractors premises or at the Company’s Office, or at other mutually agreed locations (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. A copy of the Contractor’s Project Status Report and meeting presentation material shall be submitted to the Company at least one week prior to the Progress Review Meeting (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Matters for Consideration

1. The Contractor shall make a presentation on the progress of the project to date, a projection of the effects of variations from the previous schedule, and any action taken or recommendations for action to rectify existing or anticipated problems. All aspects of the project status shall be presented, all data must be both current and accurate, and the summary of the accomplishments of the Contractor and subcontractors to date must be detailed.

The presentation shall include a forecast of trends in terms of technical, cost and schedule performance through to completion of the Contract. It shall also focus attention upon, and provide insight into, the interrelationships among the project elements including subcontractors.

Design and Management problems will also be addressed. Significant slippages, obstacles, or discrepancies between planned, actual and forecast project progress shall be addressed through a narrative analysis of cause, effect and proposed or completed corrective action (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor shall present, at the request of the Company, any data for proposed work constituting a variation to the Contract or Engineering Change Proposals.

All proposed variations or Engineering Change Proposals shall include the proposed change and the documentation by which the change is described and suggested. The Contractor shall include a complete analysis of the technical, interface, cost, schedule and logistics impact of the proposed change (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

The Contractor shall be prepared to provide backup data on assumptions made and methodologies used in arriving at specific conclusions, recommendations and alternatives to the design approach (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

There shall be a free and unlimited exchange of information between the Contractor and the Company in order to establish progress of the project, to identify problems and to agree on the method of timely resolution (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Participants in Progress Review Meetings

1. The Contractor shall be represented by appropriate key personnel in each significant area to be considered during the meeting to enable effective discussion of Agenda items and the Progress Report (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Company shall be represented by the Project Engineer, or delegate and relevant specialists, including logistic support personnel (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Company Project Engineer, or delegate, will chair Progress Review Meetings (I).

### Documentation

1. The Contractor shall submit a draft Agenda for Company concurrence at least one week prior to a scheduled Progress Review Meeting (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Company may submit items for inclusion in the agenda (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor shall provide administrative support for the meeting and prepare and distribute a draft record of the minutes of the meeting within one week of the meeting. The minutes are to include an Action Item List. The Company and the Contractor shall submit any updates of the Action Item List during the meeting (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The draft minutes shall be reviewed for accuracy by the Company and the Contractor within one week of submission. The minutes will be formally approved at the next meeting (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor shall prepare appropriate presentation material and make presentations at the Meeting to address all items required in the Progress Report (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Costs

1. The Contractor and the Company will each meet their own costs associated with attending Progress Review Meetings (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Technical Reviews and Meetings

1. The Contractor will be required to conduct technical system reviews and meetings with Company personnel. It is preferred that these reviews be held concurrently with Progress Review Meetings (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The technical reviews and meetings should consist of at least the following (I):

Software Specification Review;

Preliminary Design Review;

Critical Design Review; and

Test Readiness Review;

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The above requirements are representative requirements and Bidders may offer alternative plans which must list and describe the Technical Reviews and Meetings they would propose for this project (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor will be required to provide appropriate and adequate documentation in support of these reviews. Bidders shall include in their RFQ a description of the level and extent of documentation to be provided at the Technical Reviews and Meetings.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Control and Co-ordination

1. The overall co-ordination and control of all activities under the contract shall be the responsibility of the Contractors Project Manager (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The relevant team members appointed will be responsible for the activities within their areas of expertise in the project (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Authorization Procedures

1. All documentation developed and delivered under the Contract shall be signed by the originator, Contract and Company Project Managers as having read, understood and approved the document for issue (I).

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. All documentation developed and delivered under the Project and under Configuration control should also bare the signature of the Project Configuration Manager (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

### Change Control

1. Any change or variation under the Contract will be formally documented (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. A request for change can be submitted by the Company or by the Contractor (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The attached Request for Change form in Appendix B will be completed and submitted at the progress meetings (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. No change or variation will be implemented before the associated form has been completed and approved (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Where applicable, configuration management will be applied to all changes or variations (I).

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Financial Management

1. Bidders are required to indicate what process will be implemented to monitor and report on the financial status of the project (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The financial management process will be detailed in the PMP.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Any change under the project will be documented and a formal Change Request will be compiled. An example of a Change Request form is attached to this RFQ. Bidders are requested to comment on this form.

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Logistic Management

1. The logistic management process will be detailed as part of the Project Management Plan (PMP) for the VSAT Terminal installation (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The logistic management will include all logistic aspects of the project from contract signature till the final acceptance at the successful completion of the Period of Beneficial Use (PBU) (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Bidder shall describe all management mechanisms and procedures that will be established for the management and execution of the LS Activities in the PMP.

|  |  |
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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Interface Management

1. The Company will specify the interfaces to external systems affected by this RFQ. The Contractor shall define, design and control the interfaces within his system (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Technical Specifications of this RFQ indicates interface requirements with existing end user facilities (I).

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| **COMPLIANCE (C/PC/NC/Noted)** |  |

# RESOURCE ALLOCATION PLAN

1. Bidders shall submit resumes of key personnel to be dedicated to the project.

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| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders shall furthermore submit with their RFQ a Resource Allocation Plan which identifies the resources, including subcontract resources, to be applied to each element of the project.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The Plan shall clearly identify all work proposed to be undertaken by subcontract.
2. The Bidder shall ensure that only appropriately qualified and experienced personnel will be employed on the tasks. The Company shall retain the right to direct the Contractor to remove from the project any personnel considered by the Company to be inappropriately qualified or experienced, or unacceptable to the Company.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The Bidder shall clearly indicate what steps he intend taking to ensure that adequate resources will be available to manage and implement the project within the proposed time period.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The VSAT terminal installation involves close liaison with the Company and there are elements of the project installation and commissioning which will require the Contractor to utilise Company staff. Bidders shall include in the Resource Allocation Plan a description of the elements of their proposal which will involve assistance by Company staff.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

# TEST AND EVALUATION MASTER PLAN

1. The Contractor shall prepare, implement and maintain a Test and Evaluation Master Plan (TEMP) that describes the Contractor’s plan for all Tests and Evaluations to be undertaken in demonstrating compliance with the technical, operational, contractual and performance requirements of the project. The Plan shall include an Acceptance matrix which identifies all deliverables and methods of testing proposed by the Bidder to demonstrate compliance.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Specific testing and evaluation procedures for the various Acceptance Tests (e.g. Factory Acceptance Testing, Site Acceptance Testing, Physical Inspections, Final Acceptance, etc.) will be defined in the Test and Evaluation plan for each deliverable.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

# INSTALLATION, TRANSITION AND COMMISSIONING PLAN

1. The Contractor shall prepare, implement and maintain an Installation, Transition and Commissioning Plan (ITCP) that describes the Contractor’s plan for the installation of the new systems, clearly indicate how the transition from the existing installation will be achieved, leading to the commissioning and acceptance of the new system.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The ITCP shall indicate how the Contractor will plan and manage the transition, including the continued operation of the existing operational service during all phases of the project, which includes the period of site works, installation, setting up and commissioning phase, transfer of operation to the upgraded equipment and the decommissioning and withdrawal of existing equipment, where applicable.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The ITCP shall be compiled in conjunction with the TEMP.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The activities defined in the ITCP shall be included in the Network Schedule.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

# DEVELOPMENT PLANS

## Software Development Plan

1. The Contractor shall prepare, implement and maintain a Software Development Plan (SDP) that describes the Contractors’ management of computer and system software development during all phases of the project (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The management system, including planning and procedural guidance for all elements of the project, shall be included in the plan to enable visibility, control and co-ordination of the software development (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The SDP shall provide for the co-ordination of all facets of the development under a Master Schedule of events and milestones. The detailed performance requirements, software architecture and detailed software design will be subject to review by the Company at scheduled milestones in the software development cycle (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Milestone dates shall be established for the purpose of demonstrating and validating evolving software capabilities (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The SDP shall provide a capability to monitor the progress of the development by means of regular status reports, reviews and audits. Submission of software development status reports and reviews to the Company does not absolve the Contractor from the responsibility for software design, development, verification and validation processes (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Hardware Development Plan

1. The Contractor shall prepare, implement and maintain a Hardware Development Plan (HDP) that describes the Contractors plan for the management of all hardware development during all phases of the project (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The management system, including planning and procedural guidance for all elements of the project, shall be included in the plan to enable visibility, control and co-ordination of the hardware development (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The HDP shall provide a detailed account of the methods, tools and techniques to be used in the development process (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

# CONFIGURATION MANAGEMENT PLAN

## Configuration Management and Control

1. Bidders shall detail their approach to configuration management and control, for both hardware and software, to meet the requirements of this RFQ as described in Technical Specifications.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Contract Data Requirements List

1. The Contractor should establish and operate a data management system as part of the overall project management scheme. The plan should define the methods for identification, preparation, tracking and updating of all relevant data.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders shall also submit a proposed Contract Data Requirements List (CDRL) which incorporates all data requirements stated in this RFQ, together with a delivery schedule.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders should also identify any additional data or documentation that they consider should be included in the CDRL, together with a description of the item and the reason for inclusion, for the purpose of operating and maintaining the system.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The CDRL should identify the status of the CDRL item, i.e. draft, final.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. All CDRL items shall be delivered to the Company in draft format for Company concurrence prior to final acceptance and delivery (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Contractor shall be responsible for timely delivery of all CDRL items consistent with the overall project schedule (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

# RISK MANAGEMENT PLAN

## Risk Analysis

1. Bidders shall submit with their RFQ an outline of their policy and methodology for risk identification, assessment and abatement for all items to be supplied in all the phases of the project.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders shall provide information which identifies risk, estimated level of risk and the consequences of failure and risk reduction strategies associated with:

program objectives;

technology involved;

system performance and

programme schedules.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders shall include in their RFQ a description of the risk management procedures they would apply in any eventual contract. The procedures and fall back plans should include:

identifying risk areas and the constituent risk factors in each area;

qualifying the risk factors identified, including probability of occurrence and the effect of occurrence;

risk reduction procedures for an identified risk;

identifying, analysing and implementing alternative risk reduction solutions; and

review of applied risk reduction alternatives.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. The Contractor shall provide a Risk Report to each Progress Review Meeting to indicate the status and action associated with identified risk items (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Bidders shall complete the form shown in Appendix A for the top ten identified risks under the project.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

1. Bidders may propose an alternative report form to be implemented under the contract and submitted at each Progress Review Meeting.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Risk Reduction Demonstrations for Human Machine Interface

1. Early validation of the acceptability of the human machine interfaces (HMI), the development of procedures to be used with the interfaces and the appropriate training of Company operating and maintenance staff on the HMI, are considered critical elements in achieving the overall project schedule. Bidders shall submit proposals for Risk Reduction Demonstrations for validating their proposed HMI (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. As the Request for Quotation requires that systems proposed by Bidders are to comprise commercially available, field proven equipment and systems, it is envisaged that Risk Reduction Demonstrations and prototype evaluations can be undertaken early in the project. Bidders shall indicate at what stages in the project they could present the following for evaluation by the Company in South Africa or at the Bidders’ facilities as appropriate (I):

static prototypes of the HMI

dynamic prototypes of the HMI

full scale prototypes of the proposed display and HMI

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The purpose of these Risk Reduction Demonstrations is to enable (I):

validation of user acceptability of the system HMI;

validation of the ergonomics, in terms of operator and maintenance requirements, of the proposed system;

testing of interface operation.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. Bidders shall provide details of the HMI evaluation procedures they propose to apply during these demonstrations to validate the human factors aspects of their design (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

# QUALITY ASSURANCE PLAN

## Quality Assurance Programs

1. The Company requires that the Contractor shall have in place an internationally recognised QA program for hardware, software and installation activities. Bidders shall include in their response details of the company quality assurance procedures and relevant accreditations held by the company. Bidders must indicate the QA standards that were used for the development of the proposed systems.

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |
| *[INSERT FULL RESPONSE FOR EVALUATION HERE]* |
| *[INSERT REFERENCE TO ADDITIONAL INFORMATION HERE]* |

## Quality Assurance Plan

1. The Contractor shall develop a Project Quality Assurance Plan, which shall also incorporate sub-contractors obligations, to ensure that all deliverables meet the design requirements and specifications and are of high quality, highly reliable and easily maintained (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Responsibility for Quality Assurance

1. The Contractor shall be responsible for ensuring that the quality of equipment, documentation and software supplied are in accordance with the terms of the Contract, and any installation activity performed, fully conforms to the prescribed requirements (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Company will undertake a monitoring and audit role in relation to the Contractors Quality Plan and program to determine whether equipment, documentation, software or installation deliverables meet the contractual requirements (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

## Quality Assurance Audits

1. Audit reports in respect of the project as prepared by the Contractor as part of his internal QA procedures, and details of any corrective action reports and corrective action taken, shall be submitted to the Company (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

1. The Company reserves the right to perform any inspections, tests or audits at the Contractor’s or sub-contractor’s premises at any time when such tests are deemed necessary to ensure Supplies and Services conform to specified requirements (I).

|  |  |
| --- | --- |
| **COMPLIANCE (C/PC/NC/Noted)** |  |

Appendix : RISK ANALYSIS

Tables 1, 2 and 3 are questionnaires aimed at identifying the risk and its impact on the project. Bidders are required to complete these questionnaires for the top 10 identified risks for the project. The following notes provide background on the method of risk assessment to assist in the completion of the questionnaires.

1. Quantification of Risk Probability and Impact

The probability of a risk realising is determined as follows:

* High Probability: a better than 70% chance of the risk occurring;
* Medium Probability: between 30% and 70% chance of the risk occurring;
* Low Probability: a lower than 30% chance of the risk occurring;

The following guidelines are to be used:

1. Performance

High Impact: Major shortfalls in key performance parameter;

Medium Impact Some shortfalls in one or two areas;

Low Impact: A few shortfalls in secondary parameters;

Nil Impact: System will fully meet the target(s);

1. Cost

High Impact: Large increase in total cost (>20%)

Medium Impact: Significant increase in total cost (10%-20%)

Low Impact: Small increase in total cost (<10%)

Nil Impact: No impact on cost

1. Schedule

High Impact: Causing a delay in excess of 2 months;

Medium Impact: Causing a significant slip of between 1 and 2 months;

Low Impact: Causing a small slip of less than 1 month;

Nil Impact: No effect upon schedule;

1. Risk Factor

The **Risk Factor** for each risk is calculated as follows:

Rf  = P + Cf - PCf

Where: Rf is the Risk Factor for the particular risk

 P is the probability of a risk occurring

 Cf is the figure denoting the consequence of the risk and is calculated as follows:

Where: **Cp** is the number associated with the impact of the risk on the performance

 **Cc** is the number associated with the impact on the costs

 **Cs** is the number associated with the impact on the schedule.

1. Identification of Risk Sources

A list of generic risk sources is given below. Bidders are free to add to this list but in so doing the definition of the risk areas is also to be provided in a similar format:

1. Scientific and Technological Risks

Will it actually work? Is the activity within the bounds of physical possibility? Are there any inconsistencies in the requirements? Has it been done elsewhere before? Is the technology proved and in place to bridge the innovation gap.

1. Technical Risks.

Can the science be applied to the design? Is the technology sufficiently mature to allow repeated achievement of design goals?

1. Engineering Skills Risks.

Do the persons involved in the execution of the work have sufficient experience? Is there a learning curve that the personnel will have to go through before they can repeatedly achieve the required results?

1. Material/Resources Availability.

To what degree is the activity dependent on the timeous supply of goods and services? How available are these goods and services? How many long lead items are required?

1. Labour Risks.

Is sufficient manpower with applicable experience and competency available for the successful execution of the programme?

1. Facilities Risks.

Are the existing facilities and infrastructure sufficient to ensure the successful completion of the work required?

1. Management Risks.

Have the necessary management structures been established to ensure the successful execution of the work?

1. Definition of Each Element/Task/Activity

Each element/task/activity identified as one of the Top 10 Risks is to be described in detail to define what is involved in its execution. The person(s) responsible for the execution of the work under that activity, tasks or element shall provide this data. At least the following data is to be provided (Refer Questionnaire 2):

* Inputs to the element/task/activity
* The desired outputs or results
* A definition of the work to be done
* Interfaces with other elements/tasks/activities
* Resources required for execution of the work
* The responsible person
* Leading and following tasks
1. Determination of Risk Reduction Strategies and Plans

The response that will be applied, should the risk realise, is also to be entered on the same questionnaire. These responses can take the form of abatement plans, transfer of risk, or any actions aimed at reducing or removing the risk. Any secondary risk that may result from these responses is also to be listed.

1. Fallback Plans

Fallback or Contingency plans that are to be followed in case the particular risks materialises, are to be entered on the same form. As for the Risk Responses, the secondary risks identified in these fallback plans shall be listed. In the case of the Fallback plans, however, the latest date at which it can be decided to follow or implement the Fallback Plan must be given. If the decision to activate the Fallback Plan is dependent on a specific trigger event, this event is to be described fully.

Risk Questionnaire 1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Serial****No** | **Risk No** | **Description of Risk** | **Impact** | **Risk Reduction Measures** | **Fallback Plans** | **Latest****Decision****Date** | **Ownership** |
|  |  |  | **P** | **C** | **S** | **P** |  |  |  |  |
|  1 |  |  |  |  |  |  |  |  |  |  |
|  2 |  |  |  |  |  |  |  |  |  |  |
|  3 |  |  |  |  |  |  |  |  |  |  |
|  4 |  |  |  |  |  |  |  |  |  |  |
|  5 |  |  |  |  |  |  |  |  |  |  |
|  6 |  |  |  |  |  |  |  |  |  |  |
|  7 |  |  |  |  |  |  |  |  |  |  |
|  8 |  |  |  |  |  |  |  |  |  |  |
|  9 |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |

Serial Number is a Ranking Number of the Risk.

Risk Number is a unique number for the identification of the specific Risk

Risk Description is the description of the perceived risk, in terms of the cause(s) and effects.

Impact addresses the probability of the Risk occurring (P), the impact thereof on the cost, (C), the schedule (S) and the performance (P).

Risk Reduction Measures contains descriptive data on the measures that will be applied to reduce the probability of the risk occurring or its Impact on the cost, schedule or performance.

Fallback Plans refer to alternatives for the execution of the relevant task, in order to prevent the risk from occurring.

Latest Decision Date refers to the latest date or the relevant event at which it must be decided to implement or activate the Fallback Plan.

Risk Questionnaire 2

|  |  |  |  |
| --- | --- | --- | --- |
| Serial number: |  |  |  |
|  |  |  |  |
| Risk title: |  |  |  |
|  |  |  |  |
| Prepared by: |  |  |  |
|  |  |  |  |
| Date: |  | mm/dd/yy |  |

|  |  |
| --- | --- |
| Description of activity/area: |  |
|  |  |
| Description of risk: |  |

Probability

|  |  |  |  |
| --- | --- | --- | --- |
| Ownership: |  |  | 0 |

 Impact

|  |  |  |  |
| --- | --- | --- | --- |
| Performance: |  |  | **H** |
|  |  |  | **M** |
|  |  |  | **L** |
|  |  |  | **Nil** |

|  |  |  |  |
| --- | --- | --- | --- |
| Cost: |  |  | **H** |
|  |  |  | **M** |
|  |  |  | **L** |
|  |  |  | **Nil** |

|  |  |  |  |
| --- | --- | --- | --- |
| Schedule: |  |  | **H** |
|  |  |  | **M** |
|  |  |  | **L** |
|  |  |  | **Nil** |

|  |  |
| --- | --- |
| Risk reduction: |  |

|  |  |
| --- | --- |
| Secondary risk: |  |

|  |  |
| --- | --- |
| Fall back plans: |  |

|  |  |
| --- | --- |
| Secondary risks |  |

|  |  |
| --- | --- |
| Latest decision date: |  |

Risk Questionnaire 3

|  |  |  |
| --- | --- | --- |
| WBS no.: |  |  |
|  |  |  |
| WBS description: |  |  |

|  |  |  |
| --- | --- | --- |
| Source 1 | 0 | Not Applicable |
| Scientific: | 1 | Known and proven science/technology |
|  | 2 | Some unproven science/technology |
|  | 3 | Considerable unproven science and technology |
|  | 4 | Wholly unproven/innovative science/technology |

|  |  |  |
| --- | --- | --- |
| Source 2 | 0 | Not Applicable |
| Technical: | 1 | Integration only |
|  | 2 | Little development and integration |
|  | 3 | Major development |
|  | 4 | Totally new development |

|  |  |  |
| --- | --- | --- |
| Source 3 | 0 | Not Applicable |
| Engineering  | 1 | Previous experience, established track record |
| Skills: | 2 | Expansion of field of knowledge |
|  | 3 | Previous exposure only |
|  | 4 | No previous experience/exposure |

|  |  |  |
| --- | --- | --- |
| Source 4 | 0 | Not Applicable |
| Material/ | 1 | Material readily available off the shelf |
| Resources | 2 | Long lead items required |
| Availability: | 3 | Specialist new material (state-of-the-art) |
|  | 4 | Specific “custom” made material/devices required |

|  |  |  |
| --- | --- | --- |
| Source 5 | 0 | Not Applicable |
| Labour: | 1 | Ample staff with some spare capacity |
|  | 2 | Sufficient staff |
|  | 3 | Insufficient staff, agency/some recruitment needed |
|  | 4 | Major recruitment needed to carry out task |

|  |  |  |
| --- | --- | --- |
| Source 6 | 0 | Not Applicable |
| Plant/ | 1 | All available |
| Equipment | 2 | Minor modification needed to existing equipment |
| Test Facilities: | 3 | Major modification to existing equipment |
|  | 4 | New plant required |

|  |  |  |
| --- | --- | --- |
| Source 7 | 0 | Not Applicable |
| Planning: | 1 | Planned with slack included |
|  | 2 | Planned with no slack |
|  | 3 | Planned with overtime etc. |
|  | 4 | Project re-scheduling required |

|  |  |  |
| --- | --- | --- |
| Source 8 | 0 | Not Applicable |
| Contractual: | 1 | All contracts in place |
|  | 2 | Foreign contracts in place, not local |
|  | 3 | Local contracts in place, not foreign |
|  | 4 | Majority of contracts not placed |

|  |  |  |
| --- | --- | --- |
| Source 9 | 0 | Not Applicable |
| Financial: | 1 | All guarantees in place |
|  | 2 | Majority of guarantees in place |
|  | 3 | Some guarantees in place |
|  | 4 | No guarantees in place |

|  |  |  |
| --- | --- | --- |
| Source 10 | 0 | Not Applicable |
| Management: | 1 | Small change to management structure |
|  | 2 | Appointment of additional management |
|  | 3 | Existing management, new scenario |
|  | 4 | New management, new scenario |

Appendix : REQUEST FOR CHANGE FORM

|  |
| --- |
| **REQUEST FOR CHANGE** |
| **TITLE OF CHANGE:** |
| **RFC ALLOCATED NUMBER:** |
| **AUTHOR OF RFC:** |
| **INITIATION DATE:** |
| **REVISION NUMBER:** |
| **EQUIPMENT/CONFIGURATION ITEM(S) AFFECTED:** |
| **DESCRIPTION OF CHANGE REQUIREMENT:** |
| **MOTIVATION:** |
| **DESCRIPTION OF SOLUTION AND IMPLEMENTATION:** |
| **CONTRACT/SPECIFICATION(S) TO BE CHANGED (Reference, Chapter, Paragraph, Page.)** |
| **EXPECTED IMPLEMENTATION DATE:**  |
| **COST IMPLICATION****Quotation Reference:****Cost of Change:****Financial Code:** |
| **ATNS ONLY** |
| **RESOLUTION (Approved/Not Approved/Clarification Requested):** |
| **REASONS:** |
| **Account Code:** |
| **ORDER or REFERENCE NUMBER:**  |
| **DATE:**  |
| **APPROVAL:****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_\_** | **APPROVAL:****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_\_\_** |
| **(ATNS Project Manager)** | **DATE** | **(Contractor Project Manager)** | **DATE:** |