TECHNICAL AND COMPLIANCE COMMITTEE

Third Regular Session

27 September - 02 October 2007
Pohnpei, Federated States of Micronesia

DRAFT REQUEST FOR TENDER FOR THE COMMISSION VMS

WCPFC-TCC3-2007/12
7 September 2007

Paper prepared by the Secretariat

Introduction

1. The Third Regular Session of the Commission (WCPFC3) endorsed recommendations of the Second Regular Session of the Technical and Compliance Committee (TCC2) that the Commission should develop a stand-alone vessel monitoring system (VMS) with the capability of accepting VMS data from the FFA members' vessel monitoring system (FFA VMS) and adopt draft minimum standards for Automatic Location Communicators (ALC). WCPFC3 also adopted Conservation and Management Measure-2006-06 (CMM-2006-06) 'Commission Vessel Monitoring System'.

Commission VMS Business Plan

2. TCC2 agreed that a detailed technical specification and system design for Commission VMS should be prepared, consistent with its recommendation to the Commission on the form of the Commission VMS. Following a competitive request for expressions of interest in developing a business plan containing a detailed technical specifications and a system design for the Commission VMS, in early 2007 the Secretariat contracted Bruce Shallard and Associates, Wellington, New Zealand to undertake this work.

3. The draft report of this consultancy was circulated to CCMs for their comments on 7 August 2007. Taking into account CCMs' comments, the following documents were prepared:

i. draft Request For Tender for the Commission VMS (**Attachment 1**), based on the Business Plan prepared by the consultant; and

ii. draft framework for VMS Standards, Specifications and Procedures (WCPFC-TCC3-2007/12 Suppl.), based on paragraph 6(b) of WCPFC Conservation and Management Measure-2006-06.

Estimated cost of the Commission VMS

4. The estimated cost of constructing the Commission VMS in 2008 is USD827,440.00, inclusive of systems hardware. This amount is included in the TCC Draft Work Program and Budget, 2008-2012 (WCPFC-TCC3-2007/14).

Conclusion

5. TCC3 is invited to:

i. endorse the draft Request For Tender to implement the Commission VMS, pursuant to CMM-2006-06; and

ii. consider the draft framework for VMS Standards, Specifications and Procedures set out in WCPFC-TCC3-2007/12 Suppl., and recommend to the Commission a strategy to further develop this document.

WCPFC SECRETARIAT

DRAFT
REQUEST FOR TENDER

COMMISSION VMS IMPLEMENTATION

CLOSING DATE: [DATE]
CLOSING TIME: 5:00 PM

WCPFC SECRETARIAT
P.O. BOX 2356, KOLONIA
POHNPEI STATE , FEDERATED STATES OF MICRONESIA 96941
TEL: (691) 321 1992; FAX: (691) 320 1108

Contact: Mr Andrew Richards (andrewr@mail.fm)

TABLE OF CONTENTS

1.0 LODGEMENT OF TENDERS

1.1 PLACE OF CLOSING AND LODGING OF TENDER SUBMISSIONS

Closing will be effected at the offices of the Secretariat of the Western and Central Pacific Fisheries Commission (WCPFC Secretariat), Kolonia, Pohnpei State, Federated States of Micronesia.

Tender submissions are to be lodged at the WCPFC Secretariat the postal address for which is:

WCPFC Secretariat
PO Box 2356
Kolonia
Pohnpei State
Federated States of Micronesia 96941

Fax: +691 320 1108
E-mail: wcpfc@mail.fm

The method of delivery will be at the discretion but also at the risk of the Tenderer

Tender submissions must be enclosed in a sealed envelope or package, clearly marked "Commission VMS Implementation Tender".

1.2 DATE AND TIME OF CLOSING

Closing will be effected on [date] at 5.00 pm Pohnpei time.

1.3 MISHANDLING OF TENDER SUBMISSIONS

Late offers shall be admitted to evaluation if there is conclusive evidence that they were mishandled by the relevant official postal or telecommunications service.

1.4 ACCEPTANCE OF LATE TENDER SUBMISSIONS TO EVALUATION

A late Tender is defined as a tender submission lodged after the specified date and time of closing.

Late tender submissions will be opened and registered separately, and may be admitted to the evaluation processes at the discretion of the WCPFC Secretariat. Tenderers may be expected to provide an explanation for late submission.

1.5 ELECTRONIC TRANSMISSION OF BIDS

Electronic transmission of tenders, whether by facsimile or e-mail must include responses to all mandatory elements of the Request for Tender (RFT), all price details, including settlement discounts, essential for establishing a bona fide offer capable of meaningful comparison with other bids. In particular, such e-mail/facsimile bids must include price details against individual items.

Offers submitted in this manner must be confirmed in writing and in the prescribed format more fully described in this RFT within seven (7) working days of the date of closing. Failure to do so may render the tender submission ineffective.

Where there is any discrepancy between the contents of the facsimile or e-mail and the tender submission, the contents of the facsimile or e-mail shall prevail unless it can be shown conclusively by the Tenderer that an error occurred in transmission.

The confidentiality and security of tenders submitted by hand or mail to the place of closing box is guaranteed. However, it should be noted that confidentiality of tenders submitted by facsimile or e-mail cannot be assured to the same extent as tenders lodged by hand or mail.

1.6 SIGNING OF THE TENDER

The form of Tender shall be signed and dated by a person or persons duly authorised to do so and with the capacity to bind the Tenderer. The Tenderer shall enclose with his Tender authenticated copies of the documents defining the constitution of the joint venture, consortium, company, corporation, or firm by which the Tender is submitted. The seal or identifying mark of the Tenderer shall be affixed. Any form of Tender that does not conform to these requirements may be disqualified.

1.7 TENDER FORMAT

Tender submissions shall be submitted in triplicate along with a copy of the full document on CD-ROM. All documents should be saved in MSWord 2003 or above, and all spreadsheets should be in MSExcel 2003 or above. Timelines should be saved in Gantt Chart form.

All of Sections 3.0, 4.0, 5.0, 6.0 and 7.0 shall be addressed within the Tender submission.

Any form of Tender which is incorrectly or only partially completed may be disqualified.

1.8 NO REFUND OF PREPARATION COSTS

The Tenderer shall not be entitled to reimbursement of any costs incurred in the preparation of the Tender.

1.9 PRICES AND PAYMENT

All prices should be firm and stated in *U.S. dollars (USD).*

All prices should be quoted GST exempt.

The prices quoted shall be deemed to include all direct, indirect and ancillary charges and costs.

Tender prices must include all charges required to meet the WCPFC Secretariat's specification as set out in more detail in Sections 3.0, 4.0, 5.0 and 6.0, and also include all charges related to delivery, installation, acceptance testing, tax and customs duty if applicable.

Tenderers must state their payment terms and conditions.

1.10 OWNERSHIP

The intellectual property generated by this Request for Tender will remain the property of the WCPFC Secretariat.

1.11 TENDER ACCEPTANCE

The lowest priced Tender will not necessarily be accepted.

All Tenderers will be notified in writing upon a decision by the WCPFC Secretariat.

No Tender will be deemed to be accepted, unless and until, that acceptance is notified, in writing, by the WCPFC Secretariat.

Any acceptance of Tender will be subject to the WCPFC Secretariat and the successful Tenderer entering into a contract acceptable to the WCPFC Secretariat.

1.12UNSUCCESSFUL VENDORS - RECOURSE FOR DISCUSSION.

There will be no recourse for discussion for unsuccessful vendors.

1.13CONFIDENTIALITY

Subject to the reservations made above in relation to the electronic transmission of bids, Tender submissions will be treated as confidential documents. The WCPFC Secretariat will take all reasonable steps to ensure that information contained in Tenders will only be made available to its staff members.

1.14EVALUATION CONSIDERATIONS

Tender submissions which do not substantially meet the WCPFC Secretariat's requirements as set out in this document will not be considered.

Tender submissions must include sufficient information to enable the WCPFC Secretariat to determine the level of compliance of that Tender submission with each requirement of this document.

If the WCPFC Secretariat requires further information from a Tenderer so as to consider its Tender submission, such information must be provided to the WCPFC Secretariat within a reasonable time. This may include reference to sites where the system is currently in operation, and the provision of any other information that the WCPFC Secretariat deems necessary to assist in the evaluation process. If the requested information is not supplied then the WCPFC Secretariat may, at its discretion, elect to give no further consideration to the Tender submission.

1.15INQUIRIES

All inquiries regarding this Request for Tender should be submitted to Andrew Richards, Compliance Manager, WCPFC Secretariat, P.O. Box 2356, Kolonia, Pohnpei State, Federated States of Micronesia 96941 (Phone: +692 320 1992, Fax: +692 320 1108, E-mail: andrewr@mail.fm

2.0 COMMISSION VMS IMPLEMENTATION

2.1 BACKGROUND AND OBJECTIVES OF THE WCPFC

The Western and Central Pacific Fisheries Commission (WCPFC) was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention) which entered into force in 2004. The Convention was concluded after six years of negotiation which commenced in 1994.

The WCPF Convention generally reflects the provisions of the UN Fish Stocks Agreement [UNFSA] while, at the same time, reflecting the special political, socio-economic, geographical and environmental characteristics of the western and central Pacific Ocean (WCPO) region. The WCPFC Convention seeks to address problems in the management of high seas fisheries resulting from unregulated fishing, over-capitalization, excessive fleet capacity, vessel re-flagging to escape controls, insufficiently selective gear, unreliable databases and insufficient multilateral cooperation in respect to conservation and management of highly migratory fish stocks. A framework for the participation of fishing entities in the Commission which legally binds fishing entities to the provisions of the Convention, participation by territories and possessions in the work of the Commission, recognition of special requirements of developing States**,** and cooperation with other Regional Fisheries Management Organisations (RFMO) whose area of competence overlap with the WCPFC reflect the unique geo-political environment in which the Commission operates.

The Commission has 24 members and seven participating territories[1]. Indonesia is currently participating as Cooperating Non-member as it works through domestic requirements that will enable it to accede to the Convention.

2.2 GOALS OF THE COMMISSION VMS

One of the Commission's primary tasks is to establish and maintain a satellite-based vessel monitoring system (VMS) for fishing vessels authorised to fish in the Convention Area beyond national jurisdiction of the CCM whose flag the vessel is flying. The Second Regular Session of the Commission (WCPFC2) in December 2005 adopted a recommendation by the First Regular Session of the Technical and Compliance Committee (TCC1) that the agreed functions of the Commission's VMS programme are to:

- Track the position and speed of all fishing vessels that fish for highly migratory fish stocks covered by the Convention on the high seas in the Convention Area and any waters under national jurisdiction as requested by Members as per Article 24(8);
- Support of the MCS functions of the Commission (e.g. transhipment monitoring, observers); and
- Facilitate the monitoring and enforcement of conservation/management measures (e.g. closed areas).

[1]American Samoa, Australia, Canada, Cook Islands, People's Republic of China, Commonwealth of Northern Mariana Islands, European Union, Federated States of Micronesia, Fiji, France, French Polynesia, Guam, Japan, Kiribati, Korea, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Chinese Taipei, Tokelau, Tonga, Tuvalu, United States of America, Vanuatu, and Wallis and Futuna.

WCPFC2 also agreed that the Commission Secretariat should undertake further work during 2006 in respect of the Commission's VMS, including a cost assessment and feasibility study of two options identified as offering the best potential to meet the Commission's needs.

The Third Regular Session of the Commission (WCPFC3) in December 2006 adopted a recommendation by the Second Regular Session of the Technical and Compliance Committee (TCC2) that the Commission should develop a stand-alone VMS with the added capability of accepting VMS data forwarded from the FFA VMS[2]. Vessels operating on the high seas in the Convention Area that are required to report VMS data to the Commission will have the option to report that data via the FFA VMS.

WCPFC3 also adopted Conservation and Management Measure-2006-06 (CMM-2006-06) for the Commission VMS. CMM-2006-06 states that the Commission VMS shall apply to all fishing vessels that fish for highly migratory fish stocks on the high seas within the Convention Area;

"The system shall commence, to be activated 1 January 2008, in the area of the Convention Area south of 20°N, and east of 175°E in the area of the Convention Area north of 20°N.

With respect to the area north of 20°N and west of 175°E, the system will be activated at a date to be determined by the Commission."

- In excess of 24 metres in length with an activation date of 1 January 2008; and
- 24 metres in length or less with an activation date of 1 January 2009.

[2] The secretariat of a Regional Fisheries Body, the Pacific Islands Forum Fisheries Agency (FFA) manages and administers the FFA Members' Vessel Monitoring System (FFA VMS) on behalf of its 17 members, covering their respective EEZs in the Western and Central Pacific Ocean (WCPO) region.

3.0 COMMISSION VMS REQUIREMENTS

3.1 INTRODUCTION

The Commission requires a flexible solution that:

(a) will satisfy all project requirements whilst allowing for future expansion possibilities, since the application requirements and uses of this system will change over time; and

(b) can be maintained either by a contractor, located at Pohnpei or elsewhere, or Commission Secretariat personnel directly.

The system should be capable of expansion to accommodate new technologies and applications, and allow for involvement by Commission Secretariat personnel in all aspects of the project design, deployment and support. The technologies listed in this RFT are those currently supported by VMS agencies and offering the best performance, but with the understanding that future developments may present additional benefits and that these technologies may change during the course of the project.

Key technical recommendations of the VMS IT infrastructure are summarised as follows:

Key Features	
Reliability	The system shall be designed to exhibit no single point of failure. This should be achieved by the use of high availability technologies such as: • Fault Tolerant Server Hardware; • Clustered Servers; • Hot-spare and Hot-Swap Components; and • Redundant Network Links.
Ease of Use	The system shall be designed to be easy to use. This must include the provision of: • Graphical Operating Systems for all user devices; • On-Line Help and Training Materials; and • A Web Based (thin client) architecture where possible.
Performance	The system shall be designed to perform in a high load, high availability environment with 99.9 per cent availability uptime.
Scalability	All hardware and applications shall be designed to scale, e.g. by the use of clustering, commencing with two-way clusters that may be expanded to an n-way configuration.
Support	Full support, warrantee and training is required, and details of this shall be provided.

3.2 PROJECT DESCRIPTION

3.2.1 VMS OVERVIEW

The vessel monitoring process begins with the fishing vessel position, fishing activity, sensor data, plus other data that is sent from an on-board Automatic Location Communicator (ALC), also referred to by some RFMOs as a Mobile Transceiver Unit (MTU). Next, vessel data is transmitted via satellite, to the VMS by a Communications Service Provider (CSP).

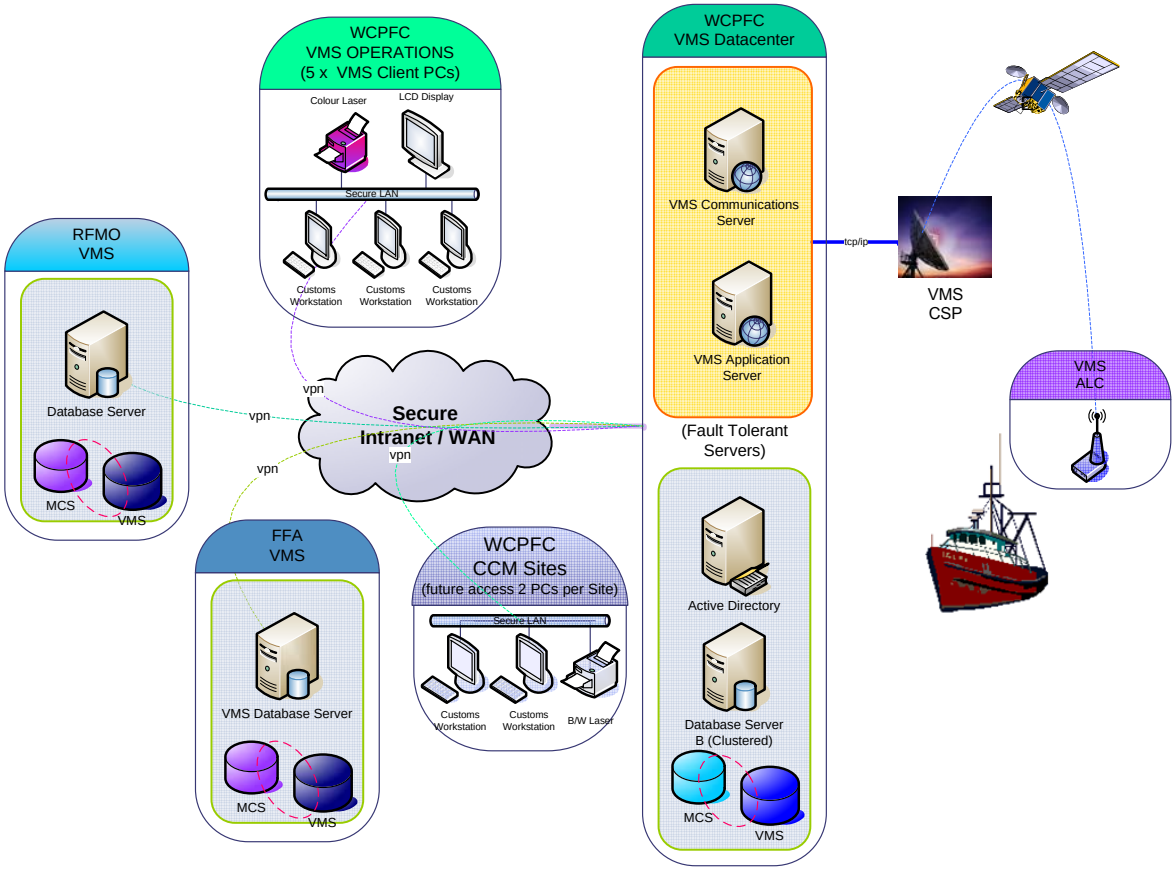

Figure 1 - Commission VMS Overview

This communications front-end receives position reports and messages in their original, often proprietary formats. The front-end converts these to the format used by the VMS base station application. The VMS base station application includes an intuitive user interface and a back-end database management system. The vessel monitoring process is complete when position data is displayed on a windows-based, menu-driven Geographical Information System (GIS).

A VMS collects Vessel Identification and Global Navigation Satellite System (GNNS) locations via compliant Satellite network(s) from any vessel equipped with a suitably configured and Type Approved ALC transceiver and participating in the VMS program. Such vessels may include:

I. Vessels fitted with a Commission Type Approved satellite based GNSS ALC transponder.

II. Vessels already fitted with a FFA Type Approved satellite based GNSS ALC transponder.

III. Vessels fitted with a satellite based Global Maritime Distress and Safety Service (GMDSS) transceiver – where such vessels have installed Inmarsat-C to fulfil their GMDSS requirements.

IV. Commission Patrol Vessels fitted with GNSS device supporting Polling and Data Reporting (PDR) functions

V. Vessels fitted with GNSS ALC under other regulatory programs including RFMO fisheries programs, other government fisheries programs, environmental monitoring initiatives and the program

The VMS provides designated users with software applications suitable for collection of track data from vessels, automated processing and automated alert generation based on the activity of monitored vessels, and display of track data within a GIS framework.

3.3 DATA CENTRE LOCATION OPTIONS

There are relative advantages and disadvantages of the required VMS Data Centre to manage the Commission VMS being located at the Commission Secretariat offices at Pohnpei or alternatively at another commercial site providing managed IP Hosting services. This is also something that the FFA Secretariat is now implementing for back-up and disaster recovery.

Given the reliance on external connections to CSPs and the VMS Data Exchange mechanisms between RFMOs, CCMs and shared Patrol and Surveillance assets, it will be essential that the proposed location of the Commission VMS operations centre has reliable access to the availability of technologies, services, and solutions that allow for shared management of network services. Either the Commission Secretariat has to bear the full burden of managing its IP networks, or evaluate managed IP network hosting services as a means of accessing reliable infrastructure and bearing the direct cost of IT resources, given that IT resources, especially in terms of costs and qualified technical staff, are a limited commodity in Pohnpei.

Key issues to be considered in respect to the VMS and MCS Server Data Centre services and IP access are potential problems arising from disruptions in Internet services to CSPs, RFMOs, CCMs and Commission Secretariat personnel engaged in fisheries compliance, enforcement, surveillance and management. The key concerns about IP hosting and network management are the security of their hosting solutions and the availability and quality of technical support staff.

The main features used to select a hosting solution or service are:

- Service Provider experience and expertise with network technologies and applications that are most relevant to the Commission Secretariat business;
- high responsiveness to problems and unplanned needs; and
- excellent, 24 hours a day, seven days a week (24/7), customer service.

Organizations that depend on the Internet require management solutions that ensure the availability and reliability of their IP networks. To find such solutions, technology decision-makers may have to look beyond current in-house IT resources and take advantage of the benefits of outsourcing their hosting services and network management responsibilities. Failure to maintain Internet connectivity and provide reliable hosting of Commission Secretariat business operations and applications could result in serious problems.

3.3.1 MANAGED IP HOSTING

In today's communications environment, the Internet is an important vehicle for reaching both services providers and member countries that depend on their IP networks to maintain important data exchange relationships. Outsourcing IP network operations is becoming an

important management strategy to achieve the highest levels of availability and reliability in service delivery.

3.3.2 IP NETWORK SERVICE DELIVERY

Problems arising from disruptions in IP network services to customers, suppliers, and partners certainly have negative consequences for the enterprise and key evaluation criteria in selected a Managed IP Hosting service provider will be:

- Availability - >99.7% availability. The IP Network must provide guaranteed access to Communication Service Provider, employees, clients and partners around the globe, 24/7.
- Performance - Rapid and Secure access to a highly complex VMS/MCS Enterprise site
- Resilience - To failure when things go wrong such as Database server and IP network links
- Scalability - To handle current and future requirements
- Security – Provide secure client access and service connections across public IP networks
- Flexibility – In providing managed band-width services to meet peak demands and scalability of the Enterprise site.

Those who are responsible for ensuring that IP network services are delivered consistently and cost effectively to end-users (customers, partners, or services) must evaluate their short list of potential solutions against these selection criteria. In this way they can be confident that they are selecting the solution that will meet the needs of the business and also the needs of those who run the VMS/MCS operations day-to-day. Failure to implement the optimum IP network solution can create serious problems with customers, partners, and suppliers, which could ultimately impact overall enterprise success.

Evaluation criteria for a Provider should include:

- previous experience and expertise with network technologies and hosted applications;
- demonstrated responsiveness to problems in providing network services;
- proven, excellent, 24/7 customer service;
- IP infrastructure can provide reliable access to VMS/MCS infrastructure to support 24/7 access to contracted SLA Technical Support services;
- proven maintenance of an IP Network to support the required IP connections to Commission Secretariat Service Providers, and all required interconnections to CCMs and RFMOs.

3.3.3 COMMISSION DATA CENTRE OPERATIONS

Advantages:

- Direct site support and access to dedicated technical resources.
- Located at Commission Secretariat.
- No local client band-width restrictions on local LAN.

Disadvantages:

- A remote location for vendor site support.
- Not an international class Internet data centre site in terms of IP band-width and performance.

- Potentially higher communications costs.
- Potentially higher operational costs compared to an international site.
- Requires additional support infrastructure (power, security, services, fire protection backup etc).
- Difficult and expensive site support access.

3.3.4 MANAGED IP HOSTING AND DATA CENTRE INFRASTRUCTURE

Advantages:

- Easy Data Integration routes with Service Providers, RFMOs and CCM sites.
- Easy Data Integration routes with the FFA VMS
- No IP band-width restrictions and fast peering connection latency typically less than 120 msec round-trip with packet loss <1 per cent.
- Potentially lower operational costs.
- Accredited security policy.
- Integrated Backup Power, Air Handling, Security, and Fire Protection services etc.
- Good support access and remote site management.

Disadvantages:

- Remote location for on-site support from Commission Secretariat.
- Not at Commission Secretariat site.
- 1x MB IP band-width connection to IP Internet required for VMS users (5-10).

4.0 SOLUTION REQUIREMENTS

4.1 INTRODUCTION

This and the following sections on Technical Requirements and Training have been written as specific requirements for a prospective contractor to follow in proposing to undertake the work.

4.2 SCOPE OF WORK

This section provides a complete description of the work required under any subsequent contract to this tender. The bidder shall satisfy itself that, regardless of the scope contained herein, its proposal contains all necessary goods and services to provide a complete, operating system. The work involved in this project shall comply with the following sections.

4.3 GUIDELINES

The following guidelines will govern the project:

- This is a complete project in which the Contractor shall have full responsibility for analysis and design, through implementation, to successful completion of the project in all aspects. This project is deliverable by the Contractor to the Commission on a "turnkey" basis.
- Bidders are requested to propose a total solution for all items specified in this RFT unless otherwise specified, and must be wholly responsible for all items and services offered. The Commission reserves the right to accept all or any part of the proposed items or services from tenders.
- The Commission shall have the right to delete or modify quantities offered by the Contractor during negotiation of final contract.
- Bidders shall insure that the proposed Commission VMS integrates with all related MCS applications.
- If possible, Bidders shall use non-proprietary, off-the-shelf user site equipment.
- Bidders MUST state all features relating to compatibility with international standards (ratified or de-facto).
- The Contractor shall be responsible for stating and providing all elements necessary for implementing this project such as hardware, software, interfaces, cables, node panels, racks, etc. even if they are not specifically mentioned in this RFT.
- Bidders shall be responsible for requesting any further information or clarification thought significant to this project prior to the proposal submission.
- Contractors shall be required to provide the latest commercially available hardware models and software versions at the time of implementation.
- Contractors shall be responsible for transporting and distributing all products to their respective destinations.
- Bidders shall provide any future plans that relate to any Bidder-supplied equipment when requested by the Commission. The Bidder must sign a Confidentiality Agreement with the Commission Secretariat prior to the release of any information not contained in this request for tender by the Commission.

- It is essential that Commission Secretariat personnel participate in every step of this project.

- Any and all software that is developed especially for this project shall be owned fully and solely by the Commission, including intellectual property rights, analysis and design material and source code. All software licensing must be based on a one-time fee and must be indicated as such in the statement of compliance. All exceptions or amendments to this requirement must be justified and indicated by the Bidder. Periodic support fees are acceptable, but must be quoted.

4.4 IMPLEMENTATION STRATEGY

This project requires implementation of a VMS solution for large scale fisheries vessel fleet management and MCS. VMS technology offers many options for ALC and CSP solutions. Due to the nature of this project, Bidders shall use prototype/pilot as the basis for writing the specifications for the VMS production-quality system.

Bidders shall use the phased approach outlined in this section as the basis for project planning and implementation. The operational system is developed in phases so that the feed-back from the earlier phases would influence and enhance the development of the later phases.

The phases shall be:

- Requirement analysis;
- System design;
- Initial Operational Capability (IOC) deployment, testing and operation; and
- System Acceptance.

4.4.1 PHASE ONE "REQUIREMENT ANALYSIS"

In this phase, the Contractor responsibilities shall be:

- Prepare and conduct extensive interviews with the end-users and Commission Secretariat personnel to develop new business processes required for this project. This includes and is not limited to:
  - Collect and analyze Commission requirements
  - Review requirements for clarity, completeness, accuracy, testability, and measurability
  - Verify that VMS and MCS software functions are correctly translated into requirements
  - Certify that any discrepancies are resolved
  - Verify that requirements are accurately and completely documented
  - Employ requirement simulation exercises so that the development team, the Commission, and users can fully understand the impact of including or not including these requirements.
- Study the current vessel registration and identification process and the advantages of VMS and Electronic Registration technology as an identification method for vessels.
- Study the current vessel ALC, Enhanced-ALC (e-ALC) and CSP Type Approval Process and identify changes to this compliant for the Commission VMS.
- Specify targeted MCS applications for Commission VMS. The applications should include as a minimum:

- Monitoring and Managing VMS Fleet activity, ALC performance and potential ALC tampering activities.
- Support Electronic Vessel Registration.
- Correlation of Catch, Effort, Activity and Observer Logs for compliance and violation monitoring.
- Catch Landing Audit declarations.
- Monitoring of Designated conservation / management measures and Surveillance of closed, or restricted areas.
- Creating and Monitoring User Defined Events and custom SQL script reporting based on variables such as; vessel type, speed, position, time window, and other parameters.
- Monitoring and Recording Fisheries Patrol Vessel Inspection e-forms.
- Monitoring and Control of ALC Anti-Tampering Measures.
- Correlation of VMS information with Surveillances Patrol activities.
- Correlation of VMS with Remote Sensing Technologies in IUU fishing activity detection programs.
- Development of Data Exchange between RFMOs.
- Development of Evidentiary Procedures to support MCS compliance violation prosecutions.
- Support the Commission's research activities though data-sharing (analysis and statistics).
- Vessel Security, Search and Rescue Operations.
- The Contractor is responsible to state in his proposal all targeted MCS application required by the Commission with contractor proposed VMS applications which will be important for the evaluation.

• This phase must also include a complete risk assessment of the potential problems that might be faced during project deployment and recommendations to eliminate or mitigate those risks.

• The Contractor shall be aware of current Commission Secretariat technical environment which will be offered to the contractor to understand the central system, database and communications. It is the contractor responsibility to define and consider the integration with Commission Secretariat back-end systems to enable Commission VMS functionality.

• The Contractor shall thoroughly analyze all functional requirements and identify similarities and common threads to define the best set of actual components required for developing the system.

• The Contractor shall allocate the requirements to system components including cross-program coordination of schedules and acquisition tasks, as well as cross-program integration and testing.

4.4.1.1 PHASE ONE DURATION

The first phase shall have duration of no more than three (3) months.

4.4.1.2 PHASE ONE DELIVERABLES

- The Contractor shall generate a detailed analysis document which will include the full operational and technical details including the hardware and software components of the system.
- The Contractor shall produce the use cases, entity relationship diagrams and control flows of the solution for review and comment.

4.4.2 PHASE TWO "SYSTEM DESIGN"

Depending on the first phase, the Contractor responsibilities in this phase shall be:

- Provide a system design.
- In accordance with the Commission Secretariat, selecting VMS technologies and configurations, and justify selections.
- Developing the final Type Approval procedure for VMS ALC GNSS-compliant hardware and selecting VMS ALC hardware to suit the Commission VMS.
- Developing the final Type Approval procedure for VMS e-ALC terminal hardware and selecting VMS e-ALC hardware compliant to the Commission VMS electronic reporting system.
- Developing the final Type Approving and selecting the most effective Communication Service Providers (CSP) media between VMS ALC hardware, e-ALC hardware and the Commission VMS.
- In accordance with the Commission Secretariat, selecting compliant Data Exchange Technologies for the sharing of data between the FFA Secretariat and RFMOs.
- The System must be designed for 99.9 per cent Fault Tolerant Server Architecture, high availability and identify of all the required VMS and MCS storage, processing and network hardware components of the system.
- Identifying required communications connectivity.

4.4.2.1 PHASE TWO DURATION

The second phase shall have duration of no more than two (2) months.

4.4.2.2 PHASE TWO DELIVERABLES

- Requirement specifications consisting of the following:
  - System overview document(s)
  - System design document(s)
  - System requirements document(s)
- Functional specifications consisting of the following:
  - Hardware specification document(s)
  - Software and applications specifications document(s)
  - Interface document(s)
- Detailed specification consisting of the "as built" hardware, software, and interface documentation.

- The Contractor shall generate a detailed analysis document which will include the full, operational and technical details including the hardware and software components of the system.

- The Contractor shall produce the use cases, entity relationship diagrams and control flows of the solution for review and comment.

4.4.3 PHASE THREE "OPERATIONAL DEPLOYMENT"

In this phase, the Contractor responsibilities shall be:

- Deploy and implement Commission VMS Initial Operating Capability (IOC) system as designed in the previous phase including the MCS applications.

- Provide and install all hardware needed for Commission VMS deployment.

- Provide installation plan as specified.

- Deploy and Implement a MCS system which involve the following:

  – In accordance with the Commission's defined pilot scope.

  – Define the Commission Secretariat's directorates involved.

  – Define the best deployment process regarding Vessel Registry and Licensing.

  – Prepare a detailed deployment plan.

  – Involve Commission Secretariat personnel in all aspects of project deployment.

- In accordance with the Commission Secretariat, the Contractor must choose the proper place for the Commission VMS Data Centre site that maximize the usage of VMS / MCS applications and data exchange.

- This phase will be evaluated by the project stakeholders and might require some adjustments to the design and user interface or to the deployment process and layout.

- This phase will be considered as on-job-training for the Commission Secretariat's VMS compliance personnel and will be evaluated based on the successful transfer of knowledge from the contractor to Commission Secretariat staff.

- At the end of the deployment, the system is required to pass an acceptance test procedure and shall start operation immediately.

4.4.3.1 INSTALLATION PLAN

The Bidder shall submit in his proposal a complete installation plan for all systems. It shall include the complete system installation, tuning, testing, integration and connectivity establishment to MCS environments.

4.4.3.2 INSTALLATION PROCEDURES

The Contractor shall submit detailed installation procedures for the new system components specifying equipment checkout, installation constraints, and maintenance prior to the Commission's acceptance and if special security and/or access arrangements are required.

The Contractor shall make sure that all new equipment and cables are well organized, documented and labelled with the complete co-ordination with the Commission Secretariat's IT and Security procedures.

4.4.3.3 SITE PREPARATION

At their own expense, Bidders shall be afforded the opportunity to visit selected sample sites to aid in the preparation of their response. The successful Bidder shall have the responsibility of conducting any surveys, preparation, and inspection of all sites. These responsibilities shall include:

- Determination of sufficient power, air conditioning, fire protection and floor space in support of the proposed Bidder's equipment.
- Identify and install, if necessary any special additional power, air conditioning, and fire protection requirements needed by the Bidder's equipment.
- Determination of Physical and Electronic Security required in support of the proposed Bidder's equipment including a review the Commission's Information Security Policy.
- Identify and install, if necessary any special additional physical and Electronic Security needed by the Bidder's equipment.
- Identify and install, if necessary any special additional physical security requirements needed by the Bidder's equipment.
- Perform any required preparation at the designated sites. This shall include, but is not limited to cabling and ducting for LAN, electrical re-work needed for system operation.

4.4.3.4 DELIVERY AND INSTALLATION

The initial equipment will be delivered to the Commission Secretariat at Pohnpei, Federated States of Micronesia, or its designated Data Centre site (see comment in section 3.3). Equipment for installation at the Commission Secretariat facilities will be inventoried at the site for installation. The equipment for installation at the remote sites will be inventoried and initialized at the Commission Secretariat VMS Centre, or designated Data Centre site and then staged to the Remote Centres for User Site installation. The User Site Installation includes all elements required to successfully extend the system to full capacity following the preliminary acceptance of the system at the end of the deployment phase.

4.4.3.5 CONFIGURING HARDWARE

The Contractor shall be responsible for configuring and installing the equipment, including making arrangements for all necessary cabling and connection and in all respect making the equipment ready for operational use.

4.4.3.6 PACKING AND UNPACKING

The Contractor shall be responsible for packing, unpacking, inspecting, inventorying, configuring and installing the equipment in all designated sites.

4.4.3.7 INSTALLATION AND SCHEDULING

The Contractor shall submit a flexible installation schedule taking into account delayed access due to the nature of each site as being remote or subject to high security level.

4.4.3.8 SITE SURVEY

The VMS Project will conduct site surveys in the early stages of the project for all designated sites. This will be done to identify and inventory the equipment at each site and to assess and identify any preparation work or construction needed prior to installation at the user sites.

The Contractor shall deliver a Site Survey Template that identifies the data to be collected for site surveys including:

- Communications band-width location and number.
- LAN connectivity.
- Electrical power supply points voltage and standard (e.g. UK, Euro, US).
- Cabling, ductwork, air conditioning including location and number.
- Existing furniture.

The Contractor shall deliver a completed Site Survey for each site that shall include:

- A Recommended Floor Plan with any necessary recommendation based on the analysis that resulted from the site survey and workflow requirements of the site (including connectivity), and an itemized list of deliverables (furniture, power plugs, network) required.
- A site Deployment Plan and detailed schedule to ensure sites are ready to receive the VMS installation in accordance with the overall project schedule. The Deployment Plan shall include the key performance indicators and roles and responsibilities of the personnel involved.
- Detailed installation procedures for each component specifying equipment checkout, installation constraints, and maintenance prior to the Commission's acceptance and if special security and/or access arrangements are required.

4.4.3.9 EQUIPMENT DOCUMENTATION

The Contractor shall be responsible for organizing, documenting and labelling all of new, relocated equipment and cables in conformance with Commission Secretariat practices and linked to delivered documentation. The Contractor shall coordinate these activities with Commission Secretariat personnel assigned to the project.

4.4.3.10 PHASE THREE DURATION

The third phase shall have a duration of three (3) months.

4.4.3.11 PHASE THREE DELIVERABLES

Phase Three deliverables shall include, but are not limited to, the following documents for the system:

- VMS system document(s)
- VMS Deployment Plan document(s)
- Deployment progress document(s)
- Instructions on installation document(s)
- Acceptance testing and reporting for the system document(s)
- Utilities installation document(s)
- Modifications requested document(s)
- Personnel training document(s)

The documentation shall be detailed, illustrated, comprehensive, and organized. For example:

- Installation documents shall cover all aspects of installation, including hardware and software installation.

- The documents shall include drawings showing physical details, interfaces, and connections, cabling layouts, wiring, and component layouts to insure correct installation of equipment.
- The documents shall also include detailed installation and customization of software procedures.
- Applications manuals should illustrate how to use the application step by step, and it should not require technical background.

4.4.4 PHASE FOUR "SYSTEM ACCEPTANCE"

4.4.4.1 TEST PLAN

The Bidder shall provide a test plan that outlines the types and frequency of tests performed, their objectives, and criteria for establishing test pass or fail ratings. The plan shall also describe environments in which tests are conducted. The tests shall be performed to demonstrate:

- the total system compliance with the specified requirements and, where possible, prove that the systems design documentation and other supporting documentation match the systems being tested;
- the application processing workflow. The test plan shall clearly specify how each of the project's individual phases will be tested; and
- the functions and features of the proposed hardware and software.

The test plan shall define participant's responsibilities, documentation for the tests, duration and schedule of tests, explicit requirements to demonstrate contractual compliance, and procedures for dealing with discrepancies and failures during the tests.

In the test plan, when test environments other than the operational environment are proposed, the Bidder shall demonstrate that environment differences can be identified and test results extrapolated to measure where a pass in the test environment would be a failure in the operational environment. The test plan:

- shall focus on running system tests under the operational environment to demonstrate compliance of delivered system to technical specifications;
- shall also include tests that fully demonstrate the operability and functionality of all backup facilities installed; and
- should include stress, execution, recovery, operations, compliance and security tests.

Functional tests such as requirements, regression, error-handling, intersystem, and control as well as parallel testing should be performed.

4.4.4.2 TEST PROCEDURES

- The Contractor shall provide, as part of his quality assurance plan, documented test procedures that shall be the means by which all tests specified in the test plan are executed.
- The test procedures shall describe each step in detail such that the test executor would need no other document or prior knowledge of the systems to execute the test.
- The test procedures shall be divided into logical sections. Each section shall contain:
  - A statement of purpose defining goals, test objectives, and expectations.
  - Description of the hardware and software to be tested and how measurements of signals and data are taken.

- Description of software, hardware, test equipment, test data, graphs, tables, and charts required for the execution of the test.
- Methods and procedures to conduct the tests (i.e., detailed descriptions of how to set up and connect components to be tested and how to enter input data, measure output data, analyse output data, and draw conclusions).

4.4.4.3 TEST REPORTS

- The Contractor shall prepare, for each test, a test report document which shall certify successful completion of that test. The certified test report shall be submitted no later than seven (7) days following each test.
- The test report shall contain:

- Full description of the test conducted and the components of the system tested.
- Test results and comments.
- A listing and discussion of all discrepancies between expected and actual results and of all failures encountered during the test and their resolutions (i.e. proposed fixes and re-test recommendations).
- A complete copy of test procedures with annotations showing dates, times, initials, and any other remarks entered during execution of the test.
- Certification of successful test results.
- Signatures of persons who performed and witnessed the test.

4.4.4.4 PRELIMINARY ACCEPTANCE

- The Contractor shall submit a test plan for preliminary acceptance of all operational systems and components covered by this RFT and contract.
- As soon as the systems and components covered by this RFT and contract have been completed and have passed the preliminary tests, The Commission Secretariat will issue the Contractor a preliminary acceptance certificate in which the Commission Secretariat will certify the date on which the systems have been completed and have passed the said tests. Issuance of a preliminary acceptance certificate shall not operate as an admission that the systems covered by this RFT and contract have been completed in every respect.
- If, by reason of any default on the part of the Contractor, a preliminary acceptance certificate has not been issued in respect to every portion of the work covered by this RFT and contract within one month after the completion time or extended time as the case may be, the Commission Secretariat will be free to use the systems or any part thereof in respect of which a preliminary acceptance certificate has not been issued, provided that it is reasonably capable of being used. The Contractor shall be afforded the earliest possible opportunity of taking such steps as may be necessary to enable the issuance of the preliminary acceptance certificate.

4.4.4.5 FINAL ACCEPTANCE

- The Bidder shall submit a test plan for final acceptance of all operational systems covered by this RFT and contract.
- The final acceptance tests shall be conducted at the end of the warranty period.
- A final acceptance certificate will be issued to the Contractor after all systems covered by this RFT and contract have passed designated tests. The final acceptance certificate then certifies that the Contractor has fulfilled all his contractual responsibilities.

4.4.4.6 OPERATION AND MAINTENANCE

It is important for the Commission Secretariat to maintain continuous operational capability of the entire system, twenty-four (24) hours a day, seven (7) days a week, all year long, without disruption to either service or performance. Therefore it is important that the Contractor understands his responsibility regarding operation and maintenance during the warranty period.

The Bidder shall identify and provide those items of supply (repairable spares, repair parts, and consumable supplies) that are needed to maintain design performance, reliability, and availability standards specified in the technical requirements and specifications.

The Contractor shall comply with the following terms regarding the Operations and Maintenance (O&M) of the hardware and software elements covered by this RFT and contract.

- During the warranty period the Contractor shall be responsible for the operation and maintenance of all the Contractor-provided hardware and software covered by this RFT. The warranty period starts as soon as the preliminary acceptance test has been satisfactorily completed. This includes both preventative and corrective maintenance. The Contractor shall provide qualified engineers and operators during the warranty period. This duty shall be performed in-house at the various implementation sites or as necessary at the Commission Secretariat's main centre.

- Commission Secretariat staff shall be involved in all aspects of the operation and maintenance efforts to gain firsthand knowledge of ongoing activities.

- Operation support and maintenance during the warranty period shall be the responsibility of the Contractor and shall be done at the Commission Secretariat facilities or approved locations, with the active and full participation of the Commission Secretariat's trained staff. The Contractor shall submit a plan for the following:

  – The manpower requirements and specifications to enable the Commission Secretariat to undertake full activities of operation and maintenance after the warranty period

  – An on-going training program to make the Commission Secretariat staff fully competent to undertake operation and maintenance of system before the end of the warranty period.

- The maximum turnaround time for replacement/repair service for user sites shall not exceed 24 hours for all the Commission sites.

- Replacement components shall be available for any failed component during the warranty period.

- The causes determined for failure of components shall be documented and reported to the Commission Secretariat's Compliance Manager.

- The Contractor shall be prepared to make available technical experts to the Commission Secretariat at short notice to help solve complex operational problems during the warranty period.

- The Contractor shall develop a plan for operation and maintenance of hardware and software covered by this RFT and contract, following the warranty period. This plan shall contain recommendations concerning manpower, spare parts, and the organization of the work.

4.4.4.7 PHASE FOUR DURATION

The duration of phase four shall be two (2) months.

4.4.4.8 PHASE FOUR DELIVERABLES

Phase four deliverables shall include but are not limited to:

- The management plan and procedures
- Test plan and procedures
- Test reports
- Preliminary acceptance and final acceptance
- Operation and maintenance plan
- Operating and maintenance manuals, procedures and standards
- Administrator's manuals, technical manuals, and user manuals (English versions)
- User guides to be used as reference during normal operation and shall be used for training purposes
- Operator manuals
- Backup, Recovery, and Restore procedures
- Help Desk procedures and diagnostics

5.0 TECHNICAL REQUIREMENTS

5.1 REQUIREMENTS FOR THE VMS AND MCS INFRASTRUCTURE

All hardware components shall be reliable common off-the-shelf (COTS) products in use in similar high availability environments. Specific care shall be taken to select components where the track record of the product and manufacturer are well established.

All components shall be are networked via the TCP/IP protocol to form a network via LAN and WAN. This includes support for the requested network management system and protocols on all hardware products.

5.2 HARDWARE REQUIREMENTS

5.2.1 INTRODUCTION

Unless the Bidder can show good reason to provide less, the configuration shall include at least the following:

- Rack Mounted Fault Tolerant Servers;
- Rack Cabinets;
- LAN & Network Equipment;
- Storage media;
- Back-up drives and archiving media;
- Workstations; and
- Peripheral Report printers.

It is the responsibility of the Bidder to ensure that any proposed hardware specifications are such that they would fulfil the functional, response time, and all other requirements outlined in this RFT.

5.2.2 GENERAL REQUREMENTS

- All equipment delivered, unless otherwise specified, shall be capable of operating normally when supplied with single phase AC power within the range of 100-240V with a frequency of 47 to 63Hz, inclusive, and should be protected from over-voltage, overheating, and out-of-tolerance current surges. Voltage switching should be automatic.
- Unless otherwise determined, equipment shall meet all operational performance specifications to work in the Federated States of Micronesia with current temperatures and humidity.
- All hardware must be updated with necessary drivers.
- Bidder must identify and quote for any consumables necessary for proper operation of equipment.
- Bidder must identify and clarify any special operating conditions and requirements for proper operation of equipment.
- All equipment must be delivered to the Commission Secretariat fully assembled or assembled at the Commission Secretariat by the successful Contractor.

- Once the Commission Secretariat has tested\accepted the equipment, the Contractor shall deliver and install all equipment at Commission VMS sites under the supervision of Commission Secretariat staff.

5.2.2.1 APPLICATION AND COMMUNICATION SERVERS

Application and Communication Servers systems shall be to the following specification or better:

- Rack Mount Fault Tolerant Server Architecture.
- Intel Dual Core Xeon Processor (minimum 2.8GHz) Technology with 1MB of L2 cache.
- 2GB DDR2 SDRAM (minimum).
- Two (2) 80GB 15K PRM SCSI HDD.
- Microsoft WIN 2003 Server R2 Operating System.
- RAID 1 (Mirror) on all O/S and application HDD (2 x 80GB).

5.2.2.2 DATABASE SERVERS

Database Servers system shall be to the following specification or better:

- Rack Mount Fault Tolerant Server Architecture.
- Intel Dual Core Xeon Processor (minimum 2.8GHz) Technology with 1MB of L2 cache.
- 4GB DDR2 SDRAM (minimum).
- Six (6) x 80GB 15K PRM SCSI HDD.
- RAID 1 (Mirror) on all O/S and application HDD (2 x 80GB).
- RAID 10 (Mirror + Striped) on Data Storage HDD (4 x 80GB).
- External Tape Backup System.
- Microsoft WIN 2003 Server RS Operating System.
- Oracle 10G.2 Enterprise Database Licensing (per CPU).
- Oracle Backup Agent.

5.2.2.3 CLIENT WORKSTATIONS

Client Workstations systems shall be to the following specification or better:

- Architecture.
- Intel Dual Core Processor (minimum 2.8GHz) Technology with 1MB of L2 cache.
- 2GB DDR2 SDRAM (minimum).
- Two (2) x 80GB 15K RPM SATA HDD.
- RAID 1 (Mirror) on all O/S and application HDD (2 x 80GB).
- Min. 256MB Video memory.
- Integrated PCI Express Gigabit Ethernet.
- 1.44MB 3.5” floppy drive.
- IDE DVD R/W-ROM drive.
- Min 19” LCD Monitor.

- Microsoft Window XP Professional Edition.
- Server/Client Access software.

5.2.2.4 CPU UTILISATION

The system shall have the capability to perform all functions specified, concurrently at the required rates with the required response time by utilizing less than 50 per cent of the CPU utilization.

5.2.2.5 AVAILABILITY AND RELIABILITY

Availability is defined as the probability that a component (e.g. system, subsystem, equipment, link, etc.) will be operationally ready to perform its function when called upon at any point in time.

- The Bidder shall provide for high availability of all hardware and software such that a server availability of 99.90% and VMS client availability of 99.98% is attained.
- In order to meet the Commission Secretariat's needs it is imperative that the Contractor provides highly reliable and field-proven equipment to insure that the frequency and duration of unscheduled outages are kept to an absolute minimum.
- The Contractor shall insure that systems, subsystems, links and equipment are sufficiently reliable inherently or with the provision of redundant or back-up facilities.
- Systems shall provide for automatic recovery and restart facilities to ensure minimum downtime.
- Systems must provide for on-line performance monitoring and error-analysis reporting to enable proper system tuning and maintenance. In addition, a facility shall be available to utilize the performance data gathered for system management, capacity planning and application development activities.
- A hardware fault in any one of the peripheral equipment must not lead to a total system failure.
- A software fault in any subsystem must not lead to a total system failure.
- The Systems must be designed such that no single point of failure shall cause the system to cease operation.
- Each Bidder is strongly encouraged to show how his proposed systems meets these demands by stressing reliability, failover, fault tolerance, serviceability and expandability features in each component of the system.

5.2.2.6 NETWORK COMMUNICATIONS

- In accordance with the Commission Secretariat, the Bidder shall propose an alternative communication facility from Commission VMS user sites to central system if the Commission Secretariat WAN speed or band-width is not adequate.
- The Bidder shall include in his proposal the number and speed of the communication lines for sites.
- The Commission Secretariat WAN network is based on the TCP/IP protocol. The Contractor must ensure that all installed systems can function properly using TCP/IP.
- All user site equipment must be remotely managed using a Network Management System (NMS) that must support Simple Network Management Protocol (SNMP) and must be integrated with the existing Commission Secretariat implementation.

5.2.2.7 NETWORK CONNECTIVITY

- 99.98% uptime and committed Service Level Agreement.
- Proprietary, redundant and cross-configured router network.
- Redundant Gig-E, dedicated leased connections to multiple Tier 1 providers on diverse physical paths.
- Redundant Cisco core and border routers connected to a redundant Cisco switch architecture.
- Multi-gigabit Ethernet network backbone.
- Carrier neutral environment with redundant telecom and fibre providers.
- Unrestricted, dedicated 10/100 Mbps ports on switches.

5.2.2.8 CAPACITY AND GROWTH

Expansion of this system must be based on adding more hardware and upgrading software rather than replacing hardware while not compromising performance. The Bidder must specify in his proposal how the system meets this condition by providing detailed expansion plans indicating required hardware and software modules.

5.2.3 VMS DATA CENTRE INFRASTRUCTURE

5.2.3.1 PHYSICAL AND ELECTRONIC SECURITY

- Security of the data centre environment should meet and exceed the security standards the commissions insist upon for the protection of digital information and should include:
- Secure facility with 24x7x365 surveillance of visitors by security guards
- Secured facility access through multiple checkpoints and systems
- Closed-circuit video surveillance of corridors and data centre
- 24/7/365 operations support and security.
- Leading-edge firewall and intrusion detection technologies
- Biometric security systems at entrances to raised floor rooms.
- Perimeter and interior card key access system with 24x7x365 security monitoring
- Rack Cabinets with lockable front and back doors for added security

5.2.3.2 ENVIRONMENT AND SERVICES

- Redundant HVAC environmental cooling with raised floors to ensure free flowing cooling and provide environmental controls and maintain ideal operating conditions.
- Redundant power utility connections - two distinct points of connection on two separate circuits.
- Fully backed-up UPS power systems.
- Raised access floor system with overhead cable management and ladder racking.
- 24x7x365 on-site technical staff and technical support via telephone and e-mail.
- Network, environmental humidity and temperature monitoring 24x7x365.

5.2.3.3 FIRE PREVENTION AND SUPPRESSION

- Zoned dry-piped pre-action fire suppression system in data centre; building fully fitted with fire prevention smoke and leak detection and water-free automated fire suppression systems.
- HSSD (High Sensitivity Smoke Detection) sensors continuously sample the air at adjustable periods of time for smoke, and heat, detecting fire up to 30 minutes prior to smoke and/or flame.
- FE36 handheld extinguishers.
- FM-200 building-wide system. FM-200 systems are distributed across the entire Data Centre. FM-200 non-conductive and non-corrosive gas prevents equipment damage that could otherwise result from traditional water-based systems. FM-200 is a safe alternative to Halon.

5.2.3.4 WIDE AREA NETWORK COMMUNICATIONS CONNECTIONS

Connectivity

- 99.98% uptime and committed Service Level Agreement.
- Redundant leased line or dedicated ADSL connections.
- Cisco routers connected to Cisco switch architecture.
- Ethernet network backbone.
- Unrestricted, dedicated 10/100 Mbps ports on switches.

5.3 SOFTWARE REQUIREMENTS

5.3.1 GENERAL REQUIREMENTS

The software shall provide for the following requirements:

- Application Server shall be provided to manage Commission VMS transactions.
- Operating Software for PC and Application Development Software shall be provided as a minimum.
- All provided software shall provide a Graphical User Interface and be, as a minimum, compatible with latest operating systems.
- Commission VMS Software shall have the capability for searching for specific ALC data, the ability to manage queried data via database functions, the ability to import and export data to database files, and the ability to print reports from data gathered from ALCs.
- Provide the necessary software to enable users to perform the technical, functional, and operational requirements of the ALC hardware.
- Operating Software for PC shall be provided to enhance the users' ability to manage the Commission VMS hardware.
- PC shall use Operating Software that is compatible with The Commissions Standard Hardware Specifications Document.
- Application Development Software shall support features such as: the ability to download executable code to other devices; tools, libraries, and executive software needed

to generate executable code; ASCII file import and export capability; and, Structured Query Language capability.

- Any special tool kits or utility libraries required shall be provided as Separately Orderable Components.
- It is the responsibility of the contractor to develop the application programmes and any other application required by during the requirements phase.

5.3.2 DATABASE SOFTWARE

The Commission VMS is to be linked to other systems and applications such as the WCPFC Record of Fishing Vessels. The Bidder must provide a Database Management System (DBMS) with the following features:

- DRDA - Distributed Relational Data Base Architecture or Object Oriented Database
- ODBC - Open Data Base Connectivity and JDBC
- Must support distributed standard SQL and distributed processing
- Must allow concurrent access to data in multiple databases
- Must be able to manage a database of at least 5,000 vessel records with a 10% annual rate of increase
- Must have tuning, monitoring and on-line backups tools
- Must be able to operate across different HW, OS and LAN/WAN protocols
- Must have full recovery features
- Rich set of GUI based Administrative Tools to assist DBA in Managing most (if not all) aspects of Data Base

5.3.3 BACKUP AND RECOVERY

The Contractor shall comply with the following requirement:

- System shall have backup and recovery facilities for hardware, software and database failures
- Mean time to restore (MTTR) should be five (5) seconds or less.
- System shall provide online and batch options for recovery, depending on disaster type, as well as periodic backups (e.g. daily, weekly, and monthly).
- Clear and concise documented backup procedures must be delivered with the finished system.
- Bidder must describe the backup process. The system shall have a full set of GUI compliant backup software. The software design shall describe the following:
- Ability to perform unattended backup operations.
- Media to be used (Type, Size)
- Operator involvement in recovery

- Backup and recovery process, which includes data compression/decompression algorithms at the hardware and software level.
- Backup and recovery times.
- Application backup
- Data backup
- System application backup
- Selective Data, Program or File backup
- Automatically scheduled backup of items specified above Concurrent backup operation while system is fully operational

5.3.4 OPERATING SYSTEMS

The Commission VMS operating systems must have the following features:

- Windows 2003 Server R2 compliant
- Must have maximum flexibility of applications across different platforms
- Must be able to handle a large number of transactions

5.3.5 ELECTRONIC SECURITY

All systems and components of this project shall adhere to security requirements (i.e. Authentication, Confidentiality and Integrity) and shall be highly secured from both internal and external threats with different levels of security and privileges. Operators must be given different security levels than their supervisors. All workstations/mobile/handheld terminals must be accessed via secure authentication mechanism for positive user identification.

- Bidders must identify all proposed security features for all components and systems of this project including but not limited to: security specifications, related security classifications and security standards supported.
- The Contractor shall comply with the highest Security Standard, meeting at least the following and should respond to them individually.
- The Contractor shall perform a risk assessment to determine system vulnerability to risks and the level of protection needed.
- Access to systems must be limited to authorized users with valid user IDs and passwords.
- Systems must suppress the display of passwords as they are entered.
- Systems must allow on-line addition and deletion of authorized users and on-line changes of passwords by users without affecting normal system operation.
- Systems shall display at every login, the last login date and time of that user and the number of unsuccessful login attempts since the last successful login date & time.
- Systems shall ensure that password information defined is protected from unauthorized access and alteration. Passwords must be encrypted such that no one, including the security administrator, shall be able to know or decipher the password of another user.

- Systems shall provide facilities for the security administrator to specify and reset passwords for users who have forgotten their passwords.
- Systems shall ensure that the initial passwords for new users and passwords reset by security administrator must be changed at the first successful user log-on.
- Systems shall provide password-aging functions. The System administrator shall define the period of time for password aging.
- Systems shall allow the security administrator to specify the password syntax rules, e.g. at least 8 characters, password must be alphanumeric, etc.
- Systems shall revoke a user ID if it is not used for a user-definable period of time, e.g. 90 days.
- Systems shall ensure that no decryption of password is performed. Authentication shall comprise of encrypting the password entered at logon and comparing the encrypted form with the encrypted password stored in the password file.
- Systems must log system errors in the system log files.
- Systems must log users' online transactions in journal files with user and terminal identification, transaction date and time for all successful transactions. System must also log disconnection times and reasons for disconnection.
- Systems shall be able to generate audit reports in different formats, based on parameters set by the security administrator including but not limited to the following: a specific user ID, a specified group of users, or access violation.
- All attempts to log into a System, whether successful or not, must be recorded in the System log file. Systems must automatically log all security violations.
- Systems must limit the number of log-on attempts. If a user attempts an invalid password more than a supervisor-specified number of times, the System must automatically block the user from further attempts.
- Systems must automatically log a user off when there is no terminal activity for more than a supervisor-specified length of time.
- Systems must not allow simultaneous update of the same data item by more than one user.
- Systems must be able to provide configurable restricted access times.
- Systems shall ensure that users are not allowed to have more than one login session at any one time.
- The System must be able to provide restricted access times. The access times must be configurable.
- The Bidder may also propose any additional hardware/software for ACCESS CONTROL purposes.

5.3.6 VMS COMMUNICATIONS SERVER APPLICATION

The Communication/Alert Server software should meets the following minimum requirements:

• The server package should support five (5) simultaneous Mobile Satellite Communication Network Service Provider connections.

• The software should provide decoding of originated Real Time GNSS Position & Time stamp reports from CSP providers recognized by the International Maritime Organization.

• The application shall archive and sort, group, or index by date and service provider all incoming position reports and messages as originally received, and have the ability to retrieve, restore, and read on demand.

• The application shall archive and sort, group, or index by date and CSP service provider all incoming position reports and messages as originally received, and have the ability to retrieve, restore, and read on demand.

• The application shall reconcile all dissimilar formats and field names used for conceptually equivalent record field/data items across ALC models and CSPs into a single, open and flexible position report format used by the vessel database, without loss of accuracy and content from the translation. Specifically:

– Multiple ALC and CSP date/time formats for the position fix date time shall be reconciled into a single field for "vessel position date and time stamp".

– Multiple ALC and CSP formats for the vessel position fix latitude and longitude shall be reconciled into a common format without loss of accuracy.

• The application shall associate or derive the following attributes with each original raw position record to support business processing by the Commission VMS client modules. Specifically:

– Commission VMS import receipt date and time stamp;

– Region name or geographic area of jurisdiction where position fix is located;

– Vessel ID number (FM registry number for example);

– Vessel name; and

– Average speed derived from most recent previous position fixes.

• Base station application host (modules that analyze, report, and display vessel positions) shall be able to automatically and seamlessly import, store and process position data from the communications module without user assistance or intervention after initial system installation and set up.

• The software support processing of 'Raw" message reports. The software will provide facilities for archiving of these messages within the RDBMS and routing electronically to client systems

• Support processing of ALC "Logfile" message storage reports. The software will provide facilities for the download and transfer of these messages within the RDBMS and routing electronically to remote client systems

• Support processing of inbound digital status changes and outbound control lines (I/O) and can initiate changes of I/O status to trigger the generation of an Alert message based on user defined rules

- Ability to change ALC polling rate and request and immediate poll of a Vessel, or set of Vessels.
- Must provide an SMTP gateway for the purpose of sending and receiving e-mail.
- The application shall analyze a position report's type of fishing action and respond by triggering an event. Examples include entering "in port" status, entering a closed area, transiting a closed area, crossing demarcation line, interruption of regular position reports.
- To provide automated E-Mail alert notification
- To provide automated SMS alert notification
- Must provide an interface for 3rd party applications to access functionality via direct insertion of records into the RDBMS (in a controlled and secure manner). Must also provide functionality for user to add raw message decoding / reporting functionality
- Must support the Open Database Connectivity (ODBC) standard to interface with common desktop tools
- Must be capable of accepting incoming messages and data reports automatically via TCP/IP network, or Mobile Communications Service Provider networks and initiating periodic connections to the service provider via TCP/IP or modem connections to action other pending requests.
- Must be capable of processing position information from 2,500 mobile units within a one minute period and be potentially scalable to 10,000 vessels
- System Time – the network and all servers, communication interfaces, and clients shall operate at, and be synchronized to, UTC
- The system shall provide failure alerting based on a Windows-based Help Desk Software.

5.3.7 VMS DATABASE APPLICATION

- Oracle© 10gx – the database shall consist of an Oracle© 10g.x (latest release) hosted on synchronized, redundant servers geographically separated and located at the Commission VMS Control Centre and Co-located Data Centre.
- Access Control – the database shall implement role-based access control and permissions.
- Size – the database shall be sized appropriately to manage position reports from at least 10,000 vessels reporting 24 hours per day, 365 days per year from at least nine (9) different geographical regions.
- Open Interface – the database shall have an open interface to allow standard SQL activities such as query, export, update, import, and data mining without requiring the use of the VMS client interface.
- Records – the database shall retain online all Commission VMS application database records (including positions, vessel configurations, users, geographic areas, events, messages, alerts and actions in response to event status, etc.) for a minimum of one year.

• Performance – the database shall be optimized for performance, minimization of WADN traffic, robust sorting, query and search responses and shall, as a minimum, accommodate the following fields:

– Geographic/regional groupings of vessels.

– Vessel ID.

– Vessel name.

– Vessel trips.

– Dates of positions.

– Types or categories of alerts.

– Groups of vessels or fleets.

– Other.

• Data Referencing – the database table spaces shall be organized so as to co-locate similar data in order to reduce I/O bottlenecks and to provide ease of backup, restore and disaster recovery. Specifically:

– Indexes shall be stored separately from the data they index

– Write-once, read-only static data (e.g. vessel or user configuration data) shall be stored separately from frequently added, rapidly growing, large volume data (e.g. positions and alert/alarms); and

– System, user, etc. table spaces and redo log shall have ample table space(s) allocated and are physically separate from application data and indexes.

• Parameters for both table and table space definitions shall be set to maximize efficiency of I/O performance and space allocation in accordance with the intended use of the data.

• Standard block sizes shall be optimized for table size taking into account that:

– Position and alert/alarm records will increase to large volumes over time. Records are frequently added, have few or no updates, with frequent reads for track displays, reporting and queries; old positions are not frequently read; and

– Users, geographic zones, and event types have smaller volumes. Records are frequently used in joins with other tables.

• The database shall retain a chronological history and all records of Commission VMS application data for three years online and/or offline in sorted, grouped or indexed restorable archives by vessel positions, sent messages, VMS-generated alerts and actions taken.

• The database shall retain chronological history of baseline(s) and the audit trail of system-generated or manual changes to vessel attributes and their VMS configurations, zones, canned messages, and VMS user profiles, alerts and actions for three (3) years online and/or offline in sorted, grouped or indexed restorable archives.

5.3.8 VMS DATABASE RECORDS

The database shall have capacity to store up to 200 Data Network IDs with the following attributes:

- Service provider;
- Number;
- Ocean area;
- Modified last date: and
- Modified by user name.

The database shall have the capacity to store up to 200 events based on fishing vessel activity. Events shall trigger the response(s) to be applied upon the event of certain fishing vessel activity. Examples of fishing activity events shall as a minimum include; a. receiving a fish catch report:

- Vessel ALC antenna disconnected,
- Power disconnected
- GNSS blocked
- Zone entry and exit etc.

Examples of responses to those events shall as a minimum include:

- automatically sending e-mail to a law enforcement agent or enforcement agency,
- sending a pager message to an agent,
- displaying a screen message, etc.

Attributes of these events shall as a minimum include:

- region index;
- name;
- conditions (e.g. fleet, fishing activity, dates enabled);
- responses (e.g. initiate poll request, increase reporting frequency, send e-mail message, etc.);
- modified last date; and
- modified by user name.

The database shall have to capacity to store up to 200 events based on position location. Attributes shall include:

- region index;
- name;
- conditions (geographic zone, fleet, vessel speed tolerance, time tolerance, dates enabled);
- responses (e.g. initiate poll request, increase reporting frequency, send e-mail message, etc.);
- modified last date; and

- modified by user name.

The database shall have the capacity to store up to 200 fishing action types. Fishing Actions shall provide the context to a given instance of a position in accordance with Attributes shall include:

- name,
- code,
- MEM codes,
- Fishery Days At Sea status, and
- sensor indicators.

The database shall have capacity to store up to 100 gear types. Attributes shall include, but not be limited to:

- gear name, and
- code.

The database shall have the capacity to store up to 249 Geographic zones. Attributes shall include:

- region index;
- name;
- geographic definition;
- modified last date; and
- modified by user name.

The database shall have the capacity to store up to 100 user profiles containing the details of persons authorized to access, operate and/or configure the vessel management system. Attributes shall include:

- region index;
- user logon;
- first and last name;
- security level or group;
- e-mail address;
- phone voice mail;
- cell phone;
- work organization; and
- password (encrypted).

The database shall have the capacity to store up to 200 vessel groups or fleets. A fleet is a set of one or more fishing boats, grouped together logically because of a common feature. For example, there could be fleets for FFA, AFMA, MDOF, NFA, Tuna (ICCAT) and other RFMOs, a group of boats with the same owner. A vessel may belong to more than one fleet. Attributes shall include:

- region index;
- fleet name;
- fleet membership list;
- reporting group (i.e. DNID);
- modified last date; and
- modified by user name.

The database shall have the capacity to store up to 10,000 vessel profiles. Attributes shall include:

- region index;
- name;
- Documentation No. (larger boats);
- WCPFC Vessel Record No. (smaller boats),
- RFMO Registry No.
- other ID No. (for foreign vessels);
- communications service provider (CSP);
- mobile transceiver unit (ALC) Serial Number & ID number;
- CSP ID (i.e. Inmarsat, Iridium or Argos ID number);
- Data Network /Member Numbers (up to 4 per vessel);
- gear type;
- targeted fishery and permit currently active in Commission VMS (fishing vessels an have Multiple permits);
- vessel e-mail address;
- owner name;
- length in meters;
- gross tonnage;
- port registered;
- port frequent landing;
- individual fishing quota;
- modified last date; and
- modified by user name.

5.3.9 VMS ALERT APPLICATION

The Commission VMS shall have a function to generate movement and activity associated alerts.

• The application shall compare incoming vessel positions, fishing activity codes and status, with conditions configured in event type definitions that support vessel monitoring business logic and conditions.

• When event conditions are met the system shall automatically generate a response, also known as an alarm or alert. The product shall have the ability to associate an event occurrence with a Violation Type and Violation Type Codes.

• The processing of position reports and event analysis shall be performed in real time to ensure rapid responses to monitoring control and surveillance needs.

• The user shall have the ability to define automated types of events that include event conditions, based in part or whole on transceiver events and position analysis, and system responses. Conditions that define an event that shall be accommodated include:

– Entering and leaving an area closed to fishing.
– Entering and leaving "in port" zones or "in port" status.
– Entering and leaving VDS zones or VDS status.
– Unexpected break of position reports while at sea or did not report at expected time.
– Each MEM code from the ALC position report that is specialized for fisheries, security or tampering functions listed above.
– Other user-defined codes attached to position reports and data imported by the API.
– Vessel in port too long.
– Vessel at sea too long.
– Two vessels are too close at sea.
– Overdue or negative response from attempted messaging with ALC (e.g. poll request, DNID command, undelivered e-mail).
– Ability to create new event from future MEM code for winch engaged.
– Distress message sent.
– Vessel speed below threshold. Must have ability to enter begin and end dates for when event is in effect.

• The application shall automatically generate a user pre-defined response when event conditions have been met.

• The user shall have the ability to define more than one response (alert format and destination) for an event type.

• The application shall have the ability to enable and disable event types.

• The system shall respond to alarms, alerts, and responses to events with the following activities, as a minimum:

– Changing the display attributes of the vessel (e.g. modification of vessel icon and track, changing size, colour, blinking, sound, etc.).
– Sending a command to the ALC to change reporting frequency.

- Sending a command to the ALC to request vessel position.
- A single American Standard Code Information Interchange (ASCII) line in tabular format(s) containing event instance data (position, vessel name, event, date, time, etc).
- A text message as a brief user-defined English sentence describing event instance.

• The system shall send the appropriately formatted alarms, alerts, and event responses to the following, as a minimum;

- Commission VMS workstation screen display;
- Internal IP address or client within the VMS systems architecture, using IP over VPN;
- External host, such as a enforcement agency site, using IP connectivity;
- E-mail address (vessel, vessel owner, agent, etc);
- Participating Vessel ALC.

5.3.10 VMS ALC COMMUNICATIONS

The communications interface associated with the Commission VMS application shall manage-incoming vessel position reports from ALCs via the satellite service provider.

• The communications interface shall automatically import and process position report data from a TCP/IP machine to machine connection without user assistance or intervention after initial set up.

• The communications interface shall Import, translate and reformat the header and position reports sent by CSPs.

• The communications interface shall use the same TCP/IP connection for all incoming and outgoing CSP data communications.

• The communications interface shall translate and process Macro Encoded Message (MEM) codes and status messages transmitted by the approved ALCs within the position report. These MEMs shall include, as a minimum:

- Antenna Disconnected
- Antenna Blockage
- Normal Position report
- Power up
- Power down
- Power down/enter sleep mode
- In sleep mode
- Power up/exit sleep mode
- Fix time begin
- Enter reduce mode
- In reduced mode

- Leave reduced mode
- Blocked GNSS detection
- Enter zone detection
- Exit zone detection

• The communications interface shall process the following attributes, when included, from imported header and position reports:

- Vessel position date timestamp
- Vessel position longitude (dd.mm.mm E/W)
- Vessel position latitude (dd.mm.mm N/S)
- CSP code
- CSP downlink receipt date timestamp
- CSP (Data Network Identification (DNID) number
- CSP DNID Member ID number
- CSP Ocean Region
- GNSS vessel course (extended, optional)
- GNSS vessel speed (extended, optional)

• Vessel action code. (The ALC-generated codes such as MEM codes, and, user-input from the vessel DTE for activity codes, fish type codes and designation of targeted fisheries).

• Vessel action attribute value. (The values associated with an instance of a vessel action code (e.g. quantities of a fish type for a catch report)).

• The communications interface shall be integrated with the VMS server application to manage incoming and outgoing communications using TCP/IP, e-mail or File Transfer Protocol (FTP) with other CSPs.

• If the communications host does not directly and specifically target the above service providers, then the communications and/or the vessel monitoring base station applications shall be capable of importing 3rd-party data by means of a documented, flexible and open application programmer interface (API).

• The communications interface shall be integrated with the VMS client applications so that the end user is able to initiate, send and manage Network Identification commands for satellite message transmissions from the VMS to ALCs.

• The communications interface shall integrate, process and log the incoming and 0utgoing API data records the same as report processing of CSP position reports.

• The communications interface shall reject data errors incoming from the CSP to the VMS API, communications module and/or application host(s) and write to an error file and display an error message on a VMS system log file and/or administrators screen.

• The communications interface shall generate outgoing CSP DNID commands to vessel ALCs using TCP/IP via the vessels' respective CSP upon end-users' manual requests and automated system responses to user-defined events.

• The communications interface shall include the ability to perform the following command functions:

– Defining a full, user-defined command string;

– Poll (current position) requests to individual vessel or to all members within a given fleet group or network ID;

– Making loaded Network IDs active

– Random position queries (polling) of individual vessels and fleets.

5.3.11 VMS DATA REPORTING

• The Commission VMS database shall generate pre-programmed and ad-hoc reports.

• Reports shall be generated on demand from the user interface and written to the display or to a file.

• The Commission VMS database shall support exchange through "Internet" infrastructure using "open standards" – and may include Extensible Markup Language (XML), the Open GIS Consortium standards based on XML for exchange of GIS data

• The application shall be user-friendly and provide query functions through menu options for reports that have selection features based on attributes such as geographic region, fleet, vessel name, date ranges, alphabetical or chronological sorting, event or alarm type, etc.

• The application shall generate reports to a file, to a network printer, or local display, the history of:

– Positions;

– Trips;

– Event occurrences or responses to events;

– Messages sent.

5.3.12 VMS NETWORK CLIENT

• Operating System – all network clients shall operate the latest version of Microsoft© Windows XP, Windows VISTA or Windows CE.

• Terminal – the network client shall be a latest model commercially available computer workstation, or thin client terminal.

5.3.13 VMS CLIENT APPLICATION

The Commission VMS System Client Application should meet the minimum requirements below:

• Easy and intuitive use with windows, pop up menus and other Graphical User Interface (GUI) features.

– The following map operations must be provided:

– Zoom and non-step-zooming

– Position map to a location

– Drag map with cursor

– Automatic Zoom and Pan after Vessel selection

– Display or Select all mobile units in a specific area or sector

– Graphic layer control:

• Graphical features (text and graphics, grids, boundaries etc) in separate layers for pre-use presentation. Each feature must be capable of being selected or turned off by the operator.

• Colouring of different areas, such that an operator may determine the type of area the vessel track is within.

• The user shall be able to perform Commission VMS operations, surveillance and reporting functions with a windows interface that includes menus, dialogues, pop-up select lists, check lists, etc. as appropriate. Application must be easy to use with intuitive display techniques for vessel icons; directional arrows; line or icon sizes, shapes and colours; blinking alerts.

• The user interface shall geographically display track lines of vessels, and groups of vessels.

• The user interface shall load and display charts providing geographic coverage for the Commission coverage area and CCMs' respective EEZs.

• Digitized charts shall provide vector layers for themes and objects such as EEZ zone boundaries, closed areas, depth markings, boundaries, buoys, etc.

• Graphical charts shall display "virtually" - with ease of scrolling and zooming in/out.

• The application shall use Commission-authorized charts at nautical scale resolution near shore within the Convention Area and EEZ. Resolution of charts for high seas does not require the same detail.

• The client application shall have the ability to create user-defined zones that are polygons or circles, using point 'n click on a geographically referenced map or by entering in specific latitude and longitude points.

• A selection feature must be provided allowing an operator to select mobile units by name, ID, type, or custom defined group.

• Display of individual mobile units as user selectable icons to enable visual grouping of mobiles by operator needs.

• Selection of position reports for display based on vessel id, date and time, position, speed and course.

• Display of tracks superimposed on the background features by accurately marking each position report for a vessel and joining each subsequent position report for that vessel with

a line. The line type, thickness and colour for each vessel track should be within the control of the user.

- Display of vessel tracks where vessel minimum speed is below a selected limit, differently from higher speed tracks.
- The capability to replay the tracks of vessels in a chronological sequence.
- Current and historical position reports must be available to authorized users.
- Definition of geographical areas by the operator using co-ordinates or graphically using a mouse.
- The ability to define a geographical area as the area within a specified distance from a selected point or from a selected mapping feature such as a coastline.
- Display of the distance between two selected points, manually entered co-ordinates, or mobile unit locations.
- Print option should support both current window and full display printing.
- Display of nominated descriptive information stored in the database
- Different areas must be able to be displayed on different networked computers.
- The ability to request an immediate position report, or request a change to a vessel's polling rate.
- Must allow sightings to be recorded and displayed superimposed on automatically reported positions.
- A feature to allow small electronic mail messages to be sent via Satcom to other remote vessel and Command Control Centre.
- Response time for display of selected information is to be as fast as possible with 95 per cent of all displays being completed in less than three (3) seconds.

5.3.14 APPLICATION PROGRAMMING INTERFACE (API)

- An API shall be provided that will facilitate user-defined programming of interfaces not otherwise native to the proposed application(s).
- The application shall have the flexibility for associating values imported from the API or from to-be-assigned ALC position report MEM codes to the VMS application Days at Sea (VDS) status.
- The API shall be fully documented and supported.
- The API shall provide a generic bridge for importing and reformatting the header and position reports sent by all service providers into the position report format used by the VMS database, and shall be stored in the database, without loss of content from the translation.
- The API shall facilitate as appropriate the handling of interfaces to other communications service providers.

- The API shall accommodate the similar position report attributes, codes, alerts and status messages for the ALC transceivers.

- The API shall facilitate the ability to send end-user (manual requests) and system generated (automated responses to events) satellite message transmissions from the VMS to ALCs to initiate poll requests, make loaded Network IDs active, and to initiate Network ID commands.

5.3.15 SOFTWARE UPDATES

The Bidder will provide software assurance product upgrade and update support for all Commission VMS Client / Server Intranet licenses supplied to the Commission Secretariat for the Commission VMS program. This covers version build updates and patch files.

6.0 TRAINING AND TECHNICAL SUPPORT

6.1 TRAINING

The Commission Secretariat will require its employees to actively participate in and receive training during the analysis, design, installation, and operation and maintenance through the end of the warranty period. After the operations and maintenance period, Commission Secretariat personnel should be capable of assuming sole responsibility for management, operation, and maintenance of the new systems covered by this business plan and in training others in these functions. The same provisions would apply to a contractor engaged on behalf of the Commission to deliver as an outside provider, the Commission VMS. This section should therefore be read as applying to both options. The Bidder should submit, with the bid, a comprehensive Training Plan for achieving these goals.

The following sections set out the basics of what would be required for an organisation such as the Commission undertaking the development and implementation of a VMS. We would expect this to be customised to Commission requirements in consultation with any contractor working on this project

6.2 TRAINING PLAN

The training plan should address and satisfy the main aspects of the new system:

- VMS technology, Basics and advanced training.
- Installation and maintenance of Commission VMS user sites
- System administration and operation
- Database configuration management, operation and maintenance, and administration
- System security configuration
- Hardware installation, operation, and maintenance
- Preventive maintenance procedures and discipline
- Communications software configuration and modification
- Application software maintenance and modification

Bidders should quote for a dedicated training system, independent from the operational system, to be used for such operations as training and release testing.

6.3 TRAINING REQUIREMENTS

The following points set out the standard training requirements needed for this type of project:

- Training shall begin before the "deployment phase" and continue on through the end of the operations and maintenance period.
- At the end of a training course or program, a trainee shall be able to demonstrate achievement of training objectives by performing the functions for which the course, or program, was designed. All technical training programs or courses related to specific hardware or software should result in certification by the original manufacturer or software developer.

• The training plan shall provide for formal classroom, On-the-Job-Training (OJT), and computer based interactive video training. Hands-on training shall be prominent in the training plan. After successfully completing all lecture and lab type training sessions, the Commission trainees shall be given a specialized on-job training program where they will participate in doing the actual work along with the Contractor's counterparts.

• The training plan shall provide for additional training to be conducted at the end of the warranty period, if requested by the Ministry. The Bidder shall quote separately and be prepared to allocate one or more instructors, as consultants, to the Commission Secretariat for the purpose of conducting training for at least a one-year period.

• Each course proposed in the training plan shall include:

– The course objective

– Prerequisite course(s) or knowledge

– Course contents

– Course duration and hours per day

– Trainee skills and knowledge to be gained from the course.

• The training plan shall identify training tracks for the various jobs in system management, operation, and maintenance. The courses within each training track must be detailed as specified above and must lead to certification by the original manufacturer or developer.

• Training shall be conducted for entry level, intermediate, and advanced level personnel.

• The value of On-the-Job-Training in providing practical skills and understanding shall be emphasized in the training plan.

• For maximum benefit, training shall be oriented to installation, operation, maintenance, and management of the hardware/software that is to be installed, operated, maintained, and managed by the Commission Secretariat staff.

• The training plan shall identify the number of trained Commission Secretariat personnel needed for management, installation, and maintenance of the new system covered by this business plan and shall provide a schedule for training a sufficient number of individuals to perform those tasks.

• The training plan must ensure that a sufficient number of the Commission Secretariat personnel will be trained in the operation of the system and qualified as instructors to train administration personnel on system operation.

• The training schedule shall be such that the Commission Secretariat personnel are sufficiently trained to effectively participate in the various phases of installation and operational use of the new system covered by this business plan.

• All developed training course material, teaching aids and tools, and handouts shall become the property of the Commission.

6.3.1 ON-SITE TRAINING

The Contractor will be responsible for the training of the Commission Secretariat staff locally at the Commission Secretariat facilities. The training courses shall cover the following fields:

- Application programming skills.
- Data Base (Programming, Administration, etc).
- Systems (Administration, Installation, etc).
- ALC Hardware installation.

The Contractor must conduct four (4) training courses covering the above fields.

6.3.2 OVERSEAS TRAINING

The Contractor will be responsible for any required overseas training days for the Commission Secretariat staff. Overseas training should include advanced courses in the following fields:

- VMS technology applications.
- Application programming skills.
- Data Base (Programming, Administration, etc).
- Systems (Administration, Installation, etc).
- VMS ALC technology
- VMS CSP technology

The Contractor shall be responsible for all overseas training expenses, including travel, appropriate hotel accommodations, appropriate per diem, and course tuition and enrolment fees. The Commission Secretariat has the right to select the trainee for each requested course.

6.4 WARRANTY

The Contractor shall provide a system warranty that covers all system components after the issuance of the final acceptance certificate. The Contractor shall administer warranties annotated with serial number and warranty period. At the issuance of the final expectance certificate, any OEM warranties will be transferred to the Commission Secretariat at no additional charge. All warranty documentation (whether expired or not) will be delivered to the Commission Secretariat at the issuance of the final acceptance certificate.

The Contractor system warranty must cover all equipment, software, and work activities contained in the contract against all design, manufacturing, and environment faults until the issuance of the final acceptance certificate.

The Contractor shall commit to the following warranty terms:

- The duration of this warranty shall be three (3) years from on-site installation.
- The warranty shall include the repair or replacement of the unit(s) during the warranty period by the Contractor. The replacement unit(s) shall meet the related specifications without further repair or modification.
- The Contractor shall be liable for all costs including, but not limited to, the costs of material, labour, travel, transport, and living expenses associated with the collection and return of the units covered by the warranty.

- The date of manufacture or assembly of any equipment, parts, or consumables shall not be more than six months before delivery.

- The Bidder shall state the location of his repair centre(s) for all items not being repaired onsite.

- The Commission Secretariat has the right to require a replacement if the repair is deemed to be impractical.

- If the Commission Secretariat or its representative reports faults to the Contractor for correction, the Contractor shall perform corrective action with all possible speed. If the faults do NOT affect the availability and reliability of the equipment as defined by the Commission Secretariat, they must be rectified within what the Commission Secretariat considers to be a reasonable time (a maximum 15 days after the fault is initially reported). If the faults are not corrected within this period, the Commission Secretariat may proceed to do the work at the Contractor's risk and expense, but without prejudice to any other rights the Commission Secretariat may have against the Contractor in respect to the failure of the Contractor to rectify such faults. All critical faults that cause a partial or complete work stoppage must be rectified **immediately**.

- Replacement components shall be available for any failed component during the warranty period.

- Should service be interrupted during this warranty period, due to failure of the product, the Contractor shall extend the warranty period at no cost to the Commission Secretariat for a period equal to the period of interruption of service.

- At the completion of final acceptance, the Contractor shall guarantee the availability of spare parts and technical assistance for all components (or appropriate alternatives) to ensure the equipment runs for at least five (5) years without major changes. Six months advance notice is required on any discontinued part(s) with a suggestion for alternatives.

- All repair data and corresponding courses of failure shall be provided to the Commission Secretariat to be kept in a historical database system.

7.0 COSTING

The overall costing is to be summarised in tables. These tables should be expanded to include additional costing which are required for the project, but are not included below. Each area should be represented by a cost factor.

Commission VMS Implementation

Phase	Description	Estimated Cost (USD)
1.	Requirement Analysis: • Detailed Analysis Document • Use Cases, Entity Relationship Diagrams and Control Flows of the Solution	
2.	System Design: • Requirement Specifications • Functional Specifications • Detailed Specification • Detailed Analysis Document • Use Cases, Entity Relationship Diagrams and Control Flows of the Solution	
3.	Initial Operational Capability (IOC) Deployment, Testing and Operation: • VMS System Document(s) • VMS Deployment Plan Document(s) • Deployment progress Document(s) • Instructions on Installation Document(s) • Acceptance Testing and Reporting for the System Document(s) • Utilities Installation Document(s) • Modifications Requested Document(s) • Personnel Training Document(s)	
4.	System Acceptance: • The management plan and procedures • Test plan and procedures • Test reports • Preliminary acceptance and final acceptance • Operation and maintenance plan • Operating and maintenance manuals, procedures and standards • Administrator's manuals, technical manuals, and user manuals (English versions) • User guides to be used as reference during normal operation and shall be used for training purposes • Operator manuals • Backup, Recovery, and Restore procedures • Help Desk procedures and diagnostics	
	TOTAL	

8.0 CONTRACT REQUIREMENTS

8.1 DRAFT CONTRACT

A draft 'Services Contract' for the redevelopment of the Commission VMS is appended at **Attachment 1**.

8.2 STANDARD RESPONSE TABLE

A Standard Response Table is appended at **Attachment 2**.

8.3 IMPLEMENTATION SCHEDULE

The Vendor shall submit an implementation schedule in the form of a Gantt Chart detailing all aspects of the project.

9.0 VENDOR DETAILS

9.1 CORPORATE EXPERIENCE

9.1.1 PREVIOUS EXPERIENCE

The Vendor shall submit at least three references of similar projects undertaken within last three (3) years. This is also required for each partner in any joint venture emphasising the strengths of such a joint venture.

Organisation	
Address	
Contact Person: (to whom the project reported)	
Contact Tel/Fax:	
Project	
Description of Project	
Financial Commitment	
Completion Schedule (start and finish)	
Completion Date	

9.1.2 CORPORATE CAPACITY

The Vendor, and any partners within a joint venture, shall describe their organisation's capacity to undertake a project of this nature.

9.1.3 CORPORATE FINANCIAL BACKGROUND

The Vendor, and any partners within a joint venture, shall submit a Financial Statement or form of disclosure regarding over all financial capability of their organisation.

The Commission Secretariat retains the right to require submission by the Vendor, and any partners within a joint venture, of at least three years of financial statements.

10.0 RESOURCES OFFERED

10.1 COMMISSION SECRETARIAT STAFFING

The Commission Secretariat will make available the Compliance Manager to oversee the project from the Commission Secretariat's and CCMs' point of view.

10.2 REPORTING PROCEDURE

The Vendor's Commission VMS Implementation Project Manager shall report directly to the Commission Secretariat's Commission VMS Implementation Project Manager. The Vendor shall comment on this proposed reporting procedure, noting any changes required to implement its solution.

10.3 TEAM MEMBERS (VENDOR STAFFING)

Vendor staffing is crucial to the success of this project. A detailed list with curriculum vitae (CV) of committed senior key personnel should complete this section, addressing in particular though not limited to, the following criteria:

- extensive overseas experience, in particular in the Pacific;
- strong technical/IT background;
- administratively competent;
- maturity;
- exposure to western and central Pacific fishing environment;
- understanding of the operation of vessel monitoring systems for regional fisheries organisations.

10.4 OTHER RESOURCES

The Vendor shall detail any additional resources it has at its disposal to successfully complete the implementation of the Commission VMS.

ATTACHMENT 1

Services Contract

This Agreement Is Between

Name of Commission VMS Implementation provider

Hereinafter 'Contractor'

and

WCPFC Secretariat

Hereinafter 'Customer'

#date#

Regarding Services for:

Delivery of the “Commission VMS Implementation Project”

THIS CONTRACT is made on the day of 2007

BETWEEN

WCPFC Secretariat of P.O. Box 2356, Kolonia, Pohnpei State, Federated States of Micronesia 96941 **(**hereinafter referred to as the "the Customer")

as represented by #name#

AND

#Name# (*address of Contractor), (*hereinafter referred to as the "Contractor")

as represented by #name#

WHEREAS: the CUSTOMER agrees to engage the services of the Contractor and the Contractor agrees to provide the services to the Customer under the terms and conditions contained in this Contract.

NOW IT IS HEREBY AGREED as follows:

1. Interpretation

1.1 In this Contract, unless the contrary intention otherwise requires:-

(a) **'Services'** means the services described in Item A of Schedule 1 [Services];

(b) **'Contractor'** shall, where the context so admits, include the officers, employees, agents and subcontractors of the Contractor;

(c) **'Contract Material'** means, subject to clause 5 [Contract Material], all Material:

- brought into existence for the purpose of performing the services
- incorporated in, supplied or required to be supplied along with the Material referred to in paragraph (a); or
- copied or derived from Material referred to in paragraph (a) or (b);
- includes documents, equipment, software, goods, information and data stored by any means;
- particularly including (but not necessarily exclusively) the material described in Item B of Schedule 1 [Contract Material].

(d) **'Intellectual Property'** includes all copyright and neighbouring rights, all rights in relation to inventions (including patent rights), registered and unregistered trademarks (including service marks), registered designs, Confidential Information (including trade secrets and know how) and circuit layouts, and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields relevant to, *inter alia*:

- textual, graphical, and other material included in the Commission VMS;
- the user interface of the Commission VMS including but not limited to screens, organisation, patents and operation or control features; and
- all software associated with the Commission VMS.

1.2 In this Contract, unless the contrary intention otherwise requires:-

(a) words in the singular number include the plural and words in the plural number include the singular; and

(b) words importing a gender include any other gender; and

(c) words importing persons include a partnership and a body whether corporate or otherwise; and

(d) clause headings, words capitalized or in bold format and notes in square brackets ("[ ]") are inserted for convenience only, and have no effect in limiting or extending the language of provisions, except for the purpose of rectifying any erroneous cross-reference; and

(e) all references to clauses are clauses in this Contract; and

(f) all references to dollars are to United States Dollars and this Contract uses U.S. currency; and

(g) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.

1.3 Schedule 1 [Contractor's Obligations], Schedule 2 [Customer's Obligations] and annexures (if any) form part of this Contract. In the event of any conflict between the terms and conditions contained in the clauses of the Contract and any part of the Schedules (and annexures if any) then the terms and conditions of the clauses shall take precedence. In the event of any conflict between any part of the Schedules and any part of any annexures if any, then the Schedules shall take precedence.

2. Provision of Services

2.1 The Contractor shall perform the Services (including the preparation of Contract Material) in accordance with Schedule 1 [Contractor's Obligations] to a standard recognised as a high professional standard by the industry to which the Contractor belongs.

2.2 The Contractor shall perform the Services at the times specified in Item C of Schedule 1 [Time frame] and in the manner specified in Schedule 1 [Contractor's Obligations] generally.

3. Fees, Allowances and Assistance

3.1 Customer shall pay to the Contractor the reasonable and proper fees and allowances as specified in Item CC [Fees] of Schedule 2.

3.2 Item CC of Schedule 2 [Fees] provides that the Contractor is to be paid by five (5) separate payments.

3.3 The Contractor shall submit invoices for payment in the manner specified in Item D of Schedule 1 [Invoice Procedures].

3.4 If an invoice is found to have been incorrectly rendered after payment, any underpayment shall be recoverable by the Contractor.

3.5 If any monies due to the Contractor remain unpaid after the date on which they should have been paid, the Contractor is entitled to be compensated for the loss suffered by reason of the withholding of those moneys. Compensation will be charged by the Contractor at 10 per cent of the outstanding amount for loss suffering for withholding these monies.

4. Entire Agreement and Variation

4.1 This Contract constitutes the entire agreement between the parties and supersedes all communications, negotiations, arrangements and agreements, whether oral or written, between the parties with respect to the subject matter of this Contract.

4.2 No agreement or understanding varying or extending this contract, including in particular the scope of the Services in Item A of Schedule 1 [Services], shall be legally binding upon either party unless in writing and signed by both parties.

5. Contract Material

5.1 Ownership of all Contract Material shall vest in the Customer upon creation.

5.2 Upon the expiration or earlier termination of this Contract the Contractor shall, deliver to Customer all Contract Material remaining in its possession save for any copies which shall be retained for the Contractor's use.

5.3 The preceding subclauses of this clause apply subject to any stipulation to the contrary in Item B1 of Schedule 1 [Contractor's Rights to Contract Material].

6. Intellectual Property Rights

6.1 Subject to this clause, Intellectual Property in all Customer Contract Material vests immediately in the Contractor until the completion and payment in full of the project at which time it will then becomes the sole ownership of Customer.

6.2 Notwithstanding clause 6.1, the Customer acknowledges that there is no assignment of intellectual property rights in any pre-existing material (including but not limited to the supplier's software, documentation, templates and data) which is incorporated into or which has been used in the course of developing the Commission VMS.

7. Disclosure of Information

7.1 The Customer shall not, without the prior written approval of the Contractor, disclose to any person other than the Contractor, any information that is confidential to the Contractor.

7.2 This clause shall survive the expiration or termination of this Contract.

8. Indemnity and Obligations

8.1 Subject to the provisions of this Contract, the Customer shall at all times indemnify and hold harmless the Contractor, its officers, employees and agents (in this clause referred to as "those indemnified") from and against any loss (including legal costs and expenses on a solicitor/own client basis), or liability, reasonably incurred or suffered by any of those indemnified arising from any claim, suit, demand, action or proceeding by any person against any of those indemnified where such loss or liability was caused by any wilful, unlawful or negligent act or omission of the Customer, its employees, agents or subcontractors in connection with this Contract.

8.2 The Customer shall have the following responsibilities:

a) provision of all data to be incorporated into the Commission VMS (to be provided to the Contractor in Microsoft Word 2003 format on a CD-ROM or via e-mail);

b) provision of all logos, designs, graphic and related materials to be incorporated into the Commission VMS (to be provided to the Contractor in Microsoft Word 2003 format on a CD-ROM or via e-mail);

c) provision of any other information, ideas or suggestions which are to be expressly considered by the supplier in creating the Commission VMS;

d) ensuring that any data, logos, designs, graphics and related materials provided to the contractor do no not infringe the intellectual property rights of any third party.

9. Termination and Reduction

9.1 The Contractor may, at any time by written notice, terminate this Contract, in whole or in part. If this Contract is so terminated, the Customer shall be liable for:

(a) payments under the payment provisions of this Contract for services rendered before the effective date of termination; and

(b) subject to clauses 9.3 any reasonable costs incurred by the Contractor and directly attributable to the termination or partial termination of this Contract.

9.2 Upon notice of termination the Contractor shall:

(a) stop work as specified in the notice;

(b) take all available steps to minimise loss resulting from that termination and to protect Contract Material; and

(c) continue work on any part of the Services not affected by the notice.

9.3 In the event of partial termination the Customer's liability to pay fees under Item CC of Schedule 2 [Fees] shall, in the absence of agreement to the contrary, abate proportionately to the reduction in the Services.

10. Default

10.1 If either party is in default under this Contract on account of the failure to perform or observe any obligation or undertaking to be performed or observed on its part under this Contract, the party not in default may, subject to clause 10.2, by notice in writing to the other party, terminate this Contract in whole or in part without prejudice to any right of action or remedy which has accrued or which may accrue in favour of either party.

10.2 Where the default is capable of being remedied, a party shall not exercise its rights of termination under clause 10.1 unless it has first given to the other party notice in writing specifying the default and requiring the other party to remedy it within the time (being not less than 10 working days) specified in the notice and the default is not remedied within the time allowed.

11. Waiver

11.1 A waiver by either party in respect of any breach of a condition or provision of this Contract shall not be deemed to be a waiver in respect of any continuing or subsequent breach of that provision, or breach of any other provision. The failure of either party to enforce at any time any of the provisions of this Contract shall in no way be interpreted as a waiver of such provision.

12. Compliance with Law

12.1 The Contractor shall in carrying out this Contract comply with the provisions of any relevant statutes, regulations, by-laws, and requirements of the Federated States of Micronesia.

13. Dispute Resolution

13.1 Any dispute or difference whatsoever arising out of or in connection with this Service Contract shall be resolved as follows:

a) The parties shall first refer the dispute to mediation by a mediator mutually agreed by the parties.

b) The reference shall commence when any party gives written notice to the other specifying the dispute and requiring its resolution under this clause.

(c) If a dispute is not settled by the parties within 10 working days of one party first sending to the other party written notice that they are in dispute, the dispute may be the subject of court proceedings or may be submitted to some alternative dispute resolution mechanism as may be agreed in writing between the parties.

(d) Notwithstanding the existence of a dispute, each party shall continue to perform its obligations under this Contract.

(e) A party may commence court proceedings relating to any dispute arising from this Contract at any time where that party seeks urgent interlocutory relief.

(f) This clause shall survive the expiration or termination of this Contract.

14. Severability

14.1 Each provision of this Contract and each part thereof shall, unless the context otherwise necessarily requires it, be read and construed as a separate and severable provision or part. If any provision or part thereof is void or otherwise unenforceable for any reason then that provision or part (as the case may be) shall be severed and the remainder shall be read and construed as if the severable provision or part had never existed.

15. Applicable Law

15.1 This Contract shall be governed by and construed in accordance with the laws of the country nominated in Item H of Schedule 1 [Applicable Law] and the parties agree, subject to this Contract that the Courts of that country shall have jurisdiction to entertain any action in respect of, or arising out of, this Contract.

16. Copyright legislation

16.1 All images, logos, content or other material provided by the customer must not be in breach copyright legislation or misleading, and the Contractor accepts no liability for the use of this material. If the Contractor writes, constructs, manipulates any images, content or other material for the Customer, then the Contractor accepts no responsibility for any misleading information or breach of copyright that the information may contain.

17. Limitation of Liability

17.1 This Contract is limited to the services provided in accordance with the agreement.

17.2 The Contractor will not be liable for any incidental, special or consequential damages that result from the use or inability to use any Contractor products or advice including but not limited to the following:

(i) any other third party service provision; and

(ii) any training and/or training manuals provided or otherwise.

17.3 The Contractor will not be liable and/or in any way responsible for damages that result from mistakes, omissions, deletion of files, errors, defects, delays in operation or transmission, or any failure in operation or performance whether or not caused by events beyond the Contractor's reasonable control including but not limited to:

(i) Acts of God

(ii) Theft

(iii) Destruction

(iv) Credit card fraud or any other fraudulent misrepresentations

(v) Any unauthorised access to the Contractor or Customer records, programs, or services.

17.4 Under no circumstances shall the Contractor's total liability for damages, losses, and causes of action exceed the amount paid under the agreement.

IN WITNESS WHEREOF the parties have executed this Contract on the date first above written.

SIGNED for and on behalf of WCPFC Secretariat

By #name#

Who by signing this so to has the authority to sign

In the Presence of:

.....[WITNESS]

.....
(Print name) (Position)

SIGNED for and on behalf of #name#

By #name#

Who by signing this so to has the authority to sign

In the Presence of:

.....[WITNESS]

.....
(Print name) (Position)

SCHEDULE 1

CONTRACTOR'S OBLIGATIONS AND WORK TO BE PERFORMED

A. Services (see clauses 1.1 and 2.1)

The name of the service to be provided is the "Implementation of the Commission VMS Project".

In providing the Commission VMS Implementation service, the Contractor will meet the following milestones:

#Date#
Milestone CUSTOMER 1, Deposit for Commission VMS Implementation

The Contractor will render a deposit for the Commission VMS Implementation Project.

#Date#
Milestone CUSTOMER 2, Requirement Analysis

The CUSTOMER will sign off the Requirement Analysis (Detailed Analysis Document/Use Cases, Entity Relationship Diagrams, Control Flows of the Solution) that will be used in the development of the entire Commission VMS.

#Date#
Milestone CUSTOMER 3, System Design

The CUSTOMER will sign off the System Design of the Commission VMS.

#Date#
Milestone CUSTOMER 4, Initial Operational Capability (IOC) Deployment, Testing and Operation

The CUSTOMER will sign off the Initial Operational Capability of the Commission VMS

#Date#
Milestone CUSTOMER 5, System Acceptance

The CUSTOMER will sign off the System Acceptance of the Commission VMS

A1. Provision for maintenance and/or repair of the Commission VMS

The Contractor will provide "content" maintenance at the Customer rate of $##/hour (includes GST). Any new "concept" additions or changes to the Commission VMS will be charged at the Customer rate of $##/hour. Any new "content" or "concept" changes to the Commission VMS, which is due to fault or negligence on behalf of Customer or any third party will be charged at the Customer development rate of $##/hour (includes GST). Maintenance to the Commission VMS will be charged at $##/hour (includes GST).

Maintenance services will be available during normal business hours.

The contractor will provide maintenance and/or repair of the Commission VMS, if it is necessary, whereby a fault has occurred which has been a result of the Contractors error or failure to include a service initially setting up of the Commission VMS.

B. Contract Material (see clauses 1.1, 2.1 and 5)

Contract material shall include Commission VMS materials developed or modified for the Customer Service.

B1. Contractor's Rights to Contract Material (see clause 5.3)

The Contractor may use their logo and/or name on the Customer Commission VMS and use the Customer name and/or logo in any other publication electronic, printed or other where the Contractor deems necessary in a form specifically agreed to with the Customer.

C. Time-frame (see clause 2.2)

The time frame of the Commission VMS Implementation is #date# to #date#.

D. Invoice Procedures (see clause 3.3)

D.1 The amount of **$#####** has been invoiced as a deposit.

Following the delivery of Milestone CUSTOMER 2, the Contractor will invoice CUSTOMER for the amount of **$####**.

Following the delivery of Milestone Customer 3, the Contractor will invoice Customer for the amount of **$####**.

Following the delivery of Milestone Customer 4, the Contractor will invoice Customer for the amount of **$####**.

Following the delivery of Milestone Customer 5, the Contractor will invoice Customer for the amount of **$####**.

D.2 The due date for payment shall be seven (7) days after delivery of a correctly rendered invoice to Customer.

E. Applicable Law (see clause 15)

Federated States of Micronesia

SCHEDULE 2

(CUSTOMER'S OBLIGATIONS)

CC. Fees (clause 3)

CC 1. The total fee for the Service is $....., payable by……instalments as described in Clause D.1 in Schedule 1.

CC 2. The due date for payments shall be within seven (7) days after delivery of a correctly rendered invoice to the Customer following delivery of the Services.

The Customer must take all reasonable steps to ensure milestones are met by providing timely feedback, provision of reports and regular communication.

ATTACHMENT 2

STANDARD RESPONSE TABLE

C - Will be Complied With UA - Understood and Agreed to

NC - Will Not be Complied With NA - Not Agreed to

(*In the* **No/Yes** *columns, indicate response with one of the above codes*)

Requirement Section No.	Paragraph	No	Yes	Details/Section in Proposal
4.4.1.1	Phase One Duration			
4.4.1.2	Phase One Deliverables			
4.4.2.1	Phase Two Duration			
4.4.2.2	Phase Two Deliverables			
4.4.3.10	Phase Three Duration			
4.4.3.11	Phase Three Deliverables			
4.4.4.7	Phase Four Duration			
4.4.4.8	Phase Four Deliverables			
7	Costing – Implementation of the Commission VMS			
9.1.1	Previous Experience			
9.1.2	Corporate Capacity			
9.1.3	Corporate Financial Background			
10.2	Reporting Procedure			
10.3	Team Members			
10.4	Other Resources			

ATTACHMENT 3

GLOSSARY

ACC	Agency Computer Centre
AIS	Automated Information System
AMVER	Mutual Assistance Vessel Rescue
ATC	Agency Technology Centre
C&A	Certification & Accreditation
CMP	Configuration Management Program
COTS	Commercial Off-the-Shelf Software
CSSO	Computer Systems Security Officer
DAA	Designated Approving Authority
DAC	Discretionary Access Control
DBA	Database Administrator
DEC	Digital Equipment Corporation
DES	Data Encryption Standard
DES-3	Triple DES
DID	Data Item Description
E-Mail	Electronic Mail
ETSD	Enterprise Technology Services Division
FDDI	Fiber-Optic Data Distribution Interface
FIPS	Federal Information Processing Standard
GMDSS	Global Maritime Distress and Safety Service
I&A	Identification and Authentication
INFOSEC	INFOrmation Assurance
INMS	Integrated Network Management System
IRM	Information Resource Management
ISSM	Information Systems Security Manager
IAO	Information Systems Security Officer
IT	Information Technology
LAN	Local Area Network
LPAR	Logical Partitions

PDR	Polling & Data Reporting
RACF	Resources Access Control Facility
RMO	Responsible Management Official
RTM	Requirements Traceability Matrix
SAT-C	Inmarsat-C Service
SAV	Security Assessment Visit
SBU	Sensitive But Unclassified
SOLAS	Safety of Live At Sea (Convention)
SOW	Statement Of Work
SSAA	Assurance Authorization Agreement
SSBI	Single-scope Background Investigation
ST&E	Security Test and Evaluation
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TCSEC	Trusted Computer Security Evaluation Criteria
TELNET	Text-based protocol for logging on to remote servers
TIM	Technical Interchange Meeting
TM	Task Manager
USERID	User Identification
WAN	Wide Area Network
WWW	World-Wide Web