
PROCUREMENT DOCUMENTS
**Bidding Document for
Procurement of Goods**

Procurement of:
Spectrum Monitoring System (SMS)

ICB No: G1.3.1

Project: Telecommunications Sector Reform Project

**Purchaser: Posts and Telecommunications Department (PTD),
Ministry of Communications and Information Technology
(MCIT)**

Country: The Republic of the Union of Myanmar

Issued on: February 22, 2016

Document Reference:

“G1-3-1 ICB Spectrum SMS - Single Stage Myanmar 2016-02-22”

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Acronyms

BDS	Bid Data Sheet
CIF	Cost, Insurance and Freight
CIP	Carriage and Insurance Paid to (<i>named place of destination</i>)
CPM	Critical Path Method
DDP	Delivered Duty Paid (<i>named place of destination</i>)
EDI	Electronic Data Interchange
ENAA	Engineering Advancement Association of Japan
EXW	Ex-factory, ex works or ex warehouse
FCA	Free Carrier
FMS	Fixed Monitoring Stations
FOB	Free on Board
GCC	General Conditions of Contract
IBRD	International Bank for Reconstruction and Development
ICC	International Chamber of Commerce
IDA	International Development Association
IFB	Invitation for Bids
ITB	Instructions to Bidders
MCC	Monitoring Control Center
MCIT	Ministry of Communications and Information Technology
MMS	Mobile Monitoring Station
PTD	Posts and Telecommunications Department
SBD	Standard Bidding Document
SCC	Special Conditions of Contract
SMS	Spectrum Monitoring System
TS	Technical Specifications and Drawings
TBD	To Be Defined
TMS	Transportable Monitoring Station
UNCITRAL	United Nations Commission on International Trade Law
UPS	Uninterrupted Power Supply

INVITATION FOR BIDS

INVITATION FOR BIDS

Republic of the Union of Myanmar

Telecommunications Sector Reform Project

SPECTRUM MONITORING SYSTEM

Credit No. 5353-MM.

- 1 This invitation for bids follows the general procurement notice for this project that appeared in Development Business on December 10, 2013.
- 2 The Republic of the Union of Myanmar has received financing from the International Development Association (IDA) toward the cost of the Telecommunications Sector Reform Project, and it intends to apply part of the proceeds of this credit to payments under the contract for the Purchase of its Spectrum Monitoring System (SMS).
- 3 The Posts and Telecommunications Department (PTD) under the Ministry of Communications and Information Technology (MCIT) now invites sealed bids from eligible Bidders for the SMS. The whole procurement shall be contracted with a single turnkey contractor through the single tendering process. The estimated completion period is 12 months. The SMS will consist of the following Components:
 - 3.1 A Monitoring Control Centre (MCC) in Naypyitaw at the headquarters of PTD. The MCC comprises the Spectrum Monitoring Subsystem.
 - 3.2 The Spectrum Monitoring Subsystem includes the Control Stations (workstation(s)) and the Monitoring Software for: (i) the handling of the monitoring operations and missions, (ii) the remote operation of the Fixed Monitoring Stations (FMS) that will be installed in Yangon and Mandalay and or other major cities, (iii) the operation of the Mobile Monitoring Stations (MMS) throughout the country and (iv) the two-way transfer/archiving/reporting of data between the MCC and the Remote Monitoring Stations (FMS, MMS and TMS).
 - 3.3 One (1) Fixed Monitoring Stations (FMS) Type I and Two (2) Fixed Monitoring Stations (FMS) Type II in Yangon, One (1) Fixed Monitoring Stations (FMS) Type I and Two (2) Fixed Monitoring Stations (FMS) Type II in Mandalay.
 - 3.4 The FMS's are unattended: they can be operated remotely from the MCC, the FMS's Type I and or from the MMS. All FMS's have capabilities in the VHF/UHF bands for monitoring and for Direction Finding (DF). Singularly:

- The FMS Type I, has Spectrum Monitoring capabilities from 9 kHz up to 8 GHz and Direction Finding (DF) capability from 20 MHz up to 3 GHz. A Spectrum Monitoring Control workstation should be provided for FMS Type I to allow a future operator to be stationed at the site and to be able to control the spectrum monitoring network from the FMS Type I location.
 - The FMS Type II, has Spectrum Monitoring capabilities from 9 kHz up to 3 GHz and Direction Finding (DF) capability from 20 MHz up to 3 GHz.
- 3.5 Two (2) or three (3) Mobile Monitoring Stations (MMS), depending on budget, will be based out of Naypyitaw. These stations will have monitoring capabilities from 9 kHz up to 8 GHz and Direction Finding capabilities from 20 MHz up to 3 GHz.
- 3.6 Two (2) Spectrum Transportable Monitoring Stations (TMS). These stations will have monitoring capabilities from 9 kHz up to 8 GHz and Direction Finding (Interferometry or Watson-Watt (optional)) capabilities from 20 MHz up to 3 GHz. The TMS systems are not intended to be handheld devices but rather a compact monitoring systems that can be carried and deployed by no more than two (2) staff.
- 3.7 An IP/WAN based Monitoring Network linking the FMS's, MMS's and the TMS's with the MCC.
- 3.8 Services including Training, Commissioning, Fixed Site Selection and preparation, etc.
- 3.9 The three (3) Mobile Monitoring Stations PTD had purchased in 2014, equipped with the TCI Scorpio Spectrum Monitoring software and based on the TCI 735 system.
- 4 Bidding will be conducted through the international competitive bidding procedures specified in the World Bank's Guidelines: Procurement under IBRD Loans and IDA Credits, and is open to all Bidders from eligible source countries as defined in the guidelines. In order to qualify, a Bidder must be manufacturer or be an authorized distributor/re-seller of the Radio Spectrum Management and Monitoring Systems of the type required by this Document in the past three (3) years and must have supplied such systems to telecommunications organizations in countries other than its own. More information is provided in the bidding documents.
- 5 Interested eligible Bidders may obtain further information from
Soe Naing (Mr.), Director, Radio Frequency Monitoring Department, PTD
Email: soenine69@gmail.com
Phone : +95 67 407226
Fax : +95 67 407227

- 6 A complete set of bidding documents in English can be downloaded from MCIT website.
- 7 A pre-bid conference shall be held at the address below at 10:00a.m. local time on March 14, 2016, with the attendance of the Bidders' representatives who so choose. The minutes of the pre-bid conference and any addendum to bidding documents will be shared with all bidders.
- 8 Bids must be delivered to the PTD at the address below by 2:00 p.m. local time on April 26, 2016. Bids must be accompanied by a bid security of US\$ 50,000.00. Late bids will be rejected. Bids will be opened in the presence of the Bidders' representatives at 3:00 pm on April 26, 2016.

Attention:

Than Htun Aung (Mr.) Project Director, Telecom Sector Reform Project
Office Building No. 2,
Ministry of Communications and Information Technology,
Nay Pyi Taw, Myanmar.
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PART 1 – Bidding Procedures

Section I. Instructions to Bidders

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Section I. Instructions to Bidders

A. General

- 1. Scope of Bid**
 - 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser, **as specified in the BDS**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this International Competitive Bidding (ICB) procurement are **specified in the BDS**.
 - 1.2 Throughout these Bidding Documents:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “day” means calendar day.
- 2. Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in BDS**, toward the project named **in BDS** The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Corrupt and Fraudulent Practices**
 - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.

3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (where declared or not), sub-Suppliers, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS,** there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
- (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same sub-Supplier in more than one bid; or
- (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the

works that are the subject of the bid; or

- (g) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
 - (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract
- 4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-Suppliers or sub-consultants for any part of the Contract including related Services.
- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS.**

- 4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
- 4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.
- 5. Eligible Goods and Related Services**
- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been

mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

B. Contents of Bidding Document

6. Sections of Bidding Document

6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

PART 2 Supply Requirements

- Section VII. Schedule of Requirements

PART 3 Contract

- Section VIII. General Conditions of Contract (GCC)
- Section IX. Special Conditions of Contract (SCC)
- Section X. Contract Forms

6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

- 7. Clarification of Bidding Documents**
- 7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period **specified in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Purchaser shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.
- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.
- 8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

C. Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.

**11. Documents
Comprising the
Bid**

11.1 The Bid shall comprise the following:

- (a) Letter of Bid in accordance with ITB 12;
- (b) completed schedules, in accordance with ITB 12 and 14
- (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
- (d) Alternative bids, if permissible, in accordance with ITB 13;
- (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
- (g) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
- (h) documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
- (i) documentary evidence in accordance with ITB 16 and 30, that the Goods and Related Services conform to the Bidding Documents;
- (j) any other document **required in the BDS.**

11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**12. Letter of Bid
and Price
Schedules**

12.1. The Letter of Bid and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1. Unless otherwise **specified in the BDS**, alternative bids shall not

be considered.

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Letter of Bidding accordance with ITB 12.1 shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.
- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDS**. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.
- 14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS**.
- 14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms

offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

- (a) For Goods manufactured in the Purchaser's Country:
 - (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
 - (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
 - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) **specified in the BDS.**
- (b) For Goods manufactured outside the Purchaser's Country, to be imported:
 - (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as **specified in the BDS;**
 - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS;**
- (c) For Goods manufactured outside the Purchaser's Country, already imported:
 - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;

- (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
 - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
 - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) **specified in the BDS.**
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
- (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the bid and the currency(ies) of payments shall be **as specified in the BDS.** The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise **specified in the BDS.**
- 15.2 The Bidder may express the bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

16. Documents Establishing the Eligibility and Conformity of the Goods and Related Services

- 16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 16.2 To establish the conformity of the Goods and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.
- 16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of

deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

- 16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in The BDS** following commencement of the use of the goods by the Purchaser.
- 16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents
Establishing the
Eligibility and
Qualifications
of the Bidder**

- 17.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.
- 17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
 - (b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
 - (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**18. Period of
Validity of Bids**

- 18.1. Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in

accordance with ITB22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

- 18.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
- 18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:
 - (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.
 - (b) In the case of adjustable price contracts, no adjustment shall be made.
 - (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1. The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security, as **specified in the BDS**, in original form and, in the case of a bid security. In the amount and currency **specified in the BDS**.
- 19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :
 - (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security **specified in the BDS**,

- from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.
- 19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 42.
- 19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.
- 19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB41; or
 - (ii) furnish a performance security in accordance with ITB 42.
- 19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.
- 19.9. If a bid security is **not required in the BDS**, pursuant to ITB 19.1, and

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or
- (b) if the successful Bidder fails to: sign the Contract in accordance with ITB41; or furnish a performance security in accordance with ITB 42;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number **specified in the BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.
- 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

- 21.1. The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 21.2. The inner and outer envelopes shall:
 - (a) bear the name and address of the Bidder;

- (b) be addressed to the Purchaser in accordance with ITB 24.1;
 - (c) bear the specific identification of this bidding process indicated in ITB1.1; and
 - (d) bear a warning not to open before the time and date for bid opening.
- 21.3. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.
- 22. Deadline for Submission of Bids**
- 22.1. Bids must be received by the Purchaser at the address and no later than the date and time **specified in The BDS** .When so **specified in the BDS**, Bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids**
- 24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
 - (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22.
- 24.2. Bids requested to be withdrawn in accordance with ITB 24.1

shall be returned unopened to the Bidders.

24.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

25. Bid Opening

25.1. Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB25.3 all bids received by the deadline at the date, time and place **specified in The BDS** in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in The BDS**.

25.2. First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.

25.3. All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending bid opening in the manner **specified in The BDS** .The Purchaser shall neither

discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 25.1).

- 25.4. The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communication to all Bidders in accordance with ITB 40.
- 26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.

- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 31.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.
- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Documents;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Documents
- 29. Determination of Responsiveness**
- 29.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) if accepted, would
 - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the

Bidder's obligations under the Contract; or

- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.
- 29.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.
- 29.4 If a bid is not substantially responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 30. Nonconformities, Errors and Omissions**
 - 30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.
 - 30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
 - 30.3 Provided that a bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.
- 31. Correction of Arithmetical Errors**
 - 31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:
 - (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
 - (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed

in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.

32. Conversion to Single Currency

32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in The BDS.**

33. Margin of Preference

33.1 **Unless otherwise specified in The BDS,** a margin of preference shall not apply.

34. Evaluation of Bids

34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

34.2 To evaluate a Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots (contracts), as **specified in The BDS** ; and the Bid Price as quoted in accordance with clause 14;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
- (c) price adjustment due to discounts offered in accordance with ITB 14.3;
- (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
- (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;

34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Bid Form, is specified in Section III, Evaluation and Qualification Criteria

- 34.5 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
 - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
 - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 34.6 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2 (f).
- 35. Comparison of Bids**
- 35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.
- 36. Qualification of the Bidder**
- 36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 36.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.

36.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.

**37. Purchaser's
Right to Accept
Any Bid, and to
Reject Any or
All Bids**

37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

38. Award Criteria

38.1 Subject to ITB 37.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**39. Purchaser's
Right to Vary
Quantities at
Time of Award**

39.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**40. Notification of
Award**

40.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:

- (i) name of each Bidder who submitted a Bid;
- (ii) bid prices as read out at Bid Opening;
- (iii) name and evaluated prices of each Bid that was evaluated;
- (iv) name of Bidders whose bids were rejected and the reasons for

their rejection; and

- (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

40.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

41. Signing of Contract

41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

42. Performance Security

42.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.

42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute

sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

Section II. Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB

ITB Clause Reference	A. General
ITB 1.1	The reference number of the Invitation for Bids is : G1.3.1
ITB 1.1	The Purchaser is: Posts and Telecommunications Department (PTD), <i>Ministry of Communications and Information Technology (MCIT)</i>
ITB 1.1	<p>The name of the ICB is: <i>Procurement of Spectrum Monitoring System (SMS)</i></p> <p>The identification number of the ICB is: G1.3.1</p> <p>The number and identification of components comprising this ICB is:</p> <p><u>I. Monitoring Control Center (MCC)</u></p> <p>I.1. Spectrum Monitoring and Control Center (MCC) Quantity 1</p> <p><u>II. Fixed Monitoring Stations Component</u></p> <p>II.1. FMS (Fixed Monitoring Station) Type I (Quantity 2)</p> <p>II.2. FMS (Fixed Monitoring Station) Type II (Quantity 4)</p> <p><u>III. Mobile Monitoring Stations Component</u></p> <p>III.1. MMS Type A (Off-road type vehicle) quantity 2</p> <p>III.2. MMS Type B (City type vehicle) quantity 1</p> <p><u>IV. Spectrum Transportable Monitoring Station (TMS) Component</u></p>

	<p>IV.1. TMS, Quantity 2.</p> <p><u>V. Related Services</u></p> <p>V.1. Integration Tests</p> <p>V.2. Manuals and Documentation</p> <p>V.3. Engineering and Design</p> <p>V.4. Factory Training</p> <p>V.5. In-country Training</p> <p>V.6. Factory Acceptance Test</p> <p>V.7. Final Acceptance Test & Commissioning</p> <p>V.8. Operation and Maintenance, first two years of operation</p> <p>V.9. Spares</p> <p>V.10. Warranty Period</p> <p>V.11. Site Selection</p>
ITB 2.1	The Borrower is: <i>the Republic of the Union of Myanmar</i>
ITB 2.1	Loan or Financing Agreement amount: <i>31.5 Million USD</i> , Loan or Financing credit number : Cr 5353-MM
ITB 2.1	The name of the Project is: <i>Telecommunications Sector Reform Project</i>
ITB 4.1	Maximum number of members in the JV shall be: <i>N/A</i>
IITB 4.4	<p>A list of debarred firms and individuals is available on the Bank's external website:</p> <p>http://web.worldbank.org/external/default/main?theSitePK=84266&contentMDK=64069844&menuPK=116730&pagePK=64148989&piPK=64148984.</p>
ITB 6.3	<p>Venue of pre-bid meeting: Same address as given above, ITB 7.1</p> <p>Time and date: 10:00 a.m. local time on March 14, 2016</p> <p>Office of the Project Director Posts and Telecommunications Department Office Building No. 2 Naypyitaw, Zip Code: 15011 The Republic of the Union of Myanmar</p> <p>Bidders are requested to submit any questions in writing to reach the Purchaser not later than one week before the meeting. Questions and answers will be transmitted in accordance with ITB Clause 7.1. Minutes of the meeting, including the questions raised and responses given, together with any responses prepared after the meeting, will be transmitted without delay to all those that received the Bidding Documents from the Purchaser. Nonattendance at the pre-bid meeting will not be a cause for</p>

	disqualification of a bidder.
	B. Contents of Bidding Documents
ITB 7.1	<p>From the time of bid opening to the time of contract award, if any Bidder wishes to contact the Purchaser on any matter related to its bid, it should do so in writing.</p> <p>For <u>Clarification of bid purposes</u> only, the Purchaser's address is:</p> <p>Attention: U Soe Naing, Director Posts and Telecommunications Department, Ministry of Communication and Information Technology Office Building No. 2 City: Naypyitaw Zip Code: 15011 Country: The Republic of the Union of Myanmar Telephone (Fixed): +95 67 407 226 Telephone (Mobile): +95 9 448 000 085 Facsimile number: +95 67 407 216 Electronic mail address: soenine69@gmail.com</p> <p>The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period 15 days.</p>
ITB 7.1	Web page: www.mcit.gov.mm/news/sms
	C. Preparation of Bids
ITB 10.1	<p>The language of the bid is: English</p> <p>All correspondence exchange shall be in English language.</p>
ITB 11.1 (j)	The Bidder shall submit the following additional documents in its bid: Equipment delivery and installation plan
ITB 13.1	Alternative Bids shall not be considered.
ITB 14.5	<p>The prices quoted by the Bidder shall be fixed during the Bidders' performance of the contract and not subject to variation on any account. Bid prices shall include all prices for incidental accessories and services to supply, install and commission the system that would include final site selection, design and erection of the towers to required specifications.</p> <p>The Purchaser, will provide the successful Supplier a list of potential fixed sites in Yangon and in Mandalay. The PTD would provide support in the</p>

	<p>process with sites belonging to other ministries, Post Office, etc. along with the municipal development corporations of Mandalay and Yangon.</p> <p>The Supplier shall budget for a site selection trip for three (3) FMS in Yangon and three (3) FMS in Mandalay.</p> <p>The pricing shall be based on Components that shall be individually and independently priced. Such requirement reflects the fact that the Purchaser may find it useful to enjoy some latitude in setting the sequence and timing of the delivery of the Components, according to circumstance and opportunity.</p>
ITB 14.6	<p>Prices quoted for each Component shall correspond at least to 100% percent of the items specified for each Component</p> <p>Prices quoted for each item of a Component shall correspond at least to 100% percent of the quantities specified for this item of a Component.</p>
ITB 14.7	The Incoterms edition is: 2010 .
ITB 14.8 (a) ;(b) and (c)	<p>The price shall be quoted DDP to final places detailed in Schedule of Requirements.</p> <p>The price shall include all customs clearances, inland transportation, insurance, other local services required to convey the Goods to their final destinations and unloading at the final destinations, and for the installation and commissioning.</p> <p>Bidders will indicate the amount of taxes payable separately in their letter of bid and price schedule. Bids will, however, be evaluated net of taxes. Final taxes payable will be discussed with successful bidder and included in the final contract amount</p>
ITB 15.1	<p>The prices shall be quoted by the Bidder in:</p> <p>The bidders shall be free to express the bid price as a sum of amounts in different foreign currencies not exceeding 3 currencies. The Bidder <i>is not</i> required to quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in that currency.</p>
ITB 16.4	<p>Period of time the Goods are expected to be functioning (for the purpose of spare parts):</p> <p>Spare parts required for operation; number of years following completion.</p> <p>The Bidder shall quote in price Schedules 1 and 2 of Section VII, the supply of spare parts and components for all items of equipment adequate</p>

	<p>to maintain and operate the main equipment for a period of five (5) years after the expiration of the warranty period. The cost of this five (5) year stock of spare parts shall be considered in the evaluation of the bids. The Bidder is required to guarantee that in case the supplied quantities of spare parts, projected to five (5) years, prove inadequate during the initial year of operation (warranty period), the Supplier shall supply the additional quantities of spare parts required at his own cost and at no cost to the Purchaser. The quantities to be available in stock for the five (5) year period shall be established by the Bidder based on failure-rate analyses or statistics leading to component and equipment reliability figures. These analyses and data shall be presented by the Bidder in its bid, which shall show that the availability of the system, over the five (5) year period, will not be downgraded in any way by a lack of spare parts, given his maintenance philosophy and plan.</p> <p>The Bidder shall guarantee that there shall be availability of spare parts for ten (10) years after the commissioning of the system and that such shall be supplied as promptly as possible, at the most within three(3) months of placing the order .The Bidder is be required to guarantee that if a discount is offered in the bid, on the prices of the spare parts supplied with the main equipment, the cost of all future supplies of spare parts shall be based on the discounted prices.</p> <p>In addition, in the event of termination of the production of spare parts, the Bidder shall undertake to give advance notification to the Purchaser of the pending termination, with sufficient time to permit the Purchaser to procure the needed requirement. Following such notification, the Bidder also undertakes to support the Purchaser in the identification of proper substitutes and will furnish to the extent possible and at no cost to the Purchaser the blueprints, drawings and specifications of the spare parts, if requested.</p> <p>The Bidder shall guarantee that the software products and licenses shall be accompanied by a ten (10) year support warranty</p>
ITB 17.2 (a)	<p>Manufacturer's authorization is: Required</p> <p>Manufacturer's authorization is required for:</p> <ol style="list-style-type: none"> 1- Main spectrum monitoring equipment supplied under this contract such as spectrum monitoring receivers/analyzers/direction finding processors/direction finding antennas 2- Spectrum Monitoring Software/Computer Application supplied under this contract such as the software to control the spectrum monitoring equipment, software to analyze the data collected from the spectrum monitoring systems

ITB 17.2 (b)	After sales service is: <i>required</i> The Bidder, through own resources and those of its sub-Suppliers, shall have proven international experience in the after sale services of spectrum monitoring equipment, stations and systems of the kind being tendered, in conformance with the performance and quality levels established by the relevant international standards. The bidder shall have presence in Myanmar or South East Asia to carry out after sales services or submit with his bid concrete plans to establish presence in Myanmar
ITB 18.1	The bid validity period shall be 180 days.
ITB 18.3 (a)	The bid price shall be adjusted by the following factor(s): The inflation rate for the same period as defined by the central bank of the country.
ITB 19.1	A <i>Bid Security shall be</i> required in form of Bank Guarantee A Bid-Securing Declaration <i>shall not be</i> required. The amount and currency of the bid security shall be fifty thousand US dollars (USD 50,000.00) in favor of Posts and Telecommunications Department (PTD).
ITB 19.3 (d)	Other types of acceptable securities: NONE
ITB 20.1	In addition to the original of the bid, the number of copies is: four (4) hardcopies labeled COPY 1 to COPY 4 and 2 <u>searchable</u> softcopies (not scanned copies). If there is any conflict between the hardcopies and the softcopies, the hardcopies will take precedence.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: <i>Power of Attorney</i> A power of attorney, duly notarized, indicating that the person(s) signing the bid has(ve) the authority to sign the bid and thus that the bid is binding upon the Bidder during the full period of its validity in accordance with ITB Clause 18.
D. Submission and Opening of Bids	
ITB 22.1	For <u>bid submission purposes</u> only, the Purchaser's address is: Attention: Project Director Posts and Telecommunications Department, Ministry of Communication and Information Technology Office Building No. 2 Ground Floor, MCIT Hall City: Naypyitaw

	<p>Zip Code: 15011 Country: The Republic of the Union of Myanmar Telephone (Fixed): +95 67 407 435 Telephone (Mobile): +95 9 45 000 0082 Facsimile number: +95 67 407 216, +95 67 407 539 Electronic mail address: tsrproject2014@gmail.com thanhtunaung@ptdmyanmar.com</p> <p>The deadline for bid submission is: Date: April 26, 2016 Time: 02:00 p.m. Bidders shall not have the option of submitting their bids electronically.</p>
ITB 25.1	<p>The bid opening shall take place at: Posts and Telecommunications Department, Ministry of Communication and Information Technology Office Building No. 2, MCIT hall , Ground floor Naypyitaw, Zip Code: 15011 Country: The Republic of the Union of Myanmar Date: April 26, 2016 Time: 02:00 p.m.</p>
ITB 25.3	<p>The Letter of Bid and Price Schedules shall be initialed by three (3) representatives of the Purchaser conducting Bid opening. Each Bid shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Purchaser.</p>
E. Evaluation and Comparison of Bids	
ITB 32.1	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: USD The source of exchange rate shall be: the Central Bank Myanmar The date for the exchange rate shall be: The date of the bid opening (selling rate will be applied).</p>
ITB 33.1	<p>A margin of domestic preference shall not apply.</p>

ITB 34.2(a)	<p>Evaluation will be done for <i>the whole package</i>. Price schedules include items that are optional. The evaluation of bids will take into account only for all mandatory equipment/service/component. Bidders will provide price for optional equipment which the client may take into account at his discretion</p> <p>Note:</p> <p><i>If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. An item not listed in the Price Schedule shall be assumed to be not included in the bid, and provided that the bid is substantially responsive, the average price of the item quoted by substantially responsive Bidders will be added to the bid price and the equivalent total cost of the bid so determined will be used for price comparison.</i></p>
ITB 34.6	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria:</p> <ul style="list-style-type: none"> (a) Deviation in Delivery schedule: NO (b) Deviation in payment schedule: NO (c) the cost of major replacement components, mandatory spare parts, and service: No (d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid: No (e) the projected operating and maintenance costs during the life of the equipment: NO (f) the performance and productivity of the equipment offered: NO (g)

	F. Award of Contract
ITB 39.1	<p>The maximum percentage by which quantities may be increased is: <i>20% of the items quoted in each Component</i></p> <p>The maximum percentage by which quantities may be decreased is: <i>20%% of the items quoted in each Component</i></p>
ITB 43	<p>Additional new clause:</p> <p>Complaints Procedure</p> <ul style="list-style-type: none"> • A complaint may be made by any party at any stage of the procurement process. No complaint will be responded to during the evaluation period. Complaints received during the evaluation period will be reviewed by the Purchaser and a response issued only after the contract signing. • Complaints shall be addressed to the Purchaser as named in the BDS (ITB 7.1). The Purchaser will investigate the grounds for the complaint and, with the exception of those complaints received during the evaluation period as described above, respond to in writing within 14 calendar days of receiving the complaint • In the event that the response from the Purchaser does not satisfy the bidder or there is no response to the complaint it should be referred to the designated official of the Ministry of Finance, and the World Bank <p>The addresses to sending complaints to:</p> <ol style="list-style-type: none"> 1. U Than Htun Aung, Project Director Posts and Telecommunications Department, Ministry of Communication and Information Technology Office Building No. 2 City: Naypyitaw 15011 Country: The Republic of the Union of Myanmar Telephone (Fixed): +95 67 407 435 Telephone (Mobile): +95 9 45 000 0082 Facsimile number: +95 67 407 216, +95 67 407 539 Electronic mail address: tsrproject2014@gmail.com thanhtunaung@ptdmyanmar.com 2. Ms. Tenzin Dolma Norbhu, Task Team Leader World Bank, Singapore Office Telephone : 65-6517-1232 Email address: tnorbhu@worldbank.org

Section III. Evaluation and Qualification Criteria

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1. Margin of Preference (ITB 33) N/A**2. Evaluation (ITB 34)****2.1. Evaluation Criteria (ITB 34.6)**

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8, one or more of the following factors as specified in ITB34.2 (f) and in BDS referring to ITB34.6, using the following criteria and methodologies.

- (a) Deviation in payment schedule. NO
- (b) Cost of major replacement components, mandatory spare parts, and service. NO
- (c) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid. NO
- (d) Projected operating and maintenance costs: NO

2.2. Multiple Contracts (ITB 34.4) N/A**2.3. Alternative Bids (ITB 13.1)**

Not Allowed

3. Qualification (ITB 36)**3.1 Post-qualification Requirements (ITB 36.1)**

After determining the lowest-evaluated bid in accordance with ITB 35.1, the Purchaser shall carry out the post-qualification of the Bidder in accordance with ITB 36, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

- (a) If Bidder is Manufacturer:
 - (i) Financial Capability

The Bidder shall submit with his bid audited financial statements for the last three years. The financial statement shall show that the bidder's turnover is at least equal to the bid amount and that he has positive net worth for the last three years preceding the bid submission date.

(ii) Experience and Technical Capacity

- (a) The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):

The Bidder must have supplied Radio Spectrum Monitoring Systems that have been field proven in actual service. To meet this criteria, the Bidder must demonstrate that the proposed systems have been in satisfactory service with at least *three (3)* telecommunications organizations for a minimum period of *three (3) years* on the date of bid opening and the value of such contracts are greater than 50% of the value of the Bid.

- (b) The Bidder must have presence in Myanmar or South East Asia to provide technical support for the proposed spectrum monitoring equipment, stations and systems of the kind being tendered. The bidder will submit with its bid organizational, staffing and equipment plan necessary for the maintenance of the system. If the bidder does not have the above presence he shall submit his plans to establish presence with costs, schedule and staffing plans.

- (c) The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement:

The Bidder shall submit with his bid the names, addresses, telephone/fax numbers and e-mail addresses of the three (3) telecommunications organizations as well as appropriate certificates from them in respect of the performance of the offered equipment. The Purchaser reserves the right to verify with the two organizations the quality of the equipment and its satisfactory performance in actual service.

- (b) If Bidder is not manufacturer:

If a Bidder is not a manufacturer, but is offering the Goods on behalf of the Manufacturer the Manufacturer shall demonstrate the above qualifications (i), (ii) and the Bidder shall demonstrate that it has successfully completed at least two (2) monitoring systems of similar goods in the past three (3) years. The bidder shall also submit a manufacturer authorization form in the format provided in Section IV of the Bidding documents for the items specified in **ITB Data Sheet 17.2 (a)**

Section IV. Bidding Forms

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Letter of Bid

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

Date: **[insert date (as day, month and year) of Bid Submission]**

ICB No.: **[insert number of bidding process]**

Invitation for Bid No.: **[insert identification]**

Alternative No.: ***[insert identification No if this is a Bid for an alternative]***

To: ***[insert complete name of Purchaser]***

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8)___;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: **[insert a brief description of the Goods and Related Services];**
- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:

In case of only one lot, total price of the Bid **[insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies];**

In case of multiple lots, total price of each lot **[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies];**

In case of multiple lots, total price of all lots (sum of all lots) **[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];**

- (f) The discounts offered and the methodology for their application are:

- (i) The discounts offered are: [Specify in detail each discount offered.]

- (ii) The exact method of calculations to determine the net price after application of discounts is shown below: **[Specify in detail the method that shall be used to apply the discounts]**;
- (g) Our bid shall be valid for a period of ***[specify the number of calendar days]*** days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (i) We are not participating, as a Bidder or as a sub-Supplier, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
- (j) We, along with any of our sub-Suppliers, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (k) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;¹
- (l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: ***[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]***

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

- (m) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

¹*Bidder to use as appropriate*

- (n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (o) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder** **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

Date signed **[insert date of signing]** day of **[insert month]**, **[insert year]**

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not dependent agency of the Purchaser
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture]].

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Price Schedule Forms

*The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.*

The Automated Spectrum Monitoring System is comprised of fixed, mobile vehicle(s), and transportable monitoring stations that will collect information, detect, analyze and identify authorized and unauthorized spectrum users in primarily the *HF/VHF/UHF/SHF* bands, supporting regulatory activities such as planning, authorization, enforcement, spectrum audits and compliance purposes. Important capabilities the system should include: spectrum usage and occupancy studies, transmitter location, determine the source of interference and offending emitters, verify the proper technical and operational characteristics of radiated signals, detect and identify illegal transmitters. Bidders are requested to provide information on the possibility to integrate Mobile Monitoring Stations equipped with the TCI Scorpio Spectrum Monitoring software and based on the TCI 735 system with the proposed MCC in controlling and Direction Finding. This information will not be considered in the evaluation

It is the responsibility of the Bidder to supply, install and commission an integrated system that achieves the above requirements.

The fixed (FMS) Type I and mobile stations (MMS) should be capable of operating in both local and remote control modes while FMS Type II can be operated in remote mode only. Remote control of the fixed, mobile and transportable monitoring stations will reside at the PTD Monitoring Control Centre (MCC) in Naypyitaw, there will be a provision for a Client computer at each FMS Type I stations to be able to control the monitoring stations, The MMS should also be able to control the monitoring stations. There shall be a minimum of three (3) workstations at the MCC and one (1) workstation at each FMS Type I, the supplier should provide a spare heavy duty laptop with a spare key for the software to be able to control the network from any monitoring station when needed.

The integrated monitoring system should be compatible with the ITU SMS4DC management software.

Bidders are expected to provide prices for the integrated system which includes each of the components mentioned below. The evaluation of bids will take into account only for all mandatory equipment/service/component. Bidders will provide price for optional equipment which the client may take into account at his discretion

Price Schedule: Component 10100 - Spectrum Monitoring and Control Center (MCC)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>[insert place of destination]</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 10100 - Spectrum Monitoring and Control Center (MCC)			1 Center				
10101	Client Spectrum Monitoring Software /Workstation			3 Unit				
10102	Spare Spectrum Monitoring/Heavy Duty Laptop			1 Unit				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
10103	Server and RDBMS software/Server			1 Set				
10104	On-site backup storage/ redundancy system.			1 Unit				
10105	Networking software for administration, routing and DBA, including IP protocols.			1 Set				
10106	Office and general application software.			4 Set				
10107	GIS or mapping software, including mapping tools and DTM conversion software.			4 Set				
10108	UPS for Server/Backup			1 Unit				
10109	UPS for Workstations			1 Unit				

Date: _____								
ICB No: G1.3.1								
Currencies in accordance with ITB 15								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
10110	RF Signal generator			1 Unit				
10111	RF connector adapter kit			1 Set				
10112	Installation, setup and integration of Control Center computers and UPS's.			1 Set				
10113	Programmer for MMS handheld transceivers			1 Set				
Total Price Component 10100 - Spectrum Monitoring and Control Center (MCC)								

Price Schedule: Component 20100 Fixed Monitoring Station (FMS), Type I (Yangon)

Date: _____								
ICB No: G1.3.1								
Currencies in accordance with ITB 15								Page N° _____ of _____
1	2	3	4	5	6	7	8	9

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Yangon</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 20100 - Fixed Monitoring Station (FMS), Type I			1 Station				
20101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF			1 Set				
20102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			1 Set				
20104	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.			1 Set				
20105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			1 Set				
20106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)			1 Set				
20108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).			1 Set				
20109	GPS based precision frequency reference.			1 Set				
20110	Audio Network.			1 Set				
20111	Computer System and software.			1 Set				
20112	Communications Network.			1 Set				
20113	Equipment Shelter.			1 Set				
20114	20 meter tower installed on top of an existing building.			1 Set				
20115	UPS			1 Set				

Date: _____ ICB No: G1.3.1 Currencies in accordance with ITB 15 Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20116	Racks, cabling and accessories.			1				
20117	Grounding and lightning-arrester subsystem.			1				
20118	GPS Unit			1 Set				
20119	Spares, station-specific (additional to core spares, if applicable)			1 Set				
20120	Tools and instruments, station (additional, if applicable).			1 Set				
20121	Station installation work			1 Service				
20122	Partial Provisional Acceptance.			1 Service				
20123	Client Spectrum Monitoring software/workstation			1 Set				
Total Price Component 20100 - Fixed Monitoring Station (FMS), Type I (Yangon)								

Price Schedule: Component 20200 Fixed Monitoring Station (FMS), Type I (Mandalay)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP Mandalay in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 20200 - Fixed Monitoring Station (FMS), Type I			1 Station				
20201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			1 Set				
20203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			1 Set				
20204	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.			1 Set				
20205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches			1 Set				
20207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)			1 Set				
20208	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).			1 Set				
20209	GPS based precision frequency reference.			1 Set				
20210	Audio Network.			1 Set				
20211	Computer System and software.			1 Set				
20212	Communications Network.			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20213	Equipment Shelter.			1 Set				
20214	50 meter ground mounted tower.			1 Set				
20215	UPS			1 Set				
20216	Racks, cabling and accessories.			1 Set				
20217	Grounding and lightning-arrester subsystem.			1 Set				
20218	GPS Unit			1 Set				
20219	Spares, station-specific (additional to core spares, if applicable)			1 Set				
20220	Tools and instruments, station (additional, if applicable).			1 Set				
20221	Station installation work			1 Service				
20222	Partial Provisional Acceptance.			1 Service				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
20223	Client Spectrum Monitoring software/workstation			1 Set				
20224	Security fencing enclosing tower and equipment shelter.			1 Set				
Total Price Component 20200 - Fixed Monitoring Station (FMS), Type I (Mandalay)								

Price Schedule: Component 30100 Fixed Monitoring Station (FMS), Type II (Yangon)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Yangon</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 30100 - Fixed Monitoring Station (FMS), Type II			2 Station				
30101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF			2 Set				
30102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			2 Set				
30103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30104	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.			2 Set				
30105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			2 Set				
30106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches			2 Set				
30107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30108	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).			2 Set				
30109	GPS based precision frequency reference.			2 Set				
30110	Audio Network.			2 Set				
30111	Computer System and software			2 Set				
30112	Communications Network.			2 Set				
30113	Equipment Shelter.			2 Set				
30114	75 meter ground mounted tower.			2 Set				
30115	UPS			2 Set				
30116	Racks, cabling and accessories.			2 Set				
30117	Grounding and lightning-arrester subsystem.			2 Set				
30118	GPS Unit			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30119	Spares, station-specific (additional to core spares, if applicable)			2 Set				
30120	Tools and instruments, station (additional, if applicable).			2 Set				
30121	Station installation work			2 Service				
30122	Partial Provisional Acceptance.			2 Service				
30123	Security fencing enclosing tower and equipment shelter.			2 Set				
Total Price Component 30100 - Fixed Monitoring Station (FMS), Type II (Yangon)								

Price Schedule: Component 30200 Fixed Monitoring Station (FMS), Type II (Mandalay)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Mandalay</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 30200 - Fixed Monitoring Station (FMS), Type II			2 Station				
30201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF			2 Set				
30202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			2 Set				
30204	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.			2 Set				
30205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			2 Set				
30206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)			2 Set				
30208	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).			2 Set				
30209	GPS based precision frequency reference.			2 Set				
30210	Audio Network.			2 Set				
30211	Computer System and software.			2 Set				
30212	Communications Network.			2 Set				
30213	Equipment Shelter.			2 Set				
30214	100 meter ground mounted tower.			2 Set				
30215	UPS			2 Set				
30216	Racks, cabling and accessories.			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
30217	Grounding and lightning-arrester subsystem.			2 Set				
30218	GPS Unit			2 Set				
30219	Spares, station-specific (additional to core spares, if applicable)			2 Set				
30220	Tools and instruments, station (additional, if applicable).			2 Set				
30221	Station installation work			2 Service				
30222	Partial Provisional Acceptance.			2 Service				
30223	Security fencing enclosing tower and equipment shelter.			2 Set				
Total Price Component 30200 - Fixed Monitoring Station (FMS), Type II (Mandalay)								

Price Schedule: Component 40100 Mobile Monitoring Station (MMS), Type A

Date: _____ ICB No: G1.3.1 Currencies in accordance with ITB 15 Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Naypyitaw</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 40100 - Mobile Monitoring Station (MMS), Type A			2 Station				
40101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40102	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			2 Set				
40103	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			2 Set				
40104	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			2 Set				
40105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40106	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.			2 Set				
40107	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).			2 Set				
40108	GPS based precision frequency reference.			2 Set				
40109	Audio Network.			2 Set				
40110	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.			2 Set				
40111	Communications Network components.			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40112	Off road type Vehicle (Type A)			2 Set				
40113	Power subsystem.			2 Set				
40114	Auxiliary portable generator.			2 Set				
40115	Racks, cabling and accessories as required.			2 Set				
40116	GPS Unit			2 Set				
40117	Spares, station-specific (additional to core-component spares, if applicable)			2 Set				
40118	Tools and instruments, station (additional, if applicable)			2 Set				
40119	Station installation work			2 Service				
40120	Vehicle type fire extinguisher			2 Unit				
40121	Emergency kit including first aid kit			2 Set				

Date: _____								
ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40122	Multi-channel frequency programmable handheld.			4 Unit				
40123	Handheld power meter.			2 Unit				
40124	Handheld spectrum analyzer HF/VHF/UHF/SHF.			2 Unit				
40125	Partial Provisional Acceptance.			2 Service				
40126	Tripod.			2 Unit				
Total Price Component 40100 - Mobile Monitoring Station (MMS), Type A								

Price Schedule: Component 40200 Mobile Monitoring Station (MMS), Type B

Date: _____								
ICB No: G1.3.1								
Currencies in accordance with ITB 15								
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1	2	3	4	5	6	7	8	9

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Naypyitaw</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 40200 - Mobile Monitoring Station (MMS), Type B			1 Station				
40201	Direction Finding (DF) Processor/Receiver(s), VHF/UHF			1 Set				
40202	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40203	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).			1 Set				
40204	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			1 Set				
40205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.			1 Set				
40206	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.			1 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40207	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).			1 Set				
40208	GPS based precision frequency reference.			1 Set				
40209	Audio Network.			1 Set				
40210	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.			1 Set				
40211	Communications Network components.			1 Set				
40212	City type Vehicle (Type A)			1 Set				
40213	Power subsystem.			1 Set				
40214	Auxiliary portable generator.			1 Set				
40215	Racks, cabling and accessories as required.			1 Set				

Date: _____ ICB No: G1.3.1 Currencies in accordance with ITB 15 Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40216	GPS Unit			1 Set				
40217	Spares, station-specific (additional to core-component spares, if applicable)			1 Set				
40218	Tools and instruments, station (additional, if applicable)			1 Set				
40219	Station installation work			1 Service				
40220	Vehicle type fire extinguisher			Unit				
40221	Emergency kit including first aid kit			1 Set				
40222	Multi-channel frequency programmable handheld.			2 Unit				
40223	Handheld power meter.			1 Unit				
40224	Handheld spectrum analyzer HF/VHF/UHF/SHF.			1 Unit				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
40225	Partial Provisional Acceptance.			1 Service				
40226	Tripod.			1 Unit				
Total Price Component 40200 - Mobile Monitoring Station (MMS), Type B								

Price Schedule: Component 50100 Transportable Monitoring Station (TMS)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price DDP <i>Naypyitaw</i> in accordance with ITB 14.8	DDP Price per line item (Col. 5x6)	Local Tax per line item	Total Price per Line item (excluding local tax) (Col. 7+8)

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price DDP per unit]</i>	<i>[insert total DDP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
	Component 50100 - Spectrum Portable/ Transportable Monitoring Station (TMS)			2 Station				
50101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF			2 Set				
50102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization with adapters to mount the antenna on the tripod			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
50103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization with adapters to mount the antenna on the tripod (Optional).			2 Set				
50104	Receive antennas for VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.			2 Set				
50105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
50107	Tripod			2 Set				
50108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver)			2 Set				
50109	GPS based precision frequency reference.			2 Set				
50110	Audio Network.			2 Set				
50111	Heavy Duty Notebook (laptop)			2 Set				
50112	Communications Network components.			2 Set				
50113	Power subsystem.			2 Set				
50114	Auxiliary portable generator.			2 Unit				
50115	Racks, cabling and accessories as required.			2 Set				
50116	GPS Unit			2 Set				

Date: _____ ICB No: G1.3.1								
Currencies in accordance with ITB 15								
Page N° _____ of _____								
1	2	3	4	5	6	7	8	9
50117	Spares, station-specific (additional to core-component spares, if applicable)			2 Set				
50118	Tools and instruments, station (additional, if applicable)			2 Set				
50120	Station installation work			2 Service				
50121	Partial Provisional Acceptance.			2 Service				
50122	Short RF and Control cables for all monitoring and DF antennas.			2 Set				
50123	Long RF and Control cables for all monitoring and DF antennas.			2 Set				
Total Price Component 50100 - Transportable Monitoring Station (TMS)								

Price and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____ ICB No: G1.3.1 Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
	Service 900 - Design Review Meeting					
901	Design review Meeting			1 Service		
	Service 1000 - Manuals and other documentation					
1001	Operational and Maintenance Manuals: System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals			6 Hardcopy		
1002	Operational and Maintenance Manuals System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals			2 Softcopy		
1003	Other Documentation as required			1 Set		
	Service 1100 – Design and Engineering					
1101	Bloc diagram for each site.			1 Set		

1102	Interconnection diagrams for each site.			1 Set		
1103	Power distribution diagrams for each site.			1 Set		
1104	Antenna/IF/Audio connections for each site.			1 Set		
1105	Communication diagrams/settings for each site.			1 Set		
1106	Power diagrams for the MMS.			1 Set		
1107	Installation diagrams for each site.			1 Set		
1108	System Integration Tests for each site.			1 Plan		
1109	Partial Provisional Acceptance, and Start-up for each site.			1 Plan		
1110	Final Acceptance Test for each site.			1 Plan		
	Service 1200 - Operation and Maintenance (O&M) Support.					
1201	Operation and Maintenance Support			2 Years		
1202	Operation and Maintenance Support for each additional year			1 Year		
	Service 1300 -Training					
1301	Factory training for PTD personnel			1 Service		
1302	On-Site Training of PTD personnel			1 Service		
1302	Training at other organization of PTD personnel			1 Service		

	Service 1400 - Factory Acceptance Test					
1401	Factory Acceptance			1 Service		
	Service 1500 - Warranty					
1501	Warranty for 18 months after final acceptance of the whole system (firm)			18 Month		
1502	Additional years (optional)			1 Year		
	Service 1600 - Final Acceptance Tests					
1601	For the MCC, MMS and the TMS			1 Service		
1602	For the FMS Type I and II			1 Service		
1603	For the FMS Type I and II			1 Service		
	Service 1700 - Spares					
1701	Spares for an initial three-year period (itemized complete spares list by the bidder is required)			1 Set		
	service 1800 Fixed Sites selection					
1801	Fixed Site Selection and generation of reports			1 Service		
					Total Price for Related Services	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Grand Total Summary Price

Currencies in accordance with ITB 15 (Specify currency in accordance with specifications in Bid Data Sheet)			Date: _____ ICB No: G1.3.1 Page N° _____ of _____
1	2	3	4
N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Quantity and Unit	Total Price per Component
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
900-1800	Related Services	1 Set of services	
10100	Spectrum Monitoring and Control Center (MCC)	1 Center	
20100	Fixed Monitoring Station (FMS), Type I (Yangon)	1 Station	
20200	Fixed Monitoring Station (FMS), Type I (Mandalay)	1 Station	
30100	Fixed Monitoring Station (FMS), Type II (Yangon)	2 Station	
30200	Fixed Monitoring Station (FMS), Type II (Mandalay)	2 Station	
40100	Mobile Monitoring Station (MMS), Type A	2 Station	
40200	Mobile Monitoring Station (MMS), Type B	1 Station	
50100	Transportable Monitoring Station	2 Station	
		Total Bid Price	
		Tax Included in the Bid Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

IFB No.: *[Purchaser to insert reference number for the Invitation for Bids]*

Alternative No.: *[Insert identification No if this is a Bid for an alternative]*

Date:*[Insert date of issue]*

BID GUARANTEE No.:*[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in

accordance with the Instructions to Bidders (“ITB”) of the Beneficiary’s bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary’s notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the **BDS**.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non Consulting Services in Bank-Financed Procurement

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: None

Under ITB 4.7(b) and 5.1: None

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), Bidders, suppliers, Suppliers and their agents (whether declared or not), sub-Suppliers, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.² In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;³
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;⁴
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;⁵
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁶
 - (v) "obstructive practice" is:

²In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

³ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

⁴ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

⁵ For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

⁶ For the purpose of this sub-paragraph, “*party*” refers to a participant in the procurement process or contract execution.

- (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-Suppliers, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,⁷ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁸;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring Bidders, suppliers and Suppliers, and their sub-Suppliers, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to

⁷ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

⁸ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the Bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the Bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

PART 2 – Supply Requirements

Section VII. Schedule of Requirements

Contents

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Price Schedules

PREAMBLE

General.

The Automated Spectrum Monitoring System is comprised of fixed, mobile vehicle(s), and transportable monitoring stations that will collect information, detect, analyze and identify authorized and unauthorized spectrum users in primarily the *HF/VHF/UHF/SHF* bands, supporting regulatory activities such as planning, authorization, enforcement, spectrum audits and compliance purposes. Important capabilities the system should include: spectrum usage and occupancy studies, transmitter location, determine the source of interference and offending emitters, verify the proper technical and operational characteristics of radiated signals, detect and identify illegal transmitters. Bidders are requested to provide information on the possibility to integrate these vehicles with the proposed MCC in controlling and Direction Finding. This information will not be considered in the evaluation

It is the responsibility of the Bidder to supply, install and commission an integrated system that achieves the above requirements.

The fixed (FMS) Type I and mobile stations (MMS) should be capable of operating in both local and remote control modes while FMS Type II can be operated in remote mode only. Remote control of the fixed, mobile and transportable monitoring stations will reside at the PTD Monitoring Control Centre (MCC) in Naypyitaw, there will be a provision for a Client computer at each FMS Type I stations to be able to control the monitoring stations, The MMS should also be able to control the monitoring stations. There shall be a minimum of three (3) workstations at the MCC and one (1) workstation at each FMS Type I, the supplier should provide a spare heavy duty laptop with a spare key for the software to be able to control the network from any monitoring station when needed.

The integrated monitoring system should be compatible with the ITU SMS4DC management software.

This Sub-section of Price Schedules hereunder start with a List of Good and Services organized in Components and Items. It is followed by the Price Schedules themselves, wherein the Bidder must quote the price of each Item (Itemized Prices), along the pertinent price columns.

Such List of Goods and Services and Price Schedules establish the elements, components and services to be provided and their quantities, according to the "General List" and the "Detailed Lists" therein. At Contract award, the Purchaser will establish the Components that will be procured as well as the quantities that will be procured within each Component. The latter quantities will lie within a plus or minus 20% bracket relative to the quantities consigned hereunder within each Component.

Pricing Structure.

The pricing shall be based on Components that shall be individually and independently priced. Such requirement reflects the fact that the Purchaser may find it useful to enjoy some latitude in setting the quantity of the Components, according to budget. The price shall include all accessories and incidental services required for the supply and installation of the system and local licensing for the equipment and installed system. The supplier will be responsible for custom clearance, loading and unloading of all equipment.

The Price Schedules will be based on the following structure:

I. Monitoring Control Center (MCC) Component

I.1. MCC (Spectrum Monitoring and Control Center) Quantity 1

II. Fixed Monitoring Stations (FMS) Component

II.1. FMS (Fixed Monitoring Station) Type I (Quantity 2)

II.2. FMS (Fixed Monitoring Station) Type II (Quantity 4)

III. Mobile Monitoring Stations (MMS) Component

III.1. MMS Off-road Type A Quantity 2

III.2. MMS City Type B Quantity 1

IV. Spectrum Transportable Monitoring Station (TMS) Component

IV.1. TMS, Quantity 2.

V. Related Services

V.1. Integration Tests

V.2. Manuals and Documentation

V.3. Engineering and Design

V.4. Factory Training

V.5. In-country Training

V.6. Factory Acceptance Test

V.7. Final Acceptance Test & Commissioning

V.8. Operation and Maintenance, first two years of operation

V.9. Spares

V.10. Warranty Period

V.11. Site Selection

Within each Component the Bidder shall include the associated installation services and test services. The equipment associated with the Component will be quoted on a DDP-site basis, the DDP price being consigned along a separate column, implicitly recognizing the cost of international and local transportation and insurance.

By the nature of the procurement, and in accordance with the very requirements for a Bidder to be qualified for this Bid, the Purchaser expects that the plant and equipment will be supplied from abroad with few exceptions (for instance locally supplied towers, if a Bidder so elects). The Bidder shall indicate such eventual local origin, still quoting the price in the common currency it has chosen for its quotation.

Should the stock of spares or the set of tools and instruments included with the core Component required to be increased at the addition of other FMS's ,MMS's or TMS, the incremental cost will be quoted with the specific Component that generates such increment. Accordingly, among the Items associated with a FMS, MMS or TMS, a line Item is allowed to account for any station-associated increments.

The Test Plan for Provisional Acceptance establishes a Partial Provisional Acceptance instance per Station, as well as the Partial Provisional Acceptance for the System as a whole (System Tests). The System Acceptance Test will be a an item in the Related Services, while the Acceptance Test for a specific, individual Station will be a line item within the Station's Component. Similarly, the installation work pertaining to a specific Station will be quoted inside the Station's Component.

Pricing Scope. The Bidders shall be deemed to have read the Technical Specifications and other sections of the bidding documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices. The entered rates and prices shall be deemed to make representation for the full scope as aforesaid, including overheads and profit.

If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with the Instructions to Bidders of the Bidding Documents, prior to submitting their bid.

10. Electricity in Myanmar is 220 V, 50 Hz. The Supplier should provide all equipment with Schuko plugs Type G (UK)



11. The Supplier shall provide the Data Communication Link (DSL, Fiber Optic, etc.)

1-List of Goods and Delivery Schedule

1.1 Schedule No. I. Monitoring Control Center (MCC)

Line Item N°	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery date (as per Incoterms DDP2010)		
					Earliest Delivery Date (number of days after contract signing)	Latest Delivery Date (number of days after contract signing)	Bidder's offered Delivery date [<i>to be provided by the Bidder</i>]
	Component 10100 - Spectrum Monitoring and Control Center (MCC)	1	Center	Naypyitaw	150	210	
10101	Client Spectrum Monitoring Software /Workstation	3	Unit				
10102	Spare Spectrum Monitoring/Heavy Duty Laptop	1	Unit				
10103	Server and RDBMS software/Server	1	Set				
10104	On-site backup storage/ redundancy system.	1	Unit				
10105	Networking software for administration, routing and DBA, including IP protocols.	1	Set				
10106	Office and general application software.	4	Set				

10107	GIS or mapping software, including mapping tools and DTM conversion software.	4	Set				
10108	UPS for Server/Backup	1	Unit				
10109	UPS for Workstations	1	Unit				
10110	RF Signal generator	1	Unit				
10111	RF connector adapter kit	1	Set				
10112	Installation, setup and integration of Control Center computers and UPS's.	1	Set				
10113	Programmer for MMS handheld transceivers	1	Set				

1.2 Schedule No. II. Fixed Monitoring Station (FMS)

Line Item N°	Description of Goods	Quantity	Physical Unit	Final (Project Site) Destination as specified in BDS	Delivery Date (as per Incoterms DDP 2010)		
					Earliest Delivery Date (number of days after contract signing)	Latest Delivery Date (number of days after contract signing)	Bidder's offered Delivery date [<i>to be provided by the Bidder</i>]
	Component 20100 - Fixed Monitoring Station (FMS), Type I	1	Station	Yangon	150	240	
20101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	1	Set				
20102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	1	Set				
20103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	1	Set				
20104	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.	1	Set				
20105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	1	Set				
20106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	1	Set				
20107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	1	Set				

20108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	1	Set				
20109	GPS based precision frequency reference.	1	Set				
20110	Audio Network.	1	Set				
20111	Computer System and software.	1	Set				
20112	Communications Network.	1	Set				
20113	Equipment Shelter.	1	Set				
20114	20 meter tower installed on top of an existing building.	1	Set				
20115	UPS	1	Set				
20116	Racks, cabling and accessories.	1	Set				
20117	Grounding and lightning-arrester subsystem.	1	Set				
20118	GPS Unit	1	Set				
20119	Spares, station- specific (additional to core spares, if applicable)	1	Set				
20120	Tools and instruments, station (additional, if applicable).	1	Set				
20121	Station installation work	1	Service				
20122	Partial Provisional Acceptance.	1	Service				
20123	Client Spectrum Monitoring software/workstation	1	Set				
	Component 20200 - Fixed Monitoring Station (FMS), Type I	1	Station	Mandalay	150	240	
20201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	1	Set				
20202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	1	Set				

20203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	1	Set				
20204	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.	1	Set				
20205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	1	Set				
20206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	1	Set				
20207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	1	Set				
20208	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	1	Set				
20209	GPS based precision frequency reference.	1	Set				
20210	Audio Network.	1	Set				
20211	Computer System and software	1	Set				
20212	Communications Network.	1	Set				
20213	Equipment Shelter.	1	Set				
20214	50 meter ground mounted tower.	1	Set				
20215	UPS	1	Set				
20216	Racks, cabling and accessories.	1	Set				
20217	Grounding and lightning-arrester subsystem.	1	Set				
20218	GPS Unit	1	Set				
20219	Spares, station- specific (additional to core spares, if applicable)	1	Set				

20220	Tools and instruments, station (additional, if applicable).	1	Set				
20221	Station installation work	1	Service				
20222	Partial Provisional Acceptance.	1	Service				
20223	Client Spectrum Monitoring software/workstation	1	Set				
20224	Security fencing enclosing tower and equipment shelter.	1	Set				
	Component 30100 - Fixed Monitoring Station (FMS), Type II	2	Station	2 Yangon	150	240	
30101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	2	Set				
30102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	2	Set				
30103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	2	Set				
30104	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.	2	Set				
30105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	2	Set				
30106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	2	Set				
30107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	2					

30108	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).	2	Set				
30109	GPS based precision frequency reference.	2	Set				
30110	Audio Network.	2	Set				
30111	Computer System and software.	2	Set				
30112	Communications Network	2	Set				
30113	Equipment Shelter.	2	Set				
30114	75 meter ground mounted tower.	2	Set				
30115	UPS	2	Set				
30116	Racks, cabling and accessories.	2	Set				
30117	Grounding and lightning-arrester subsystem.	2	Set				
30118	GPS Unit	2	Set				
30119	Spares, station- specific (additional to core spares, if applicable)	2	Set				
30120	Tools and instruments, station (additional, if applicable).	2	Set				
30121	Station installation work	2	Service				
30122	Partial Provisional Acceptance.	2	Service				
30123	Security fencing enclosing tower and equipment shelter.	2	Set				
	Component 30200 - Fixed Monitoring Station (FMS), Type II	2	Station	Mandalay	150	240	
30201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	2	Set				
30202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	2	Set				
30203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	2	Set				

30204	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.	2	Set				
30205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	2	Set				
30206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	2	Set				
30207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	2					
30208	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).	2	Set				
30209	GPS based precision frequency reference.	2	Set				
30210	Audio Network.	2	Set				
30211	Computer System and software.	2	Set				
30212	Communications Network.	2	Set				
30213	Equipment Shelter.	2	Set				
30214	100 meter ground mounted tower.	2	Set				
30215	UPS	2	Set				
30216	Racks, cabling and accessories.	2	Set				
30217	Grounding and lightning-arrester subsystem.	2	Set				
30218	GPS Unit	2	Set				
30219	Spares, station- specific (additional to core spares, if applicable)	2	Set				
30220	Tools and instruments, station (additional, if applicable).	2	Set				
30221	Station installation work	2	Service				
30222	Partial Provisional Acceptance.	2	Service				

30223	Security fencing enclosing tower and equipment shelter.	2	Set				
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1.3 Schedule No. III. Mobile Monitoring Station (MMS)

Line Item N°	Description of Goods	Quantity	Physical Unit	Final (Project Site) Destination as specified in BDS	Delivery Date (as per Incoterms DDP 2010)		
					Earliest Delivery Date (number of days after contract signing)	Latest Delivery Date (number of days after contract signing)	Bidder's offered Delivery date [<i>to be provided by the Bidder</i>]
	Component - 40100 Mobile Monitoring Station (MMS), Type A	2	Station	Naypyitaw	150	210	
40101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	2	Set				
40102	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	2	Set				
40103	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	2	Set				
40104	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	2	Set				
40105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	2	Set				
40106	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.	2	Set				
40107	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	2	Set				

40108	GPS based precision frequency reference.	2	Set				
40109	Audio Network.	2	Set				
40110	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.	2	Set				
40111	Communications Network components.	2	Set				
40112	Off road type Vehicle (Type A)	2	Set				
40113	Power subsystem.	2	Set				
40114	Auxiliary portable generator.	2	Unit				
40115	Racks, cabling and accessories as required.	2	Set				
40116	GPS Unit	2	Set				
40117	Spares, station- specific (additional to core-Component spares, if applicable)	2	Set				
40118	Tools and instruments, station (additional, if applicable)	2	Set				
40119	Station installation work	2	Service				
40120	Vehicle type fire extinguisher	2	Unit				
40121	Emergency kit including first aid kit	2	Set				
40122	Multi-channel frequency programmable handheld.	4	Units				
40123	Handheld power meter.	2	Unit				
40124	Handheld spectrum analyzer HF/VHF/UHF/SHF.	2	Unit				
40125	Partial Provisional Acceptance.	2	Service				
40126	Tripod.	2	Unit				
	Component 40200 - Mobile Monitoring Station (MMS), Type B	1	Station	Naypyitaw	150	210	
40201	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	1	Set				

40202	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	1	Set				
40203	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	1	Set				
40204	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	1	Set				
40205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	1	Set				
40206	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.	1	Set				
40207	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	1	Set				
40208	GPS based precision frequency reference.	1	Set				
40209	Audio Network.	1	Set				
40210	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.	1	Set				
40211	Communications Network components.	1	Set				
40212	City type Vehicle (Type A)	1	Set				
40213	Power subsystem.	1	Set				
40214	Auxiliary portable generator.	1	Unit				
40215	Racks, cabling and accessories as required.	1	Set				
40216	GPS Unit	1	Set				

40217	Spares, station- specific (additional to core-component spares, if applicable)	1	Set				
40218	Tools and instruments, station (additional, if applicable)	1	Set				
40219	Station installation work	1	Service				
40220	Vehicle type fire extinguisher	1	Set				
40221	Emergency kit including first aid kit	1	Set				
40222	Multi-channel frequency programmable handheld.	2	Unit				
40223	Handheld power meter.	1	unit				
40224	Handheld spectrum analyzer HF/VHF/UHF/SHF.	1	Unit				
40225	Partial Provisional Acceptance.	1	Service				
40226	Tripod.	1	Unit				

1.4 Schedule No. IV. Transportable Monitoring Station (TMS)

Line Item N°	Description of Goods	Quantity	Physical Unit	Final (Project Site) Destination as specified in BDS	Delivery Date (as per Incoterms DDP 2010)		
					Earliest Delivery Date (number of days after contract signing)	Latest Delivery Date (number of days after contract signing)	Bidder's offered Delivery date [<i>to be provided by the Bidder</i>]
	Component 50100 - Spectrum Portable/ Transportable Monitoring Station (TMS)	2	Station	Naypyitaw	150	210	
50101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	2	Set				
50102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization with adapters to mount the antenna on the tripod	2	Set				
50103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization with adapters to mount the antenna on the tripod (Optional).	2	Set				
50104	Receive antennas for VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.	2	Set				
50105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.	2	Set				

50107	Tripod	2	Set				
50108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver)	2	Set				
50109	GPS based precision frequency reference.	2	Set				
50110	Audio Network.	2	Set				
50111	Heavy Duty Notebook (laptop)	2	Set				
50112	Communications Network components.	2	Set				
50113	Power subsystem.	2	Set				
50114	Auxiliary portable generator.	2	Unit				
50115	Racks, cabling and accessories as required.	2	Set				
50116	GPS Unit	2	Set				
50117	Spares, station- specific (additional to core-component spares, if applicable)	2	Set				
50118	Tools and instruments, station (additional, if applicable)	2	Set				
50120	Station installation work	2	Service				
50121	Partial Provisional Acceptance.	2	Service				
50122	Short RF and Control cables for all monitoring and DF antennas.	2	Set				
50123	Long RF and Control cables for all monitoring and DF antennas.	2	Set				

2. List of Related Services and Completion Schedule (Schedule No. V)

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services (number of days after contract signing)	Bidder's offered Delivery date [to be provided by the Bidder]
	Service 900 - Design Review Meeting	1	Service	Naypyitaw	30	
901	Design review Meeting	1	Service			
	Service 1000 - Manuals and other documentation	1	Service	Naypyitaw	210	
1001	Operational and Maintenance Manuals: System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals	6	Hardcopy			
1002	Operational and Maintenance Manuals System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals	2	Softcopy			
1003	Other Documentation as required	1	Set			
	Service 1100 – Design and Engineering	1	Service	Naypyitaw	210	
1101	Bloc diagram for each site.	1	Set			
1102	Interconnection diagrams for each site.	1	Set			
1103	Power distribution diagrams for each site.	1	Set			
1104	Antenna/IF/Audio connections for each site.	1	Set			
1105	Communication diagrams/settings for each site.	1	Set			
1106	Power diagrams for the MMS.	1	Set			
1107	Installation diagrams for each site.	1	Set			

1108	System Integration Tests for each site.	1	Plan			
1109	Partial Provisional Acceptance, and Start-up for each site.	1	Plan			
1110	Final Acceptance Test for each site.	1	Plan			
	Service 1200 - Operation and Maintenance (O&M) Support.	2	Years	Naypyitaw	365	
1201	Operation and Maintenance Support	2	Years			
1202	Operation and Maintenance Support for each additional year	1	Year			
	Service 1300 - Training			Naypyitaw		
1301	Factory training for PTD personnel	1	Service	Manufacturer or Supplier's Country	120	
1302	On-Site Training of PTD personnel	1	Service	Naypyitaw	300	
1302	Training at other organization of PTD personnel	1	Service	TBD		
	Service 1400 - Factory Acceptance Test	1	Service	Supplier's Designated Country	120	
1401	Factory Acceptance					
	Service 1500 - Warranty	1	Service	Naypyitaw	365	
1501	Warranty for 18 months after final acceptance of the whole system (firm)	18	Month			
1502	Additional years (optional)	1	Year			
	Service 1600 - Final acceptance Tests	1	Service	Final destinations of sites	320	
1601	For the MCC, MMS and the TMS	1	Service	Naypyitaw		
1602	For the FMS Type I and II	1	Service	Yangon		
1603	For the FMS Type I and II	1	Service	Mandalay		
	Service 1700 - Spares					
1701	Spares for an initial three-year period (itemized complete spares list by the bidder is required)	1	Set	Naypyitaw	240	
	service 1800 Fixed Sites selection	1	Service	Yangon and Mandalay	45	
1801	Fixed Site Selection and generation of reports	1	Service			

3. Technical Specifications

3.1 General

The Automated Spectrum Measurement System is comprised of fixed, mobile vehicle(s), and transportable monitoring stations that will collect information, detect, analyze and identify authorized and unauthorized spectrum users in primarily the *HF/VHF/UHF/SHF* bands, supporting regulatory activities such as planning, authorization, enforcement, spectrum audits and compliance purposes. Important capabilities the system should include: spectrum usage and occupancy studies, transmitter location, determine the source of interference and offending emitters, verify the proper technical and operational characteristics of radiated signals, detect and identify illegal transmitters.

It is the responsibility of the Bidder to supply, install and commission an integrated system that achieves the above requirements.

The fixed (FMS) Type I and mobile stations (MMS) should be capable of operating in both local and remote control modes while FMS Type II can be operated in remote mode only. Remote control of the fixed, mobile and transportable monitoring stations will reside at the PTD Monitoring Control Centre (MCC) in Naypyitaw, there will be a provision for a Client computer at each FMS Type I stations to be able to control the monitoring stations, The MMS should also be able to control the monitoring stations. There shall be a minimum of three (3) workstations at the MCC and one (1) workstation at each FMS Type I, the supplier should provide a spare heavy duty laptop with a spare key for the software to be able to control the network from any monitoring station when needed.

The integrated monitoring system should be compatible with the ITU SMS4DC management software.

3.1.1 Fixed Monitoring Stations (FMS) – Type I and II

There will be a minimum of two (2) fully functional fixed monitoring stations (FMS) Type I, providing measurement, logging and direction finding capability covering the frequency range from 20 MHz to 3000 MHz. The general spectrum monitoring capabilities should cover the frequency range from 9 kHz to 8000 MHz fully compliant with relevant ITU recommendations. As well, there will be a minimum of four (4) fully

functional fixed monitoring stations (FMS) Type II, providing measurement, logging and direction finding capability covering the frequency range from 20 MHz to 3000 MHz, with general spectrum monitoring capabilities covering the frequency range from 9 kHz to 3000 MHz.

The FMS Type I will be capable of both remote and manned operation and should support both DF and measuring tasks. The primary mode of operation will be unmanned with operator commands established from any one of the FMS Type I, the MMS and from any of the workstations at the MCC as well as from the transportable monitoring stations (TMS) assuming a communication link is available. The FMS will perform scheduled and real-time measuring, direction activities and be able to send data over communications links to the MCC. The FMS will operate from either direct power or back-up systems.

3.1.2 Mobile Monitoring Stations (MMS) – Type A and B

There will be a maximum of two (2) or three (3), depending on budget, fully functional integrated Mobile Monitoring Station providing measurement up to 8 GHz and direction finding capability covering the frequency range from 20 MHz to 3000 MHz fully compliant with relevant ITU recommendations. The MMS will be capable of both remote and manned operation. The primary mode of operation will be manned with two operators and one driver. Commands for surveillance, occupancy study, signal measurement and direction finding would be established from any one of the operator positions at the MCC, or any other monitoring fixed, mobile or portable site assuming a communication link is available. The MMS will operate both independently from the MCC and in communication with the MCC.

Monitoring and direction finding antennas shall be mounted on the roof of the vehicle, the antennas shall be protected from weather. A GPS/GLONASS antenna/receiver should also be mounted to provide MMS location information to the mapping application regardless of target received signal strength. The MMS should be equipped with a communication link with the MCC. The Purchaser shall supply the communication link (SIM card for LTE/3G/4G communications), since the GSM/LTE SIM cards may not provide fixed IP addresses for the MMS. The Bidder shall supply the modems, routers, hardware, software and the VPN hardware required to establish the communication link with the MCC based on fixed IP addresses if an IP address is required for the MMS. The Bidder shall also supply all hardware/software required at the MCC to establish the communication links with the FMS/MMS.

The vehicle will have adequate power sub-system to provide power from an un-interrupted power supply/inverter (silent mode) with an isolated bank of batteries with the capability of being charged from the alternator of the vehicle. An optional vehicle mounted generator shall be quoted. The vehicle should be equipped with extra air conditioning and lighting units powered from the vehicle power sub-system. The vehicle should be able to be powered from the power utility grid.

The vehicles should be equipped with a two (2) VHF/UHF handheld transceivers and one (1) handheld power meter (20 MHz – 8000 MHz).

Two (2) of the vehicles shall be off-road type vehicles (Type A) while one (1) should be city type vehicle (Type B). The vehicles should be capable of maneuvering through city streets and have adequate speed for use on highways.

The interior of the vehicle should be equipped with appropriate equipment mountings such as ruggedized 19 inch racks to secure the electronics and to offer some protection against shock and vibration. Wiring rails/trays should be used and suitably fastened. Mounted equipment should be easily removable for repairs. Power and signal leads should be properly dressed behind the equipment to the greatest extent possible, to reduce clutter in the work area and to enhance operator safety.

Equipment layout should be studied and planned so that the controls and displays used most frequently by the operators are in the most convenient locations.

Vehicles should be procured from manufacturers who have local service facilities for the suggested model established in Myanmar with available critical spare parts. The vehicles should use diesel fuel.

3.1.3 Transportable Monitoring Stations (TMS)

A Transportable Monitoring Station (TMS) with VHF/UHF/SHF monitoring and DF capability with the following major components and subsystems:

- DF system (20 MHz – 3000 MHz) system with portable DF antenna,
- Multiple channel digital receiver 9 kHz – 8000 MHz with 20 MHz instantaneous bandwidth, with omnidirectional antenna set (9 kHz – 8000 MHz).
- Ability to detect weak signals with an effective preamplifier.
- Lightweight tripod and adapters to mount the DF and monitoring antennas
- 1 set of Short RF/Control cables (3 meters)
- 1 set of Long RF/Control cables (10 meters)
- The TMS systems are not intended to be handheld devices but rather a compact monitoring systems that can be carried and deployed by no more than two (2) staff.

3.1.4 Spectrum Monitoring and Control Center (MCC)

The monitoring and control center (MCC) shall have all the core software and application for engineering and control as well as the core hardware to establish the VPN communication links with the MMS. There will be a minimum of three (3) working stations and 1 spare heavy duty laptop that have control functions over the FMS, MMS and the TMS.

The MCC should be equipped with two (2) UPS, to power the servers and the workstations respectively. The UPS should be equipped with bank of batteries to provide five (5) hours of run-time at double the full load. The UPS/Battery systems should be 19" rackmount type.

- The MCC should include all interface and communication equipment needed to interconnect with the mobile monitoring station(s) and with the fixed/remote stations to allow for a fully functioning remote control and data communication capability with the MCC
- The WAN interfaces should support Ethernet 802.3, DSL broadband, and microwave network links.
- The WAN should provide for secure communications between the MCC and the fixed/remote/mobile sites.
- The Bidder should provide documentation for all system architecture and communication needs and price them individually.
- The MCC should be equipped with database to archive the measurements gathered at the remote sites, the software should be equipped with the capabilities to analyze and validate the data files (measurements) generated at the remote stations and the capability to upload the measurements to the database server for archiving.
- The MCC operators should have the capability to search the database for measurements based on frequencies and dates, retrieve the results and generate reports to be able to compare the results to the licensing database.
- The MCC operators should be provided with the appropriate software to perform/retrieve from the remote sites, the following ITU compliant measurements:
 - a. Frequency & Frequency Offset measurements
 - b. Modulation measurements
 - c. Occupancy measurements
 - d. Bandwidth measurements
 - e. Field Strength measurements
 - f. Direction Finding and Triangulation over digital maps using multiple DF sites
 - g. Direction Finding and Triangulation using Single Station Location techniques over digital maps

The bidder will be responsible for the procurement, installation, provisioning, commissioning, integration of the system, and the maintenance of the equipment. The successful bidder shall provide installation and perform an acceptance test to meet the Purchaser's requirements of an integrated spectrum monitoring system.

Description	FMS Type I	FMS Type II	MMS Type A	MMS Type B	TMS	Bidder's Offer	Compliant Y/N
The DF system shall be able to log information from all DF sites at once including the information on the probable location of the targeted transmitter. The mapping application should be able to replay the log files.	Required	Required	Required	Required	Required		
DF measurement while DF on the move	Not Required	Not Required	Required	Required	Not Required		
DF homing facility (Direction and Signal Strength).	Not Required	Not Required	Required	Required	Not Required		
The DF should be able to detect and DF on short duration signals ≤ 3 ms.	Required	Required	Required	Required	Required		
Direction-finding (DF) equipment should be used to identify the unknown transmitting station and determine the location of the transmitter by triangulations or single station location (SSL).	Required	Required	Required	Required	Required		
DF results from different locations are also displayed on a geographic map in map viewer, allowing automatic triangulations by the system to locate the signal transmitter and logging of DF data.	Required	Required	Required	Required	Required		

Description	FMS Type I	FMS Type II	MMS Type A	MMS Type B	TMS	Bidder's Offer	Compliant Y/N
Direction Finding and Triangulation using Single Station Location techniques over digital maps.	Required	Required	Required	Required	Required		
DF Log Files should include the following information: Location (Latitude & Longitude) Frequency monitoring equipment and procedures shall be compliant with Frequency Measurements as defined in ITU-R SM.377-4.	Required	Required	Required	Required	Required		
The spectrum monitoring stations should be linked together over a computerized network, and should be networked to the administrations' spectrum management system as recommended in Recommendation ITU-R SM.1537.	Required	Required	Required	Required	Required		
Power Measurement.	Optional	Optional	Optional	Optional	Optional		
Field Strength Measurement compliant with ITU-R SM 378-7.	Required	Required	Required	Required	Required		
Power Flux Density measurements.	Optional	Optional	Optional	Optional	Optional		
Co-channel and adjacent channel signals measurements.	Required	Required	Required	Required	Required		
Carrier to Noise Ratio. Signal to Noise Ratio.	Required Required	Required Required	Required Required	Required Required	Required Required		
Digital Measurements: Pulse, FSK, BPSK, DQPSK, GMSK, QPSK, mQAM and mFSK.	Required	Required	Required	Required			

Description	FMS Type I	FMS Type II	MMS Type A	MMS Type B	TMS	Bidder's Offer	Compliant Y/N
Measurements should be logged in files together with the instrument settings including: Attenuation, IF Bandwidth, RF Instantaneous Span, Center Frequency, Sweep Rate, Channel Number, Antenna Orientation, Antenna Name, Antenna Height, Noise Floor Level, Time, Date and GPS Coordinates, Site Identification, Operator Name, Frequency Scan Range	Required	Required	Required	Required	Required		
Spectrum Occupancy	Required	Required	Required	Required	Required		
Programmable scan mode with capability for pre-set channels and different spacing, data logging, adjustable time period following ITU-R specifications for Spectrum Occupancy SM.182 & SM.1536.	Required	Required	Required	Required	Required		
Types of modulation - identification, analyses and measurements.	Required	Required	Required	Required	Required		
Measurements for the following Modulation type; <ul style="list-style-type: none"> • Unmodulated • LSB, SSB, USB, DSB, ISB • FM • Phase Modulation • Amplitude + Angle Pulse 	Required	Required	Required	Required	Required		

Description	FMS Type I	FMS Type II	MMS Type A	MMS Type B	TMS	Bidder's Offer	Compliant Y/N
The Radio Monitoring and Analysis equipment shall provide basic spectrum analysis/measurements for the following systems; <ul style="list-style-type: none"> • Analog, Digital FM Broadcast • GSM/EDGE/EDGE Evolution • WCDMA/HSPA+ • LTE • CDMA 2000 • 1xEV-DO • WLAN • WiMAX The handheld spectrum analyzer should also support these measurements.	Required	Required	Required	Required	Required		
Occupied bandwidth measurement xDB and %.	Required	Required	Required	Required	Required		
Spectral Analysis Scan	Required	Required	Required	Required	Required		
Single Channel Measurements	Required	Required	Required	Required	Required		
Multi-Channel Measurements	Required	Required	Required	Required	Required		
Signal Decoding of common modulations	Required	Required	Required	Required	Required		
Listening to a minimum of 2 live audio channels simultaneously using existing IP network.	Required	Required	Required	Required	Optional		
Digital Audio Recording at the remote sites.	Required	Required	Required	Required	Required		

3.2.2- Measurement Accuracy

Type of Measurement	Minimum Accuracy	Bidder's Offer	Compliant Y/N
Frequency Measurement for all stations in the 9 kHz – 4000 kHz except for Broadcast	± 6 ppm or 1 Hz if the ± 6 ppm is less than 1 Hz		
Frequency Measurement for all Broadcasting stations in the 9 kHz – 4000 kHz	±1 Hz		
Frequency Measurement for all stations in the 4000 kHz – 30 MHz	±1 Hz		
Frequency Measurement for all TV stations in the 47 MHz – 960 MHz	±50 Hz		
Frequency Measurement for all non TV stations in the 30 MHz – 450 MHz	± 0.5 ppm		
Frequency Measurement for all stations in the 2500 MHz – 8 GHz	± 5 ppm		

Type of Measurement	Minimum Accuracy	Bidder's Offer	Compliant Y/N
Power	±1 dB for the FMS and MMS ±3 dB for the TMS		
Field Strength	±1 dB for the FMS and MMS ±3 dB for the TMS		
Power Flux Density	±1 dB for the FMS and MMS ±3 dB for the TMS		

Type of Measurement	Minimum Accuracy	Bidder's Offer	Compliant Y/N
Co-channel and adjacent channel signal level	Bidder should state the accuracy according to the different types of modulation supported by the equipment.		

Direction Finding System for FMS, MMS and TMS	Minimum Specification	Bidder's Offer	Compliant Y/N
Low Frequency Coverage (MHz)	20 MHz		
High Frequency Coverage (MHz)	3000 MHz		
System Accuracy	Two (2) degrees for the FMS Two (2) degrees for the MMS Five (5) degrees for the TMS		
Monitoring bandwidth, DF bandwidth for real-time	≥ 15MHz		
Real-time DF in full range	from 20MHz to 3000MHz		
DF Method: hybrid radiolocation AoA and TDOA	Multi-correlative Interferometer or Watson-Watt (optional)		
Tuning speed	<1mSec for 20MHz step		
Minimum signal duration to be detected	≤3 ms		
Scanning steps	Wide Band DF		
DF Antennas Vertical Polarization	Required		
DF Antennas Horizontal Polarization	Optional		
Maximum Wind Velocity	180 km/hr (this requirement if for outdoor elements like antennas).		

3.2.3- Measurement Receiver Specifications

Function	VLF/LF/HF	VHF/UHF/SHF	Bidder's Offer	Compliant Y/N
Frequency Range (FMS Type I, MMS and TMS)	9 kHz to 30 MHz	20 MHz to 8000 MHz		
Frequency Range (FMS Type II)	9 kHz to 30 MHz	20 MHz to 3000 MHz		
Tuning Resolution	1 Hz	≤10 Hz		
External reference tolerance	1 ppm, or <0.01 ppm using global using GPS for external reference	< 0.1 ppm, or <0.001 ppm using GPS for external reference		
Synthesizer settling time	≤ 10 ms	≤ 5 ms		
Input (Antenna input) VSWR	50 Ohm, nominal <3	50 Ohm, nominal <2/5		
Pre-selection (highly linear receivers may meet intermodulation specifications without preselection)	Set of sub-octave band filters or tracking filter	Set of sub-octave band filters or tracking filter		
3rd order intercept	≥ 20 dBm (>3 MHz)	≥ 20 dBm		
2nd order intercept	≥ 60 dBm (>3 MHz)	≥ 50 dBm		
Noise Figure	≤15 dB (>2 MHz)	≤12 dB		
LO-Phase Noise	15 dB (>2 MHz) -110 dBc/Hz at 10 kHz offset -120 dBc/Hz at 100 kHz offset	110 dBc/Hz at 100 kHz offset -130 dBc/Hz at 1 MHz offset		
IF Rejection	90 dB	90 dB or better		
Image Rejection	90 dB	90 dB or better		
Analysis Bandwidths	Digital filters, from 0.1 to at least 10 kHz	Internal or external filters, preferably digital, from 1 kHz up to at least 20 MHz		
Demodulation Bandwidths	Digital filters, from 0.1 to at least 10 kHz	Internal or external filters, preferably digital, from 1 kHz up to at least 500 kHz		

Function	VLF/LF/HF	VHF/UHF/SHF	Bidder's Offer	Compliant Y/N
Selectivity 60 to 6 dB (Shape factor)	2:01	2:01		
Detection Mode	AM,CW, LSB, USB, NFM	AM, CW, FM, LSB, USB, NFM, WFM		
AGC Range	120 dB	120 dB		
Dynamic Range	120 dB	120 dB		
Remote Control	LAN, RS232, USB, GPIB Communication connector should be a locking type connector (screws or latch)	LAN, RS232, USB, GPIB Communication connector should be a locking type connector (screws or latch)		
Operation	Local or Remote mode	Local or Remote mode		

DF Sensitivity

Frequency (MHz)	FMS		MMS		TMS		Bidder's Offer		Compliant Y/N
	dB μ V/m	μ V/m	dB μ V/m	μ V/m	dB μ V/m	μ V/m			
20	≤ -6	≤ 0.50	≤ -2	≤ 0.79	≤ -2	≤ 0.79			
500	≤ -10	≤ 0.32	≤ -9	≤ 0.35	≤ -5	≤ 0.56			
1000	≤ -7	≤ 0.45	≤ -7	≤ 0.45	≤ -4	≤ 0.63			
2000	≤ -5	≤ 0.56	≤ -4	≤ 0.63	≤ -2	≤ 0.79			
3000	≤ -3	≤ 0.71	≤ -2	≤ 0.79	≤ -3	≤ 0.71			

3.2.4- Vehicle Parameter/Requirements

Description	Details	Bidder's Offer	Compliant Y/N
Number of off-road type vehicles (Type A) with manual transmission. SUV type 4x4 (4WD), left-hand drive.	2		
Number of city type vehicles (Type B) with automatic transmission. SUV type 4x4, left-hand drive.	1		
Number of passengers	At least 3 (except driver)		
Mast	Not Required		
Antennas to be installed on the roof of the vehicle. All antennas including DF antenna should be low profile type and disguised or hidden (covered).	Required		
Communication link to Monitoring Control Center (MCC), including all hardware required for VPN connection to the MCC. 3G & LTE services are available. The Purchaser will procure the SIM cards required for the communication link.	Required		
Portable generator.	Required		
Extra air-conditioning system to run from AC power.	Required		
Extra lights to run from AC power.	Required		
Laptop swivel mount between the driver seat and the passenger seat.	Required		
Power subsystem, including: <ul style="list-style-type: none"> ▪ specific battery isolated from main vehicle battery ▪ Power inverter (2000 W) system, 	Required		

Description	Details	Bidder's Offer	Compliant Y/N
true sine wave output power integrated with a built-in multistage battery charger and built-in transfer switch allowing auto-transfer between inverter power and incoming AC power <ul style="list-style-type: none"> ▪ Interconnection and switchboard controls for the following options: normal / offshore power / battery power / engine on/off operation / engine-off air conditioning and silent operation. 			
Possibility to connect MMS to power grid.	Required		
Main vehicle battery be isolated from the power inverter battery bank.	Required		
Diesel fuel vehicle.	Required		
Engine Power.	minimum 3000 CC for Type A and 2200 CC to 2500 CC for Type B (in order to save energy and fuel for City Type)		
Dome or camouflage to cover all antennas.	Required		
Fire extinguisher.	Required		
Spare tire(s).	Required		
Tool box (c/w tools for vehicle).	Required		
Auxiliary audio input.	Required		
Bluetooth to integrate a phone system.	Required		

3.2.5- Tower Parameter/Requirements (Component Numbers 20114, 20214, 30114, 30214)

Description	Details	Bidder's Offer	Compliant Y/N
Tower load and construction.	<p>Tower should be able to sustain at least 180 km/hr wind load and should be constructed to hold at least twice the load of the proposed antennas and cables.</p> <p>Towers should be equipped with a cable bridge to the equipment shelter and cable trays as required.</p> <p>Towers should be self-support type and should be designed by the following standards or better:</p> <ul style="list-style-type: none"> • ANSI/TIA-222-G; “Structural Standard for Antenna supporting structures and Antennas”, latest version. • AISC-LRFD-99; “Load and Resistance Factor Design”. 		

3.2.6- Equipment Shelter Parameter/Requirements

Description	Details	Bidder's Offer	Compliant Y/N
Equipment Shelter	<p>Equipment shelters should be built according Myanmar's building standard.</p> <p>Pre-fabricated equipment shelters are also accepted (decisions will be made after the Site Selection).</p> <p>Should be equipped:</p> <ol style="list-style-type: none"> 1- 19” racks for equipment 2- Air-conditioning unit 3- Fence 		

Description	Details	Bidder's Offer	Compliant Y/N
	4- Security 5- Alarms 6- Remote temperature sensor reporting to the MCC 7- Fire extinguisher 8- Fire alarms		

3.2.7- Training at other organisations (Service Number 1303)

Description	Details	Bidder's Offer	Compliant Y/N
Training at other organizations of PTD personnel	<p>Radio Frequency Analysis, Management and Investigation Topics can be grouped into several major categories and sub categories: (Supplier can recommend other training topics)</p> <ol style="list-style-type: none"> 1- General radio principles and theories; <ul style="list-style-type: none"> ▪ Radio wave theory, polarization ▪ Antenna and transmission line theory ▪ Amplitude modulation theory ▪ Frequency modulation theory ▪ Phase modulation theory ▪ Designation of emissions and nomenclature 2- Off-Air analysis of signals using spectrum analyzers and other associated instruments <ul style="list-style-type: none"> ▪ Signal level, frequency and received power measurements ▪ Amplitude, Frequency and Phase modulation measurements 		

Description	Details	Bidder's Offer	Compliant Y/N
	<ul style="list-style-type: none"> ▪ Signal identification ▪ Bandwidth measurements ▪ Band power measurements ▪ Spectrum occupancy measurements 3- Field measurements of signals and interference <ul style="list-style-type: none"> ▪ Field strength and power flux density measurements ▪ Radio Direction Finding (RDF) procedures ▪ Radio Frequency Interference (RFI) ▪ Determinations of Harmful Interference (DHI) 4- Radio Station Licensing <ul style="list-style-type: none"> ▪ Band planning ▪ Equipment standards ▪ Electro Mechanical Compatibility (EMC) ▪ Interference types and mitigation ▪ Broadcast systems and licensing ▪ Radio station inspections ▪ Radio station systems, transmission lines, cavities, resonators and filters 5- Special radio systems <ul style="list-style-type: none"> ▪ Trunk radio systems ▪ Cellular/mobile phone radio communication technologies 6- Regulations and standards <ul style="list-style-type: none"> ▪ Domestic regulations and standards 		

Description	Details	Bidder's Offer	Compliant Y/N
	<ul style="list-style-type: none"><li data-bbox="701 285 1087 354">▪ International regulations and standards<li data-bbox="701 362 1150 430">▪ International Telecommunications Union (ITU)<li data-bbox="701 438 1003 470">▪ Operator certification		

3.2.8- Service Numbers

Service	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
	Service 900 – Design Review Meeting			
901	Design Review Meeting			
	Service 1000 - Manuals and other documentation			
1001	Operational and Maintenance Manuals: System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals	Hardcopies		
1002	Operational and Maintenance Manuals System Manual Spectrum Monitoring Software Manual Station, Equipment and Unit Manuals	Electronic Copies		
1003	Other Documentation as required	Additional Documentations as required such as drawings, informational materials, etc.		
	Service 1100 – Design and Engineering			
1101	Bloc diagram for each site.			
1102	Interconnection diagrams for each site.			
1103	Power distribution diagrams for each site.			

Service	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
1104	Antenna/IF/Audio connections for each site.			
1105	Communication diagrams/settings for each site.			
1106	Power diagrams for the MMS.			
1107	Installation diagrams for each site.			
1108	System Integration Tests for each site.			
1109	Partial Provisional Acceptance, and Start-up for each site.			
1110	Final Acceptance Test for each site.			
	Service 1200 - Operation and Maintenance (O&M) Support.			
1201	Operation and Maintenance Support			
1202	Operation and Maintenance Support for each additional year			
	Service 1300 -Training			
1301	Factory training for PTD personnel	Factory training for 2 weeks in the Manufacturer or Supplier's country for 6 people based on economy class travel. To cover the assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.		
1302	On-Site Training of PTD personnel	On-Site training for 4 weeks for as many as possible. The Purchaser will provide the training facility, travel and accommodation for own personnel. The Supplier will provide training material.		

Service	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
1302	Training at other organization of PTD personnel	Training at other organizations of PTD personnel to cover the training subjects defined in the Technical Specifications (TS) section. Supplier will choose the location and the price either per employee or a number of employees.		
	Service 1400 - Factory Acceptance Test			
1401	Factory Acceptance	Factory Acceptance Test for one (1) week in Supplier's designated country for 2 people.		
	Service 1500 - Warranty			
1501	Warranty for 18 months after final acceptance of the whole system (firm)	As per GCC 28.3		
1502	Additional years (optional)	As per GCC 28.3		
	Service 1600 - Final acceptance Tests			
1601	For the MCC, MMS and the TMS	As per "Inspections and Tests" section		
1602	For the FMS Type I and II	As per "Inspections and Tests" section		
1603	For the FMS Type I and II	As per "Inspections and Tests" section		
	Service 1700 - Spares	As per "Inspections and Tests" section		

Service	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
1701	Spares for an initial three-year period (itemized complete spares list by the bidder is required)			
	service 1800 Fixed Sites selection			
1801	Fixed Site Selection and generation of reports	<p>Three (3) sites in Yangon Three (3) sites in Mandalay. The Purchaser will assist the Supplier in the site selection process in providing;</p> <ul style="list-style-type: none"> • List of potential sites that may be used by other RF operators such as Cell Operators • Access to potential Sites • Negotiation with existing tower owners if required <p>The Supplier will provide the required tools and instruments to perform the required measurements at the proposed sites and validate the conformity of the sites. The Supplier will provide the Purchase with a comprehensive report on the study including site coverage base on frequency range (VHF/UHF/SHF) and power (5W and 20W).</p> <p>For Sites requiring new towers, the Supplier must make all required</p>		

Service	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
		<p>soil tests for the tower foundation, design and provide drawing of tower foundations and all necessary Bill of Quantities.</p> <p>Tower should be able to sustain at least 180 km/hr wind load and should be constructed to hold at least twice the load of the proposed antennas and cables. Towers should be self-support type and should be designed to the latest versions of following standards or better:</p> <ul style="list-style-type: none"> • ANSI/TIA-222-G; "Structural Standard for Antenna supporting structures and Antennas". <p>AISC-LRFD-99; "Load and Resistance Factor Design".</p>		

3.2.9- Component Numbers

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
	Component 10100 - Spectrum Monitoring and Control Center (MCC)			
10101	Client Spectrum Monitoring Software /Workstation	Spectrum Monitoring software compatible with the ITU SMS4DC. Minimum Specifications for the workstations: <ul style="list-style-type: none"> • Windows 7 • 64 bits processor • Core i7 • 2 X 8 GB RAM • 1 TB HDD • English • 32 Inch screen (LED type) • Office 2013 for Business (English) • 1 set of Speakers • 1 set of Headphones • Keyboard & mouse 		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
10102	Spare Spectrum Monitoring/Heavy Duty Laptop	Spare Spectrum Monitoring software compatible with the ITU SMS4DC installed on a heavy duty laptop with a spare Security key to use with the laptop when locally controlling the FMS. Laptop Min Specifications: i5 processor, 500 GB SSD, 16 GB SRAM, WiFi, CD-ROM, 15" screen, Sound, mouse,		
10103	Server and RDBMS software/Server	Server and RDBMS software/Server to archive measurement data and for reporting functions. Minimum Specifications for the server: <ul style="list-style-type: none"> ▪ 6 to 10 Core ▪ 1 x 16GB RDIMM ▪ RAID 5 with integrated RAID controller ▪ Keyboard ▪ Mouse ▪ 22" LED screen 		
10104	On-site backup storage/ redundancy system.	least 3 TB backup storage/ redundancy system.		
10105	Networking software for administration, routing and DBA, including IP protocols.			
10106	Office and general application software.			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
10107	GIS or mapping software, including mapping tools and DTM conversion software.			
10108	UPS for Server/Backup	Runtime for at least 5 hours at double the expected load for the server/backup systems, UPS 19" rackmount.		
10109	UPS for Workstations	Runtime for at least 5 hours at double the expected load for the workstations, UPS desktop type.		
10110	RF Signal generator	RF Signal generator, 100 kHz – 1000 MHz equipped with the following modulation types: AM, FM and PM. Output level -120 dBm to 0 dBm. Including 1 set of compatible RF cables of 5 meters.		
10111	RF connector adapter kit	RF connector adapter kit including but not limited to: BNC, N, TNC and UHF adapters.		
10112	Installation, setup and integration of Control Center computers and UPS's.			
10113	Programmer for MMS handheld transceivers	Frequency Programmer for the Multi-channel frequency programmable handheld transceivers supplied for the MMS.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
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Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
	20100 Fixed Monitoring Station (FMS), Type I			
20101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
20102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		
20103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
20104	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 8000 MHz		
20105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
20106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	Frequency Range 20 MHz – 3000 MHz.		
20107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	The Directional antenna will be integrated with optional remote controlled rotator. The operator at the remote control workstation should be able to set the azimuth and the polarization (Horizontal/Vertical) of the antenna by remote control the Rotator.		
20108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 8000 MHz.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
20109	GPS based precision frequency reference.	10 MHz frequency		
20110	Audio Network.	2 channels of audio listening/recording at the same time		
20111	Computer System and software components.	Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities allowing remote control stations to access and remote control the spectrum monitoring station.		
20112	Communications Network.	Communications Network components, including the IP communications protocols and the interfaces for PSTN leased and DSL and for IP-based data networks, as required.		
20113	Equipment Shelter.			
20114	20 meter tower installed on top of an existing building.			
20115	UPS	UPS rated at full station load for 5 hours (220 VAC, 50 Hz).		
20116	Racks, cabling and accessories.			
20117	Grounding and lightning-arrester subsystem.			
20118	GPS Unit			
20119	Spares, station- specific (additional to core spares, if applicable)			
20120	Tools and instruments, station (additional, if applicable).			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
20121	Station installation work	To include all grounds preparation, tower installation, shelter installation and cable and equipment installation, and install all necessary systems including Earthing systems (Building earth, system earth and tower earth).		
20122	Partial Provisional Acceptance.	The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
20123	Client Spectrum Monitoring software/workstation	Spectrum Monitoring software/workstation compatible with the ITU SMS4DC. Minimum Specifications for the workstations: <ul style="list-style-type: none"> ● Windows 7 ● 64 bits processor ● Core i7 ● 2 X 8 GB RAM ● 1 TB HDD ● English ● 32 Inch screen (LED type) ● Office 2013 for Business (English) ● 1 set of Speakers ● 1 set of Headphones ● Keyboard & mouse 		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
	20200 Fixed Monitoring Station (FMS), Type I			
20201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
20202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		
20203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
20204	Receive antennas, including RF lines and Switches, VHF/UHF/SHF, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 8000 MHz		
20205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
20206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	Frequency Range 20 MHz – 3000 MHz.		
20207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	The Directional antenna will be integrated with optional remote controlled rotator. The operator at the remote control workstation should be able to set the azimuth and the polarization (Horizontal/Vertical) of the antenna by remote control the Rotator.		
20208	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 8000 MHz.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
20209	GPS based precision frequency reference.	10 MHz frequency		
20210	Audio Network.	2 channels of audio listening/recording at the same time		
20211	Computer System and software components,	Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities allowing remote control stations to access and remote control the spectrum monitoring station.		
20212	Communications Network.	Communications Network components, including the IP communications protocols and the interfaces for PSTN leased and DSL and for IP-based data networks, as required.		
20213	Equipment Shelter.			
20214	50 meter ground mounted tower.			
20215	UPS	UPS rated at full station load for 5 hours (220 VAC, 50 Hz).		
20216	Racks, cabling and accessories.			
20217	Grounding and lightning-arrester subsystem.			
20218	GPS Unit			
20219	Spares, station- specific (additional to core spares, if applicable)			
20220	Tools and instruments, station (additional, if applicable).			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
20221	Station installation work	To include all grounds preparation, tower installation, shelter installation and cable and equipment installation, and install all necessary systems including Earthing systems (Building earth, system earth and tower earth).		
20222	Partial Provisional Acceptance.	The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
20223	Client Spectrum Monitoring software/workstation	Spectrum Monitoring software/workstation compatible with the ITU SMS4DC. Minimum Specifications for the workstations: <ul style="list-style-type: none"> ● Windows 7 ● 64 bits processor ● Core i7 ● 2 X 8 GB RAM ● 1 TB HDD ● English ● 32 Inch screen (LED type) ● Office 2013 for Business (English) ● 1 set of Speakers ● 1 set of Headphones Keyboard & mouse		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
20224	Security fencing enclosing tower and equipment shelter.			
	30100 Fixed Monitoring Station (FMS), Type II			
30101	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
30102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		
30103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
30104	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 3000 MHz		
30105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
30106	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	Frequency Range 20 MHz – 3000 MHz.		
30107	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	The Directional antenna will be integrated with optional remote controlled rotator. The operator at the remote control workstation should be able to set the azimuth and the polarization (Horizontal/Vertical) of the antenna by remote control the Rotator.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
30108	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 3000 MHz.		
30109	GPS based precision frequency reference.	10 MHz frequency		
30110	Audio Network.	2 channels of audio listening/recording at the same time		
30111	Computer System and software.	Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities allowing remote control stations to access and remote control the spectrum monitoring station.		
30112	Communications Network.	Communications Network components, including the IP communications protocols and the interfaces for PSTN leased and DSL and for IP-based data networks, as required.		
30113	Equipment Shelter.			
30114	75 meter ground mounted tower.			
30115	UPS	UPS rated at full station load for 5 hours (220 VAC, 50 Hz).		
30116	Racks, cabling and accessories.			
30117	Grounding and lightning-arrester subsystem.			
30118	GPS Unit			
30119	Spares, station- specific (additional to core spares, if applicable)			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
30120	Tools and instruments, station (additional, if applicable).			
30121	Station installation work	To include all grounds preparation, tower installation, shelter installation and cable and equipment installation, and install all necessary systems including Earthing systems (Building earth, system earth and tower earth).		
30122	Partial Provisional Acceptance.	The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
30123	Security fencing enclosing tower and equipment shelter.			
	30200 Fixed Monitoring Station (FMS), Type II			
30201	Direction Finding (DF) Processor/Receiver(s) VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
30202	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		
30203	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
30204	Receive antennas, including RF lines and Switches, VHF/UHF, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 3000 MHz		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
30205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
30206	Passive Directional log-periodic receive antennas in the VHF/UHF bands, including RF and control lines and switches	Frequency Range 20 MHz – 3000 MHz.		
30207	Remote controlled antenna rotator for vertical and horizontal rotations. (Optional)	The Directional antenna will be integrated with optional remote controlled rotator. The operator at the remote control workstation should be able to set the azimuth and the polarization (Horizontal/Vertical) of the antenna by remote control the Rotator.		
30208	Monitoring Receiver / Analyzer HF/VHF/UHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 3000 MHz.		
30209	GPS based precision frequency reference.	10 MHz frequency		
30210	Audio Network.	2 channels of audio listening/recording at the same time		
30211	Computer System and software.	Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities allowing remote control stations to access and remote control the spectrum monitoring station.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
30212	Communications Network.	Communications Network components, including the IP communications protocols and the interfaces for PSTN leased and DSL and for IP-based data networks, as required.		
30213	Equipment Shelter.			
30214	100 meter ground mounted tower.			
30215	UPS	UPS rated at full station load for 5 hours (220 VAC, 50 Hz).		
30216	Racks, cabling and accessories.			
30217	Grounding and lightning-arrester subsystem.			
30218	GPS Unit			
30219	Spares, station- specific (additional to core spares, if applicable)			
30220	Tools and instruments, station (additional, if applicable).			
30221	Station installation work	To include all grounds preparation, tower installation, shelter installation and cable and equipment installation, and install all necessary systems including Earthing systems (Building earth, system earth and tower earth).		
30222	Partial Provisional Acceptance.	The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
30223	Security fencing enclosing tower and equipment shelter.			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
	40100 Mobile Monitoring Station (MMS), Type A			
40101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
40102	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		
40103	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
40104	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 8000 MHz		
40105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
40106	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.	Frequency Range 20 MHz – 3000 MHz		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40107	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 8000 MHz		
40108	GPS based precision frequency reference.	10 MHz		
40109	Audio Network.	2 channels of audio listening/recording at the same time		
40110	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.	Heavy Duty Notebook (laptop) mounted on a Laptop swivel mount beside the driver, portable printer and vehicle LAN. Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities, user interfaces and local display screens (virtual or real). Local software modules for the operating system, the IP communications protocols, the GIS software and other modules, as needed. Application software components for Spectrum Monitoring.		
40111	Communications Network components.	Communications Network components, including the IP communications protocols and the interfaces for IP-based data networks, as required by the bidders design and hardware typically including;		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
		<ul style="list-style-type: none"> • LAN • GSM/GPRS subscriber unit, including antenna, supports, power supply, and interfaces for data signals and control. • VoIP encoder interfacing the audio network with the LAN. • Router for GPRS and analogue GSM access • Software for controlling, from the computer or the laptop, the flow of information related to the audio network, the LAN monitoring data, the local loudspeakers, the local peripherals and the GSM network. <p>The Audio Network should be routed to the Vehicle's sound system and shared with the phone system.</p>		
40112	Off road type Vehicle (Type A)	<p>Off road type Vehicle (Type A), with its antenna mounts, equipment mounts and racks, shock absorbers, Bluetooth, auxiliary audio input for the sound system, extra lighting system and extra AC unit to run off the MMS power sub-system.</p> <p>Enough space for 1 driver and 3 passengers.</p>		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40113	Power subsystem.	Power subsystem, including: <ul style="list-style-type: none"> ▪ specific battery isolated from main vehicle battery ▪ Power inverter (2000 W) system, true sine wave output power integrated with a built-in multistage battery charger and built-in transfer switch allowing auto-transfer between inverter power and incoming AC power Interconnection and switchboard controls for the following options: normal / offshore power / battery power / engine on/off operation / engine-off air conditioning and silent operation.		
40114	Auxiliary portable generator.			
40115	Racks, cabling and accessories as required.			
40116	GPS Unit			
40117	Spares, station- specific (additional to core-component spares, if applicable)			
40118	Tools and instruments, station (additional, if applicable)			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40119	Station installation work	Includes and not limited to: 1- Installation of racks 2- Installation of Power Sub-System 3- Mounting the antennas on the vehicle 4- Mounting the equipment 5- Mounting the communication hardware 6- Mounting the laptop on a swivel beside the driver 7- Interconnecting all equipment and systems.		
40120	Vehicle type fire extinguisher			
40121	Emergency kit including first aid kit			
40122	Multi-channel frequency programmable handheld.	Multi-channel frequency programmable handheld transceiver (5 Watt), UHF analog or digital encryption, LCD display, with extra battery, external AC charger for battery(s), hands free capability and headset.		
40123	Handheld power meter.	Frequency Range (20 MHz – 8000 MHz)		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40124	Handheld spectrum analyzer HF/VHF/UHF/SHF.	Handheld spectrum analyzer (9 kHz – 8000 MHz) equipped with real time spectrum analysis technology and GPS where possible. Analyzer must be battery powered with carrying case, data storage card, extra batteries and external battery charger. One (1) set of (9 kHz – 8000 MHz) handheld Omni and directional antennas (with compass) and carrying cases.		
40125	Partial Provisional Acceptance.	Provisional Acceptance of the Station. The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
40126	Tripod.	Tripod with head allowing 90 deg. adjustment, to change polarization – lightweight design		
	40200 Mobile Monitoring Station (MMS), Type B			
40201	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
40202	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization.	Frequency Range 20 MHz – 3000 MHz		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40203	Low profile DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization (Optional).	Frequency Range 20 MHz – 3000 MHz		
40204	Receive antennas VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 20 MHz – 8000 MHz		
40205	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI.	Frequency Range 9 kHz – 20 MHz		
40206	Directional log-periodic receive antennas for VHF/UHF, Passive. With adapter to mount the antenna on the tripod and 5 meters of RF cable.	Frequency Range 20 MHz – 3000 MHz		
40207	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver).	Frequency Range 9 kHz – 8000 MHz		
40208	GPS based precision frequency reference.	10 MHz		
40209	Audio Network.	2 channels of audio listening/recording at the same time		
40210	Heavy Duty Notebook (laptop) with Spectrum Monitoring Software.	Heavy Duty Notebook (laptop) mounted on a Laptop swivel mount beside the driver, portable printer and vehicle LAN. Computer System and software components, including any necessary data-storage components. Computer with processing and storage		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
		<p>capabilities, user interfaces and local display screens (virtual or real). Local software modules for the operating system, the IP communications protocols, the GIS software and other modules, as needed. Application software components for Spectrum Monitoring.</p>		
40211	<p>Communications Network components.</p>	<p>Communications Network components, including the IP communications protocols and the interfaces for IP-based data networks, as required by the bidders design and hardware typically including;</p> <ul style="list-style-type: none"> • LAN • GSM/GPRS subscriber unit, including antenna, supports, power supply, and interfaces for data signals and control. • VoIP encoder interfacing the audio network with the LAN. • Router for GPRS and analogue GSM access • Software for controlling, from the computer or the laptop, the flow of information related to the audio network, the LAN monitoring data, the local loudspeakers, the local peripherals and the GSM network. 		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
		The Audio Network should be routed to the Vehicle's sound system and shared with the phone system.		
40212	City type Vehicle (Type B)	City type Vehicle (Type B), with its antenna mounts, equipment mounts and racks, shock absorbers, Bluetooth, auxiliary audio input for the sound system, extra lighting system and extra AC unit to run off the MMS power sub-system. Enough space for 1 driver and 3 passengers.		
40213	Power subsystem.	Power subsystem, including: <ul style="list-style-type: none"> ▪ specific battery isolated from main vehicle battery ▪ Power inverter (2000 W) system, true sine wave output power integrated with a built-in multistage battery charger and built-in transfer switch allowing auto-transfer between inverter power and incoming AC power Interconnection and switchboard controls for the following options: normal / offshore power / battery power / engine on/off operation / engine-off air conditioning and silent operation.		
40214	Auxiliary portable generator.			
40215	Racks, cabling and accessories as required.			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40216	GPS Unit			
40217	Spares, station- specific (additional to core-component spares, if applicable)			
40218	Tools and instruments, station (additional, if applicable)			
40219	Station installation work	Includes and not limited to: 8- Installation of racks 9- Installation of Power Sub-System 10- Mounting the antennas on the vehicle 11- Mounting the equipment 12- Mounting the communication hardware 13- Mounting the laptop on a swivel beside the driver Interconnecting all equipment and systems.		
40220	Vehicle type fire extinguisher			
40221	Emergency kit including first aid kit			
40222	Multi-channel frequency programmable handheld.	Multi-channel frequency programmable handheld transceiver (5 Watt), UHF analog or digital encryption, LCD display, with extra battery, external AC charger for battery(s), hands free capability and headset.		
40223	Handheld power meter.	Frequency Range (20 MHz – 8000 MHz)		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
40224	Handheld spectrum analyzer HF/VHF/UHF/SHF.	Handheld spectrum analyzer (9 kHz – 8000 MHz) equipped with real time spectrum analysis technology and GPS where possible. Analyzer must be battery powered with carrying case, data storage card, extra batteries and external battery charger. One (1) set of (9 kHz – 8000 MHz) handheld Omni and directional antennas (with compass) and carrying cases.		
40225	Partial Provisional Acceptance.	Provisional Acceptance of the Station. The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
40226	Tripod.	Tripod with head allowing 90 deg. adjustment, to change polarization – lightweight design		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant Y/N
	50100 Spectrum Portable/ Transportable Monitoring Station (TMS)			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
50101	Direction Finding (DF) Processor/Receiver(s), VHF/UHF	Frequency Range 20 MHz – 3000 MHz		
50102	DF antennas for VHF and UHF, including RF lines and Switches, Vertical Polarization with adapters to mount the antenna on the tripod	Frequency Range 20 MHz – 3000 MHz		
50103	DF antennas for VHF and UHF, including RF lines and Switches, Horizontal Polarization with adapters to mount the antenna on the tripod (Optional).	Frequency Range 20 MHz – 3000 MHz		
50104	Receive antennas for VHF/UHF/SHF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.	Frequency Range 20 MHz – 8000 MHz		
50105	Receive antennas for HF, including RF lines and Switches, Vertical Polarization, Passive, OMNI. With adapters to mount the antenna on the tripod.	Frequency Range 9 kHz – 20 MHz		
50107	Tripod	Lightweight design with adapters to the supplied antennas (Monitoring and DF)		
50108	Monitoring Receiver / Analyzer HF/VHF/UHF/SHF (can be shared with the DF receiver)	Frequency Range 9 kHz – 8000 MHz		
50109	GPS based precision frequency reference.	10 MHz		
50110	Audio Network.	2 channels of audio listening/recording at the same time		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
50111	Heavy Duty Notebook (laptop)	Heavy Duty Notebook (laptop) mounted on a Laptop swivel mount beside the driver, portable printer and vehicle LAN. Computer System and software components, including any necessary data-storage components. Computer with processing and storage capabilities, user interfaces and local display screens (virtual or real). Local software modules for the operating system, the IP communications protocols, the GIS software and other modules, as needed. Application software components for Spectrum Monitoring.		

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
50112	Communications Network components.	Communications Network components, including the IP communications protocols and the interfaces for IP-based data networks, as required by the bidders design and hardware typically including; <ul style="list-style-type: none"> • LAN • GSM/GPRS subscriber unit, including antenna, supports, power supply, and interfaces for data signals and control • VoIP encoder interfacing the audio network with the LAN • Router for GPRS and analogue GSM access Software for controlling, from the computer or the laptop, the flow of information related to the audio network, the LAN monitoring data, the local loudspeakers, the local peripherals and the GSM network		
50113	Power subsystem.	Power subsystem, including battery, UPS/inverter for at least 5 hours of operation.		
50114	Auxiliary portable generator.			
50115	Racks, cabling and accessories as required.			
50116	GPS Unit			
50117	Spares, station- specific (additional to core-component spares, if applicable)			

Component	Description of Service	Additional Specifications	Bidder's Offer	Compliant
50118	Tools and instruments, station (additional, if applicable)			
50120	Station installation work			
50121	Partial Provisional Acceptance.	Acceptance Tests for Partial Provisional Acceptance of the Station. The supplier should provide a report following this test to the Purchaser indicating the results of the test and providing a detailed list of hardware installed at the site with the Serial Numbers of each equipment/antenna/device/etc.		
50122	Short RF and Control cables for all monitoring and DF antennas.	3 meters		
50123	Long RF and Control cables for all monitoring and DF antennas.	10 meters		

4. Inspections and Tests

The following inspections and tests shall be performed as per the Supplier test and inspection procedures supplied in the Related Services Schedule:

- System Integration Tests
- Partial Provisional Acceptance, and Startup
- Factory Acceptance Test
- Final acceptance Tests

4.1 System Integration Tests

System Integration Tests should include and not limited to:

- 1- Connection to the remote sites from MCC and controlling the equipment on each site
- 2- Retrieve Radio Frequency (RF) spectrum traces
- 3- Direction finding and triangulation over digital maps using Fixed, mobile and transportable sites at the same time
- 4- Remote Audio listening
- 5- Antenna switching capabilities
- 6- Remotely setting the parameters of remote equipment, such as: frequency, modulation, filters, integration time, bandwidth, etc.
- 7- Schedule un-attended measurements such as frequency, level, Occupancy, Bandwidth, etc. and retrieve the measurements at MCC, analyze and store the results on the measurement server.
- 8- Search measurements on the server and generate reports

4.2 Partial Provisional Acceptance, and Startup

The Partial Provisional Acceptance and Startup test should be performed for each station (FMS, MMS, TMS) as per Supplier's procedures, the test should include and limited to:

- 1- Connection to the local site using the supplied spare laptop and controlling all the equipment of the site
- 2- Retrieve Radio Frequency (RF) spectrum traces
- 3- Direction finding, single Line Of Bearings over digital maps
- 4- Remote Audio listening
- 5- Antenna switching capabilities

- 6- Remotely setting the parameters of remote equipment, such as: frequency, modulation, filters, integration time, bandwidth, etc.
- 7- Schedule un-attended measurements such as frequency, level, Occupancy, Bandwidth, etc. and retrieve the measurements.
- 8- Test the UPS units

4.3 Factory Acceptance Test

Factory Acceptance Test should be provided at the Manufacturer or Supplier's country and according to the Supplier's procedures to demonstrate that the proposed equipment meet or exceed the Client's specifications. The test should include and not be limited to:

- 1- Local Control of similar equipment to the ones proposed by the Supplier, such as the Receivers/analyzer and Direction Finding Equipment.
- 2- Demonstration on the Spectrum Monitoring Software to be supplied under this contract including the remote control of the spectrum monitoring equipment and showing Direction Finding Information over digital maps.
- 3- Demonstrating the Supplied software has an interface to the ITU SMS4DC application.

5.4 Final acceptance Tests

The Final Acceptance Test should be done according to the Supplier's provided procedures, after all the stations are installed and the Provisional Acceptance Test has been done. The Final Acceptance Test should include and not limited to:

- 1- Functional Tests for each FMS, MMS and TMS similar the Provisional Acceptance Test
- 2- System Integration Tests, to test the whole system from MCC
- 3- Test the Server's UPS unit
- 4- Test the Backup System
- 5- Test the Workstations' UPS system
- 6- Test all supplied communications systems including the VPN link
- 7- Test the Audio Networks between the Remote Sites and the MCC

PART 3 - Contract

Section VIII. General Conditions of Contract

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Section VIII. General Conditions of Contract

1. Definitions

- 1.1 The following words and expressions shall have the meanings hereby assigned to them:
- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
 - (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
 - (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
 - (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
 - (e) “Day” means calendar day.
 - (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
 - (g) “GCC” means the General Conditions of Contract.
 - (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
 - (i) “Purchaser’s Country” is the country specified in the Special Conditions of Contract (SCC).
 - (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the SCC.
 - (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
 - (l) “SCC” means the Special Conditions of Contract.

- (m) “Sub-Supplier” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
 - (n) “Supplier” means the person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (o) “The Project Site,” where applicable, means the place named in the SCC.
- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Corrupt and Fraudulent Practices**
- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
 - (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the SCC and published by the International Chamber of Commerce in Paris, France.
- 4.3 Entire Agreement
- The Contract constitutes the entire agreement between the

Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.5 Non waiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

- 6. Joint Venture, Consortium or Association** 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility** 7.1 The Supplier and its Sub-Suppliers shall have the nationality of an eligible country. A Supplier or Sub-Supplier shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 8. Notices** 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law** 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise specified in the SCC.
- 9.2 Throughout the execution of the Contract, the Supplier shall comply with the import of goods and services prohibitions in the Purchaser’s country when
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
- 9.2 (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
- 10 Settlement of** 10.1 The Purchaser and the Supplier shall make every effort to

Disputes

resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.

10.3 Notwithstanding any reference to arbitration herein,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

(b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Bank

11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Sub-Suppliers to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.

11.2 The Supplier shall permit, and shall cause its Sub-Suppliers to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Sub-Suppliers and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)

- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15 Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment** 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitrage award.
- 17. Taxes and Duties** 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the

Purchaser's Country.

- 17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

- 18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.
- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.

19. Copyright

- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

20. Confidential Information

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such

information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Sub-Supplier such documents, data, and other information it receives from the Purchaser to the extent required for the Sub-Supplier to perform its work under the Contract, in which event the Supplier shall obtain from such Sub-Supplier an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

- 20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.
- 20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:
- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
 - (b) now or hereafter enters the public domain through no fault of that party;
 - (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
 - (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.
- 20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

- 21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.
- 21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards**22.1 Technical Specifications and Drawings**

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the SCC, and in any other instructions ordered by the Purchaser.

24. Insurance

24.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the

applicable Incoterms or in the manner specified in the **SCC**.

25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC**:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Sub-Supplier, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Sub-Supplier, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own

costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.

26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed

Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those SCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the SCC, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the SCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the SCC, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

29. Patent Indemnity

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser

may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Sub-Suppliers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing,

specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

30 Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser

in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**33. Change Orders
and Contract
Amendments**

33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**34. Extensions of
Time**

34.1 If at any time during performance of the Contract, the Supplier or its sub-Suppliers should encounter conditions impeding timely delivery of the Goods or completion of Related Services

pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
 - (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes

bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

36. Assignment

36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

37. Export Restriction

37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the

Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

APPENDIX TO GENERAL CONDITIONS Bank's Policy- Corrupt and Fraudulent Practices

(text in this Appendix shall not be modified)

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

“Fraud and Corruption:

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), Bidders, suppliers, Suppliers and their agents (whether declared or not), sub-Suppliers, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.⁹ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹⁰
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹¹
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹²

⁹ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁰ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹¹ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

¹² For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹³
- (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-Suppliers, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank’s sanctions procedures,¹⁴ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁵;

¹³ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

¹⁴ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank’s sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁵ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring Bidders, suppliers and Suppliers, and their sub-Suppliers, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

Bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the Bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section IX. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1.1(i)	The Purchaser's country is: The Republic of the Union of Myanmar
GCC 1.1(j)	The Purchaser is: Posts and Telecommunications Department (PTD), Ministry of Communications and Information Technology (MCIT)
GCC 1.1 (o)	<p>The Project Site(s)/Final Destination(s) is/are: final destination (Project Site) specified in the BDS.</p> <p>Final Destination shall be the respective sites where the equipment will be installed. The place of destination for the MMS's, the PMS, the vehicles, the spares, the tools and test equipment and will be Naypyitaw PTD headquarters.</p> <p>The final destination for the FMS Type I and Type II for Yangon and Mandalay is the respective sites where the equipment will be installed</p> <p>Choosing the locations for the fixed sites in Yangon and Mandalay shall be part of the deliverables of the successful supplier, the Purchaser shall assist the supplier in the site selection process.</p>
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms. DDP to final destination
GCC 4.2 (b)	The version edition of Incoterms shall be <i>2010</i>
GCC 5.1	The language shall be: <i>English</i>

GCC 8.1	<p>For <u>notices</u>, the Purchaser's address shall be:</p> <p>Attention: Project Director Posts and Telecommunications Department, Ministry of Communication and Information Technology Office Building No. 2 City: Naypyitaw Zip Code: 15011 Country: The Republic of the Union of Myanmar Telephone (Fixed): +95 67 407 435 Telephone (Mobile): +95 9 45 000 0082 Facsimile number: +95 67 407 216, +95 67 407 539 Electronic mail address: tsrproject2014@gmail.com thanhtunaung@ptdmyanmar.com</p>
GCC 9.1	<p>The governing law shall be the law of: The Republic of the Union of Myanmar</p>
GCC 10.2	<p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p>(a) Contract with foreign Supplier:</p> <p>GCC 10.2 (a)—Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p>(b) Contracts with Supplier national of the Purchaser's country:</p> <p>In the case of a dispute between the Purchaser and a Supplier who is a national of the Purchaser's country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser's country.</p>
GCC 13.1	<p>Details of Shipping and other Documents to be furnished by the Supplier are :</p> <p>Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by fax or e-mail the full details of the shipment, including contract name, description of goods, quantity, the vessel, bill of lading number and date, port of loading, date of shipment, port of discharge for transportation from abroad and for inland transportation. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:</p>

	<p>(i) copies of the Supplier’s invoice showing the description of the goods, the quantities, and the total amount; in agreement with the Price Schedules.</p> <p>(ii) original and <u>two</u> copies of the negotiable, clean, on-board bill of lading marked “freight prepaid” and <u>one copy</u> of the nonnegotiable bill of lading;</p> <p>(iii) copies of the packing list identifying contents of each package;</p> <p>(iv) insurance certificate;</p> <p>(v) Manufacturer’s or Supplier’s warranty certificate;</p> <p>(vi) inspection certificate, issued by the nominated inspection agency if applicable, and the Supplier’s factory inspection and test report; and</p> <p>(vii) certificate of origin.</p> <p>The above documents shall be received by the Purchaser at least two weeks before arrival of the Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>Note: the Supplier is wholly responsible for the delivery of the goods to their final destinations at each site and of its subsequent handling until delivery of the installed and tested system takes place. Therefore, the above documentary requirements shall not be construed as any relief of such Supplier’s responsibilities.</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p><u>For Goods offered from within the Purchaser’s country</u> The same requirements as for goods from abroad, with the proviso that the shipping documents shall be the appropriate for the transportation of the goods to the sites internally within the country, and that there will be no need for any custom clearance procedures.</p>
GCC 15.1	The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.
GCC 16.1	<p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment for Goods supplied from abroad:</p> <p>Payment of foreign currency portion shall be made in the proportions of the currencies of the contract in the following manner:</p> <p style="text-align: center;">Payment will be made through Direct Payment to the</p>

Suppliers account.

- (i) Advance Payment: Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract, and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form acceptable to the Purchaser.
- (ii) On Shipment: Fifty percent (50%) of the DDP amounts of each Component of the equipment shipped on submission of claim for payment and supporting documents as described in GCC13.1 above
- (iii) Thirty percent (30%) upon completion of installation. Installation completion shall be certified by the Purchaser Project Director or authorized competent person
- (iv) On Final Acceptance: Ten (10) percent of the Contract Price of Goods received shall be paid within forty five (45) days of receipt of the Goods upon submission of claim supported by the acceptance certificate issued by the Purchaser.

Payment of local costs incurred in the purchaser's country will be made in Myanmar Kyats at prevailing selling rate as provided by the Central Bank of Myanmar within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.

Payment for Goods and Services supplied from within the Purchaser's country:

Payment for Goods and Services supplied from within the Purchaser's country shall be made in USD or equivalent local currency, as follows:

- (i) Advance Payment: Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract against a simple receipt and a bank guarantee for the equivalent amount and in the form provided in the bidding documents or another form acceptable to the Purchaser.
- (ii) On Delivery: Fifty (50) percent of the Contract Price shall be paid within forty five (45) days of receipt of the Goods upon

	<p>submission of claim supported by the acceptance certificate issued by the Purchaser.</p> <p>(iii) Thirty percent (30%) upon completion of the installation.. Installation completion shall be certified by the Purchaser Project Director or authorized competent person</p> <p>(iv) On Acceptance: The remaining ten (10) percent of the Contract Price shall be paid to the Supplier within forty-five (45) days after the date of the acceptance certificate for the respective delivery issued by the Purchaser.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be sixty (60) days upon submission of documents specified in GCC Clause 12.</p> <p>The interest rate that shall be applied is 0.25% per month of unpaid portion of the invoice value.</p>
GCC 18.1	<p>A Performance Security <i>shall be required</i></p> <p>Ten (10%) percent of the Contract Price</p>
GCC 18.3	<p>the Performance Security shall be in the form of: <i>a Demand Guarantee</i></p>
GCC 18.4	<p>Discharge of the Performance Security shall take place: <i>forty-five (45) days after the Final Acceptance Test</i> supported by the acceptance certificate issued by the Purchaser.</p>
GCC 23.2	<p>The packing, marking and documentation within and outside the packages shall be:</p> <ul style="list-style-type: none"> • Documents listed in GCC 13.1 • Airway Bill (Original and two copies) • Certificate of Origin(Original and two copies) • Insurance Certificate (Original and two copies) • Packing List (Original and two copies) • Commercial Invoice (Original and two copies) • Manufacturer’s Warranty Certificate (Original and two copies)
GCC 24.1	<p>The insurance coverage shall be as specified in the Incoterms, include marine and local insurance.</p>
GCC 25.1	<p>Responsibility for transportation of the Goods shall be as specified in the</p>

	Incoterms.
GCC 25.2	<p>Incidental services to be provided are:</p> <p>Incidentals to be provided under this contract are defined in the BDS, including:</p> <ol style="list-style-type: none"> 1- Factory Acceptance Test 2- Factory Training 3- Site Training 4- Installation and integration of supplied components and items 5- Final Acceptance Test 6- Warranty and service 7- Fixed Sites Selection in Yangon and Mandalay 8- Documentations and Manuals 9- Licensing of the equipment 10- Custom clearance, loading and unloading of equipment
GCC 26.1	<p>the Contractor shall prepare, or cause its Sub-contractor to prepare, in accordance with the Schedule of Requirements Section 4 , and present to the Project Manager the following test procedures:</p> <ul style="list-style-type: none"> • System Integration Tests • Partial Provisional Acceptance, and Startup • Factory Acceptance Test • Final acceptance Tests
GCC 26.2	<p>The Inspections and tests shall be conducted at:</p> <ol style="list-style-type: none"> 1- Naypyitaw for the MCC, MMS, TMS and remote control of FMS 2- In Yangon and Mandalay for the tests related to the FMS in each location
GCC 26.3	<p>The Supplier shall bear the traveling, board and lodging expenses incurred in connection with the attendance of the Purchaser or its designated representatives at the Factory acceptance test.</p>
GCC 27.1	<p>The liquidated damage shall be: 0.2 per cent of the contract per week</p> <p>Maximum deduction for liquidated damages:10% of the Contract Price</p> <p>The above rate and maximum apply to the price of the part of the Facilities, as quoted in the Price Schedule, for that part for which the Supplier fails to achieve Provisional Acceptance within the particular Time for Completion.</p>
GCC 27.1	<p>The maximum amount of liquidated damages shall be: 10%</p>
GCC 28.3	<p>The period of validity of the Warranty shall be: 18 months after final acceptance of the whole system.</p>

	<p>During the warranty period, the Supplier must take appropriate actions to provide the necessary technical support to rectify any potential problem within 48 hours of the request. If the issue is not resolved within 48 hours, the supplier shall expedite technical personnel to the site, to provide onsite support and problem resolution.</p> <p>The warranty shall cover, on top of the Supplier standard warranty, the following items:</p> <ol style="list-style-type: none"> 1- The removal of defected component or item 2- The shipping of the defected component or item DDP to the repair center defined by the Supplier 3- The repair/calibration of the defected component or item 4- The shipping of the repaired component or item DDP to the same location where it was operating 5- The installation/mounting/integration of the repaired component or item 6- The testing of the repaired component or item <p>GCC 28.3—In partial modification of the provisions, the warranty period shall be 18 months from date of acceptance of the Goods. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:</p> <ol style="list-style-type: none"> (a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4, <p style="text-align: center;">or</p> <ol style="list-style-type: none"> (b) pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be 10% of the price of the part of the Facilities, as quoted in the Price Schedule, for that part for which the Supplier fails to achieve Provisional Acceptance within the particular Time for Completion.
GCC 28.5	The period for repair or replacement shall be: <i>60</i> days.

Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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Letter of Acceptance

[Letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the
.*[insert name of the contract and identification number, as given in the SCC]*. .
. for the Accepted Contract Amount of*[insert amount in numbers
and words and name of currency]*, as corrected and modified in accordance with the
Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance
with the Conditions of Contract, using for that purpose the of the Performance Security
Form included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: _____
Name and Title of Signatory: _____
Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

the *[insert: **number**]* day of *[insert: **month**], [insert: **year**]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser }]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”), of the other part :

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) the Letter of Bid
 - (c) the Addenda Nos. _____ (if any)
 - (d) Special Conditions of Contract
 - (e) General Conditions of Contract
 - (f) the Specification (including Schedule of Requirements and Technical Specifications)

- (g) the completed Schedules (including Price Schedules)
- (h) any other document listed in GCC as forming part of the Contract

APPENDICES

Appendix 1 - Time Schedule

Appendix 2 - List of Documents for Approval or Review

Appendix 3 – List Of Quantities

3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

Performance Security

Option 1: (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods and related Services]*(hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

² *Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate*

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Advance Payment Security

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* () *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods;
or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Appendix 1. Time Schedule

In preparing this Program, the Bidder shall adhere to the Time(s) for Achievement given in the Table of Milestones and Deliveries of the current Appendix 1 or give its reasons for not adhering thereto.

The Table sets the main project events in a chronological sequence. Shipment and delivery of the Equipment, Provisional Acceptance and Final Acceptance must follow the time requirements established in the column(s) to the right. The time limits, Relative to the Effective Date of the Contract (REDC) are to be interpreted as firm. The dates related to shipment are normally declared in the Shipping Documents. However, other delivery dates are related to site deliveries (i.e., a subsystem that has successfully undergone the Acceptance and Startup Program, a set of Technical Reports and Documents delivered physically or electronically to the Buyer's offices, etc.)

Within the constraints set in the Table of Milestones and Deliveries, the Bidder shall include in its bid a detailed program, normally in the form of a bar chart, showing how and the order in which it intends to perform the Contract, showing how its own delivery plan meets the requirements of this Appendix and showing the key events requiring action or decision by the Employer. The Bidder shall bear in mind that the timing precedence rules set out here below impose conditions on the achievement of the deliveries (e.g., the Design Review Meeting and the Factory Acceptance Tests must have been completed for the Purchaser to recognize any equipment or software shipments).

TABLE OF MILESTONES AND DELIVERIES

Milestone/Delivery	Times for achievement, REDC
Design Review Meeting	$t_0 < 1 \text{ month}, t_0 < t_1$
Factory Training Factory Acceptance Tests Test Plan Test Procedure	$t_1 < t_2$ $t_1 < t_2$ $t_1 - 2 \text{ weeks}$ $t_1 - 1 \text{ week}$
Shipment of the Equipment	$t_2 < 6 \text{ months}, t_2 < t_3$
Installation <ul style="list-style-type: none"> • Management and Control Centre (MMC) • Fixed Monitoring Station • Mobile Monitoring Station 	$t_3 < 8 \text{ months}$
Installation check-up Check-up Plan Check-up Procedure	$t_3 < t_4$ $t_3 - 3 \text{ weeks}$ $t_3 - 1 \text{ week}$
Training and Manuals Manuals On-site training General Purpose, at other organizations	month 7 months 9 to 11
Initial Tests	$t_4 < 10 \text{ months}$
Start-up	$t_5 < t_6$
Provisional Acceptance Test Plan Test Procedure	$t_6 < 11 \text{ months}$ $t_6 - 3 \text{ weeks}$ $t_6 - 1 \text{ week}$
Final Acceptance Test Plan Test Procedure	$t_7 < 12 \text{ months}$ $t_7 - 3 \text{ weeks}$ $t_7 - 1 \text{ week}$
Warranty Period)	Months 13 to 24
Operation and Maintenance Support	Months 13 to 36

Appendix 2. List of Documents for Approval or Review

Pursuant to GCC 26.1, the Contractor shall prepare, or cause its Sub-contractor to prepare, in accordance with the Schedule of Requirements Section 4, and present to the Project Manager the following documents for:

A. Approval

1. Test Plans and procedures
2. Test results and protocols related to Factory Acceptance Tests, Provisional Acceptance Tests and Final acceptance Tests.

B. Review

1. Design Documents for the Design review Meeting
2. Project progress and status monthly reports.

Form of the Procedures for the Partial Provisional Acceptance Tests

Date: _____
 Loan/Credit N°: 5353-MM
 IFB N°: G1.3.1

Contract: Telecommunications Sector Reform Project

Site Information	
Station Type	<i>[Insert FMS Type I, or FMS Type II, MMS Type A, etc.]</i>
City	<i>[Insert the city where the site is located]</i>
Latitude (DDMMSS)	<i>[Insert the coordinates of the site if applicable]</i>
Longitude (DDDMMSS)	<i>[Insert the coordinates of the site if applicable]</i>

The following table “Equipment Information Installed at the site” should be provided for each site.

Equipment Information Installed at the site			
ID (reference to schedule)	Part Number	Description	Serial Number

For each step of the provisional or final acceptance tests, the following table and signatures should be provided.

Procedure Step Information	
Title	
Components targeted	<i>[List of equipment to be tested]</i>
Description/Settings	<i>[Settings of the instruments involved in this step]</i>
Expected Results	
Results (Pass/Fail)	

 For and on behalf of the Purchaser

 For and on behalf of the Purchaser

 Date (DD-MM-YYYY)

Form of the Procedures for the Final Acceptance Tests

Date: _____
 Loan/Credit N^o: 5353-MM
 IFB N^o: G1.3.1

Contract: Telecommunications Sector Reform Project

Site Information	
Station Type	<i>[Insert FMS Type I, or FMS Type II, MMS Type A, etc.]</i>
City	<i>[Insert the city where the site is located]</i>
Latitude (DDMMSS)	<i>[Insert the coordinates of the site if applicable]</i>
Longitude (DDMMSS)	<i>[Insert the coordinates of the site if applicable]</i>

For each step of the provisional or final acceptance tests, the following table and signatures should be provided.

Procedure Step Information	
Title	
Components targeted	<i>[List of equipment to be tested]</i>
Description/Settings	<i>[Settings of the instruments involved in this step]</i>
Expected Results	
Results (Pass/Fail)	

 For and on behalf of the Purchaser

 For and on behalf of the Purchaser

 Date (DD-MM-YYYY)

Form of the Procedures for the System Integration Tests

Date: _____
 Loan/Credit N^o: 5353-MM
 IFB N^o: G1.3.1

Contract: Telecommunications Sector Reform Project

For each step of the System Integration Tests, the following table and signatures should be provided.

Procedure Step Information	
Title	
Components targeted	<i>[List of equipment to be tested]</i>
Description/Settings	<i>[Settings of the instruments involved in this step]</i>
Expected Results	
Results (Pass/Fail)	

 For and on behalf of the Purchaser

 For and on behalf of the Purchaser

 Date (DD-MM-YYYY)

Form of Provisional or Final Acceptance Certificate

Date: _____
Loan/Credit N^o: 5353-MM
IFB N^o: G1.3.1

Contract: Telecommunications Sector Reform Project

To *[Name and address of Contractor]*

Dear Officers of the Contractor,

Pursuant to SCC Sub-Clause 26.1 (Provisional or Final Acceptance) of the Special Conditions of the Contract entered into between yourselves and the Employer dated *[date]*, for the design, execution and acceptance of the **Telecommunications Sector Reform Project** and of the associated training, support and warranty services that the Contractor will deliver to the Employer by virtue of the Contract:

We hereby notify you that the Acceptance Tests established by the Technical Specifications in Section VII of the Contract in respect of the Components or Items of the Contract Price Schedules described below were satisfactorily attained on the date specified below.

1. Description of the Component and Items: *[description]*
2. Date of Provisional or Final Acceptance: *[date]*

This letter does not relieve you of your obligation to complete the execution of the Facilities and Services in accordance with the Contract nor of your obligations during the Warranty Period.

Very truly yours,

(Employer's Name)

(Signature)

(Name of signatory)

(Title of signatory)

Change Order Procedures

Date: _____
Loan/Credit N^o: 5353-MM
IFB N^o: G1.3.1

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1. General
2. Change Order Log
3. References for Changes

ANNEXES

- Annex 4 Request for Change Proposal
- Annex 5 Estimate for Change Proposal
- Annex 6 Acceptance of Estimate
- Annex 7 Change Proposal
- Annex 8 Change Order
- Annex 9 Pending Agreement Change Order
- Annex 10 Application for Change Proposal

Change Order Procedure

1. General

This section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with GCC Clause 33 (Change Orders and Contract Amendments) of the General Conditions of Contract.

2. Change Order Log

The Contractor shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Changes authorized or pending, as Annex 11. Entries of the Changes in the Change Order Log shall be made to ensure that the log is up-to-date. The Contractor shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Employer.

3. References for Changes

- (1) Request for Change as referred to in GCC Clause 33 shall be serially numbered CR-X-*nnn*.
- (2) Estimate for Change Proposal as referred to in GCC Clause 33 shall be serially numbered CN-X-*nnn*.
- (3) Acceptance of Estimate as referred to in GCC Clause 33 shall be serially numbered CA-X-*nnn*.
- (4) Change Proposal as referred to in GCC Clause 33 shall be serially numbered CP-X-*nnn*.
- (5) Change Order as referred to in GCC Clause 33 shall be serially numbered CO-X-*nnn*.

Note: (a) Requests for Change issued from the Employer's Home Office and the Site representatives of the Employer shall have the following respective references:

Home Office	CR-H- <i>nnn</i>
Site	CR-S- <i>nnn</i>

- (b) The above number "*nnn*" is the same for Request for Change, Estimate for Change Proposal, Acceptance of Estimate, Change Proposal and Change Order.

Annex 4. Request for Change Proposal

(Employer's Letterhead)

To: *[Contractor's name and address]*

Date: _____

Attention: *[Name and title]*

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Officers of the Contractor

With reference to the captioned Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within *[number]* days of the date of this letter.

1. Title of Change: *[Title]*
2. Change Request No./Rev.: *[Number]*
3. Originator of Change: Employer: *[Name]*
Contractor (by Application for Change Proposal No. *[Number]*)
4. Brief Description of Change: *[Description]*
5. Facilities and/or Component or Item No. of equipment or service related to the requested Change: *[Description]*
6. Reference drawings and/or technical documents for the request of Change:

<u>Drawing No./Document No.</u>	<u>Description</u>
7. Detailed conditions or special requirements on the requested Change: *[Description]*
8. General Terms and Conditions:
 - (a) Please submit your estimate to us showing what effect the requested Change will have on the Contract Price.
 - (b) Your estimate shall include your claim for the additional time, if any, for completion of the requested Change.

- (c) If you have any opinion negative to the adoption of the requested Change in connection with the conformability to the other provisions of the Contract or the safety of the Plant or Facilities, please inform us of your opinion in your proposal of revised provisions.
- (d) Any increase or decrease in the work of the Contractor relating to the services of its personnel shall be calculated.
- (e) You shall not proceed with the execution of the work for the requested Change until we have accepted and confirmed the amount and nature in writing.

(Employer's Name)

(Signature)

(Name of signatory)

(Title of signatory)

Annex 5. Estimate for Change Proposal

(Contractor's Letterhead)

To:

Office of the Project Director
 Posts and Telecommunications Department
 Office Building No. 2, Naypyitaw, Zip Code: 15011
 The Republic of the Union of Myanmar

Attention: *[Name and title]*

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Ladies and/or Gentlemen:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost of preparing the below-referenced Change Proposal in accordance with GCC Clause 33 of the General Conditions of Contract. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Clause 33, is required before estimating the cost for change work.

1. Title of Change: *[Title]*
2. Change Request No./Rev.: *[Number]*
3. Brief Description of Change: *[Description]*
4. Scheduled Impact of Change: *[Description]*
5. Cost for Preparation of Change Proposal, in the Currency of the Contract: *[Cost]*

(a) Engineering		(Amount)
(i) Engineer	_____ hrs x _____ rate/hr =	_____
(ii) Draftsperson	_____ hrs x _____ rate/hr =	_____
Sub-total	_____ hrs	_____
Total Engineering Cost		_____
(b) Other Cost		_____
Total Cost (a) + (b)		_____

 (Contractor's Name)

 (Signature)

 (Name of signatory)

 (Title of signatory)

Annex 6. Acceptance of Estimate

(Employer's Letterhead)

To: *[Contractor's name and address]*

Date: _____

Attention: *[Name and title]*

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Officers of the Contractor

We hereby accept your Estimate for Change Proposal and agree that you should proceed with the preparation of the Change Proposal.

1. Title of Change: *[Title]*
2. Change Request No./Rev.: *[Request number/revision]*
3. Estimate for Change Proposal No./Rev.: *[Proposal number/revision]*
4. Acceptance of Estimate No./Rev.: *[Estimate number/revision]*
5. Brief Description of Change: *[Description]*
6. Other Terms and Conditions: In the event that we decide not to order the Change accepted, you shall be entitled to compensation for the cost of preparation of Change Proposal described in your Estimate for Change Proposal mentioned in para. 3 above in accordance with GCC Clause 33 of the General Conditions of Contract.

(Employer's Name)

(Signature)

(Name and Title of signatory)

Annex 7. Change Proposal

(Contractor's Letterhead)

To:

Office of the Project Director
 Posts and Telecommunications Department
 Office Building No. 2, Naypyitaw, Zip Code: 15011
 The Republic of the Union of Myanmar

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Ladies and/or Gentlemen:

In response to your Request for Change Proposal No. *[Number]*, we hereby submit our proposal as follows:

1. Title of Change: *[Name]*
2. Change Proposal No./Rev.: *[Proposal number/revision]*
3. Originator of Change: Employer: *[Name]*
 Contractor: *[Name]*
4. Brief Description of Change: *[Description]*
5. Reasons for Change: *[Reason]*
6. Facilities and/or Item No. of Equipment related to the requested Change: *[Facilities]*
7. Reference drawings and/or technical documents for the requested Change:

<u>Drawing/Document No.</u>	<u>Description</u>
-----------------------------	--------------------

8. Estimate of increase/decrease to the Contract Price resulting from Change Proposal:

(Amount)

- | | |
|--|-------|
| (a) Direct material | _____ |
| (b) Major construction equipment | _____ |
| (c) Direct field labor (Total _____ hrs) | _____ |
| (d) Subcontracts | _____ |

(e) Indirect material and labor _____

(f) Site supervision _____

(g) Head office technical staff salaries

Process engineer	_____ hrs @ _____ rate/hr	_____
Project engineer	_____ hrs @ _____ rate/hr	_____
Equipment engineer	_____ hrs @ _____ rate/hr	_____
Procurement	_____ hrs @ _____ rate/hr	_____
Draftsperson	_____ hrs @ _____ rate/hr	_____
Total	_____ hrs	_____

(h) Extraordinary costs (computer, travel, etc.) _____

(i) Fee for general administration, _____ % of Items _____

(j) Taxes and customs duties _____

Total lump sum cost of Change Proposal _____
[Sum of items (a) to (j)]

Cost to prepare Estimate for Change Proposal _____
[Amount payable if Change is not accepted]

9. Additional time for Completion required due to Change Proposal

10. Effect on the Provisional or Final Acceptance tests and instances

11. Effect on the other terms and conditions of the Contract

12. Validity of this Proposal: within *[Number]* days after receipt of this Proposal by the Employer

13. Other terms and conditions of this Change Proposal:

(a) You are requested to notify us of your acceptance, comments or rejection of this detailed Change Proposal within *[Number]* days from your receipt of this Proposal.

(b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.

(c) Contractor's cost for preparation of this Change Proposal:²

² Specify where necessary.

(Note) *This cost shall be reimbursed by the Employer in case of Employer's withdrawal or rejection of this Change Proposal without default of the Contractor in accordance with GCC Clause 33 of the General Conditions of Contract.*

(Contractor's Name)

(Signature)

(Name of signatory)

(Title of signatory)

Annex 8. Change Order

(Employer's Letterhead)

To: *[Contractor's name and address]*

Date: _____

Attention: *[Name and title]*

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Officers of the Contractor

We approve the Change Order for the work specified in the Change Proposal (No. *[Number]*), and agree to adjust the Contract Price, Time for Completion and/or other conditions of the Contract in accordance with GCC Clause 33 of the General Conditions of Contract.

1. Title of Change: *[Name]*
2. Change Request No./Rev.: *[Request number/revision]*
3. Change Order No./Rev.: *[Order number/revision]*
4. Originator of Change: Employer: *[Name]*
Contractor: *[Name]*

5. Authorized Price:

Ref. No.: *[Number]*

Date: *[Date]*

Foreign currency portion *[Amount]* plus Local currency portion *[Amount]*

6. Adjustment of Time for Completion

None

Increase *[Number]* days

Decrease *[Number]* days

7. Other effects, if any

Authorized by: _____
(Employer)

Date: _____

Accepted by: _____
(Contractor)

Date: _____

Annex 9. Pending Agreement Change Order

(Employer's Letterhead)

To: *[Contractor's name and address]*
 Attention: *[Name and title]*

Date: _____

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Officers of the Contractor

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 33 of the General Conditions of Contract.

1. Title of Change: *[Name]*
2. Employer's Request for Change Proposal No./Rev.: *[Number/revision]* dated: *[Date]*
3. Contractor's Change Proposal No./Rev.: *[Number/revision]* dated: *[Date]*
4. Brief Description of Change: *[Description]*
5. Facilities and/or Item No. of equipment related to the requested Change: *[Facilities]*
6. Reference Drawings and/or technical documents for the requested Change:

<u>Drawing/Document No.</u>	<u>Description</u>
7. Adjustment of Time for Provisional Acceptance or Final Acceptance:
8. Other change in the Contract terms:
9. Other terms and conditions:

 (Employer's Name)

 (Signature)

 (Name of signatory)

 (Title of signatory)

Annex 10. Application for Change Proposal

(Contractor's Letterhead)

To:

Office of the Project Director
 Posts and Telecommunications Department
 Office Building No. 2, Naypyitaw, Zip Code: 15011
 The Republic of the Union of Myanmar

Contract: Telecommunications Sector Reform Project

Contract Number: *[Contract number]*

Dear Ladies and/or Gentlemen:

We hereby propose that the below-mentioned work be treated as a Change in the Facilities.

1. Title of Change: *[Name]*
2. Application for Change Proposal No./Rev.: *[Number/revision]* dated: *[Date]*
3. Brief Description of Change: *[Description]*
4. Reasons for Change:
5. Order of Magnitude Estimation (in the currencies of the Contract):
6. Scheduled Impact of Change:
7. Effect on Functional Guarantees, if any:
8. Appendix:

(Contractor's Name)

(Signature)

(Name of signatory)

(Title of signatory)

