

**REPUBLIC OF MALDIVES
MINISTRY OF ENVIRONMENT AND ENERGY
MALDIVES METEOROLOGICAL SERVICES**

BIDDING DOCUMENTS

**Supply and Installation of Specialized Equipment
And Related Services**

Enhancing weather and climate monitoring and data management capacity of MMS (Maldives Meteorological Service) for reducing vulnerabilities of climate change in the Maldives

**Project: Supply and Installation of 25
Automatic Weather Stations**

July 2017

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ACRONYMS

ARS	Automatic Weather Station
AWS	Automatic Weather Stations
AWOS	Automatic Weather Observation Stations
BDS	Bid Data Sheet
CIF	Cost, Insurance and Freight
CIP	Carriage and Insurance Paid to (<i>place</i>)
CPM	Critical Path Method
DCP	Data Collection Platform
EDI	Electronic Data Interchange
EMU	European Monetary Union
EXW	Ex factory, ex works or ex warehouse
FCA	Free Carrier
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
LAN	Local Area Network
LCD	Liquid Crystal Display
SBD	Standard Bidding Document
SCC	Special Conditions of Contract
TOR	Terms of Reference
TSD	Technical Specifications and Drawings
UNCITRAL	United Nations Commission on International Trade Law
WAN	Wide Area Network

SECTION I: INVITATION FOR BIDS

REPUBLIC OF MALDIVES MINISTRY OF ENVIRONMENT AND ENERGY MALDIVES METEOROLOGICAL SERVICE

Invitation for Bids:

Supply and Installation of Specialized Equipment and Related Services

Project: “Enhancing weather and climate monitoring and data management capacity of MMS (Maldives Meteorological Service) for reducing vulnerabilities of climate change in the Maldives”

1. The Government of Maldives, according to the Memorandum of Understanding on Climate Change between Italy and Maldives, has received a grant from the Italian Government, that will go towards the cost of the Project “Enhancing weather and climate monitoring and data management capacity of Maldives Meteorological Service (MMS) for reducing vulnerabilities of climate change in the Maldives” to the benefit of the Maldives Meteorological Service - Ministry of Environment and Energy.
2. Ministry of Environment and Energy intends to use this grant to pay the successful bidder under the contract for the supply and installation of all equipment and services required by the project.
3. The Maldives Meteorological Service (MMS), established under the Ministry of Environment and Energy of the Republic of Maldives, now invites eligible Italian Companies (registered to Italian Chamber of Commerce) or their associations (joint ventures or stable groups of companies or firms constituted pursuant to the Italian laws) to present sealed bids for the supply and installation of meteorological equipment and related services (80% minimum of which of Italian origin), as described in the present Bidding Document.

4. Bids must be delivered to the above address at or before **13th August 2017 at 1100 hrs.** All bids must be accompanied by a bid security in Euro of 12,000 (twelve thousand) Euros. Late bids will be rejected. Bids will be opened in the presence of the Bidders' representatives who choose to attend at the address below immediately after the closure of bidding.

The Office of the Project:

<p style="text-align: center;">MALDIVES METEOROLOGICAL SERVICE MINISTRY OF ENVIRONMENT AND ENERGY ADDRESS: Velana International Airport, Hulhule, 22000 - Maldives</p>
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**SECTION II:
INSTRUCTIONS TO BIDDERS
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A. INTRODUCTION

1. SOURCE OF FUNDS	<p>1.1. The Government of Maldives has applied for and received a Grant from the Government of Italy, Ministry of Environment and Protection of Land and Sea (MATTM) hereinafter referred as “The Donor”, for the project: “Enhancing weather and climate monitoring and data management capacity of Maldives Meteorological Service (MMS) for reducing vulnerabilities of climate change in the Maldives”.</p> <p>1.2. The amount of Grant received will be used for the supply of equipment and related services of Italy and/ or Maldives origin.</p> <p>1.3. Payments will be made in accordance with the terms and conditions of the Grant Agreement, and will be subject in all respects to the terms and conditions of that Agreement.</p>
2. SCOPE OF THE PROJECT	<p>Project will serve all the Maldives area. The main tasks of project are:</p> <ul style="list-style-type: none"> - Installing automatic meteorological measuring and communication devices. The configuration of equipment and technical standards are presented in Section V. - Establishing one real-time data receiving center at national level. <ul style="list-style-type: none"> - Education and training activities, and the management and usage of the system should be fully accomplished to make sure that after handing over the system could be able to operate independence and immediately bring on the effectiveness.
3. ELIGIBLE BIDDERS	<p>3.1. This invitation to Bid is open to Italian Companies (registered to Italian Chamber of Commerce) or their associations (joint ventures or stable groups of companies or firms constituted pursuant to the Italian laws)</p> <p>3.2. Bidders shall provide written evidence of being, at time of submission of its bid, the Company is based in Italy.</p> <p>3.3. Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide</p>

	<p>consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.</p> <p>3.4. The hereinafter Bidders will not be eligible:</p> <p>a) Bidders should not be undergoing bankruptcy proceedings, liquidation, winding up or in any other similar situation under domestic and/or foreign law, or against which there are pending proceedings for the declaration of such states.</p> <p>b) Bidders should not be in a proven state of insolvency by judicial decision other than a judgment declaring bankruptcy and resulting, in compliance with their domestic law, the total or partial loss of control over the management and disposition of their assets.</p>
<p>4. ELIGIBLE GOODS AND SERVICES</p>	<p>4.1. All goods and services to be supplied under the contract shall have their origin in Italy or Maldives as provided for by the technical specification.</p> <p>4.2. For purposes of this Clause, “origin” means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</p>
<p>5. GENERAL ELIGIBILITY REQUIREMENTS</p>	<p>5.1. Bidders must satisfy the requirements of economic and financial suitability and of technical capacity, as specified in the following Articles.</p> <p>5.2 The Italian Bidders must declare, indicating specifically and assuming full responsibility, in case of a temporary association of firms, the declarations must be prepared and signed by all the participants in the association:</p>

	<p>a) that they are not in a state of bankruptcy, liquidation, receivership, arrangement with creditors or similar situation according to Italian law, or that no process is in course for the declaration of one of these situations, or to be in the state of the suspension of business activity;</p> <p>b) that no final judgment has been issued by Italian or Maldivian Court;</p>								
<p>6. ECONOMICAL AND FINANCIAL CAPABILITY OF BIDDERS</p>	<p>All Bidders must include in their Bid evidence of:</p> <p>a) Having a minimum average annual turnover at least the same as the value of the bid on, calculated as total certified payments received for contracts in progress or completed, within the last 3 (three) years, entirely derived from engineering, producing, installing and maintaining hydro-meteorological stations (ARS), systems and networks. Other activities or turnover derived by partner or Group Companies operating in field(s) not relevant to the scope of the present Project will not be considered.</p> <p>b) Bidders will provide copies of the balance sheets and/or financial statements for previous 3 (three) years before the present tender. The financial statements shall reflect the financial situation of the principal Bidder. All statements shall be audited by a certified accountant, according to Italian laws and regulations;</p> <p>c) The applicant must provide documentary evidence regarding availability of liquid assets and/or credit facilities from an Italian or internationally recognized Bank, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than €1.0 million per year for the contract duration, to cover the cost of working capital.</p> <p>d) The following summary information must also be given:</p> <table border="1" data-bbox="507 1704 1385 1848"> <thead> <tr> <th data-bbox="507 1704 885 1776"></th> <th data-bbox="885 1704 1050 1776">Year 2014</th> <th data-bbox="1050 1704 1214 1776">Year 2015</th> <th data-bbox="1214 1704 1385 1776">Year 2016</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 1776 885 1848">Total Assets (TA)</td> <td data-bbox="885 1776 1050 1848"></td> <td data-bbox="1050 1776 1214 1848"></td> <td data-bbox="1214 1776 1385 1848"></td> </tr> </tbody> </table>		Year 2014	Year 2015	Year 2016	Total Assets (TA)			
	Year 2014	Year 2015	Year 2016						
Total Assets (TA)									

	Total Liabilities (TL)			
	Net Worth (NW)			
	Current Assets (CA)			
	Current Liabilities (CL)			
	Total Revenue (TR)			
	Profits Before Taxes (PBT)			
	<p>e) A primary Bank Reference, stating the good financial performance of the Bidder, average annual turnover and clearly stating that the Bidder has not been declared as ineligible by the Bank any time during the past three years pursuing the issuing of the present tender.</p> <p>f) Declaration of a Banking Institution or an Insurance Company containing the pledge to issue, in the event the contract is awarded, on request of the Bidder, a performance bond relative to the definitive caution money in favor of the Purchaser valid until the end of the contract. The declaration must contain clear mention that the performance bond is given and constituted with formal renouncement of the benefit of preliminary discussion as per art. 1944 of the Italian Civil Code, with the guarantor intending to remain obligated in solidum with the debtor firm until the end of the contract. It is understood that the guarantor will be obligated to deposit the amount of the caution money upon the simple request of the Purchaser by means of certified letter, without any reserve or exception and also in case of opposition of third assignees or of the Awarder.</p>			
7. REQUIREMENTS OF TECHNICAL CAPACITY	<p>The bidder will include in its proposal the following:</p> <p>a) Evidence of having executed or under execution with full Client satisfaction a minimum number of three (3) projects, each one including not less than 20 (twenty) AWS and dedicated Control Centre, entirely derived from engineering, producing, installing and maintaining hydro-meteorological stations, systems and networks, similar to the one which is the</p>			

	<p>subject of the present Tender. Client certification duly signed and stamped will be enclosed;</p> <p>b) Evidence of maintenance capabilities, given by not less than three Client’s declarations of multi-annual (3 or more) satisfactory maintenance activity performed by the Bidder within the last 5 (five) years, and regarding hydro-meteorological real-time systems composed by not less than 25 AWS each, radio data transmission systems and control center(s).</p> <p>c) Quality certification (quality management system) according to the ISO 9001:2008 standards, released by an organization or an accredited institution. In case of a consortium, the requirement of quality certification must be possessed by the group leader of the consortium.</p> <p>d) Data security certification according to ISO 27001:2013 standards, released by an organization or an accredited institution. In case of a consortium, the requirement must be possessed by the group leader of the consortium.</p> <p>e) Environmental management System certificate according to ISO 14001:2015 standards, released by an organization or an accredited institution. In case of a consortium, the requirement must be possessed by the group leader of the consortium.</p>
<p>8. COST OF BIDDING</p>	<p>The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.</p>
<p>9. SELECTION OF JOINT VENTURE COMPANY FROM MALDIVES</p>	<p>a) The Bidder is recommended to select a local party and join with them with an agreed understanding for the execution of this assignment. Prior to this tender, the purchaser had shortlisted the interested parties to involve as a joined local company in this assignment. Find the list below for the shortlisted parties from Maldives;</p> <ol style="list-style-type: none"> 1. Renewable Energy Maldives Private Limited 2. Pneumatic Private Limited 3. EMAX Private Limited <p>b) The Profiles of the shortlisted companies are available from the link below</p>

http://www.meteorology.gov.mv/uploads/MMS_AWS_Company_Profiles_0001.pdf

The Bidders are requested to approach the local parties during the bid preparation period and come to a joint venture understanding.

B. THE BIDDING DOCUMENTS

10. CONTENT OF BIDDING DOCUMENTS

10.1 The goods required, Bidding procedures, and contract terms are prescribed in the Bidding documents. In addition to the Invitation for Bids, the Bidding documents include:

- a) Section I: Invitation for Bids
- b) Section II: Instructions to Bidders (ITB)
- c) Section III: General Conditions of Contract (GCC)
- d) Section IV: Special Conditions of Contract (SCC)
- e) Section V: Technical Specifications
- f) Section VI: Sample forms

1. BID SUBMISSION FORM

2. BID DATA SHEET

3. PRICE SCHEDULE – GOODS MANUFACTURED OUTSIDE THE PURCHASERS COUNTRY, TO BE IMPORTED

4. PRICE SCHEDULE - GOODS MANUFACTURED OUTSIDE THE PURCHASERS COUNTRY, ALREADY IMPORTED

5. REPORT – LIST OF CONTRACT, ALREADY BEEN IMPLEMENTED

6. REPORT - EXPERIENCE AND CAPACITY OF THE BIDDER IN THE FIELD OF MANUFACTURE

7. REPORT ON FINANCIAL CAPACITY OF THE BIDDER

8. BID SECURITY FORM

9. CONTRACT FORM

10. PERFORMANCE SECURITY FORM

11. ADVANCE PAYMENT SECURITY FORM

10.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding documents. Failure to furnish all information required by the Bidding documents or to submit a Bid not substantially responsive to the Bidding

11. CLARIFICATION OF BIDDING DOCUMENTS

documents in every respect will be at the Bidder's risk and may result in the rejection of its Bid.

A prospective Bidder requiring any clarification of the Bidding documents may notify the Purchaser in writing or by email at the Purchaser's address indicated in Section I - Invitation for Bids. The Purchaser will respond in writing to any request for clarification of the Bidding documents which it receives no later than fourteen (14) days prior to the deadline for the submission of Bids prescribed in ITB Clause 24.1. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective Bidders that have received the Bidding documents.

12. SITE VISIT

12.1 The Bidder is recommended to visit and examine the sites where facilities shall be installed and their surroundings, in order to obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for supply and installation of facilities.

12.2 Visits shall be coordinated with MMS responsible staff, by addressing a written request to MMS's address reported in Section I - Article 4, at least one week before the intended period of visit. In case of receiving a considerable number of requests, MMS maintains the authority of organizing such visits for all Bidders at its best convenience. Bidders will be noticed at least one week in advance of the intended period of visits and of logistic arrangements.

12.3 Costs of site visiting shall be at Bidder's own expense.

12.4 The Bidder and any of its personnel or agents will be granted permission by the Purchaser to enter upon its premises and lands for the purpose of such inspection, but only upon express condition that the Bidder, its personnel and agents will release and indemnify the Purchaser and its personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of inspection

13. AMENDMENT OF BIDDING DOCUMENTS

13.1 At any time prior to the deadline for submission of Bids, the Purchaser, for any reason, whether at its own initiative or in

response to a clarification requested by a prospective Bidder, may modify the Bidding documents by amendment.

- 13.2 All prospective Bidders that have received the Bidding documents will be notified of the amendment in writing or by cable, and will be binding on them.
- 13.3 In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, the Purchaser, at its discretion, may extend the deadline for the submission of Bids.

C. PREPARATION OF BIDS

14. LANGUAGE OF BID

The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser shall be written in English or in Maldivian language. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the above stated language, in which case, for purposes of interpretation of the bid, the translation shall prevail.

15. DOCUMENTS COMPRISING THE BID

The Bid shall comprise the following:

- a) documentary evidence established in accordance with Clause 4 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents;
- b) a Bid Form and price schedules complete in accordance with ITB 16.1 and 16.2;
- c) Bid Security, in accordance with ITB 21;
- d) documentary evidence in accordance with ITB 5 establishing the Bidder's qualifications to perform the contract if its Bid is accepted;

**16. LETTER OF
BID, AND
SCHEDULES**

The Letter of Bid and Schedules, including the Bills of Quantities, shall be prepared using the relevant forms, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

17. BID PRICES

17.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total Bid price of the goods and services it proposes to supply under the contract.

17.2 Prices indicated on the Price Schedule shall be entered separately in the following manner:

(a) For goods and services offered from within 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 custom duties and sales and other taxes already paid or payable,
- (ii) any Purchaser country sales and other taxes which will be payable on the goods if the contract is awarded,
- (iii) the price for inland transportation, insurance, and other local costs incidental to delivery of the goods to their final destination,
- (iv) The price of installation, warranty and services for good indicated in the technical Specifications must be quoted in addition to the above EXW price.

(b) For goods and services offered from abroad:

- (i) The price of the goods shall be quoted CIF Male, or other ports of destination within in the Purchaser's country. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible countries. Similarly, the Bidder may

obtain insurance services from any eligible source country.

- (ii) The price for inland transportation, insurance, and other local costs incidental to delivery of the goods to their final destination.
- (iii) The price of installation, warranty, engineering services, after sales services and/ or other services as indicated in Technical Specifications must be quoted in addition to the above CIF price.

17.3 The terms EXW, CIF, CIP, etc., shall be governed by the rules prescribed in the current edition of Incoterms 2010 published by the International Chamber of Commerce, Paris.

17.4 The Bidder's separation of price components in accordance with ITB Clause 16.2 above will be solely for the purpose of facilitating the comparison of Bids by the Purchaser and will not in any way limit the Purchaser's right to contract on any of the terms offered.

17.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation will be treated as non-responsive and will be rejected.

**18. BID
CURRENCIES**

Prices shall be quoted in the following currencies:

- (a) *For goods and services offered from within the Purchaser's country, the prices shall be quoted in MVR.*
- (b) *For goods and services offered from abroad, the prices shall be quoted in EURO.*

**19. DOCUMENTS
ESTABLISHING
BIDDER'S
ELIGIBILITY
AND**

19.1 Pursuant to ITB Clause 6 and 7, the Bidder shall furnish, as part of its Bid, documents establishing the Bidder's eligibility to Bid and its qualifications to perform the contract.

19.2 The documentary evidence of the Bidder's eligibility to Bid shall establish to the Purchaser's satisfaction that the Bidder, at

QUALIFICATION

20. DOCUMENTS ESTABLISHING GOODS' ELIGIBILITY AND CONFORMITY TO BIDDING DOCUMENTS

the time of submission of its Bid, is from an eligible country as defined under ITB Clause 3.1.

- 20.1 Pursuant to ITB Clause 6 and 7, the Bidder shall furnish, as part of its Bid, documents establishing the eligibility and conformity to the Bidding documents of all goods and services which the Bidder proposes to supply under the contract.
- 20.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered, which shall be confirmed by a certificate of origin issued at the time of shipment.
- 20.3 The documentary evidence of conformity of the goods and services to the Bidding documents may be in the form of literature, drawings, and data, and shall consist of:
- a) a detailed description of the essential technical and performance characteristics of the goods;
 - b) a list giving full particulars, including available sources and current prices of spare parts and special tools, etc., necessary for a proper and functioning of the goods for the continuous period, following the commencement of goods' usage by the Purchaser; and
 - c) An item-by-item commentary on Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of Technical Specifications.
- 20.4 For purposes of the commentary to be furnished pursuant to ITB Clause 19.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated in Purchaser's Technical Specifications, are descriptive only, but not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its Bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

21. BID SECURITY

- 21.1 The Bidder shall furnish, as part of its Bid, a Bid security in the amount of Euro 12,000 (twelve thousands Euro).

**22. PERIOD OF
VALIDITY OF
BIDS**

- 21.2 The Bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 20.7.
- 21.3 The Bid security shall be denominated in the currency of the Bid and shall be in one of the following forms:
- a) bank guarantee issued by a reputable bank located in the Purchaser's country or abroad, in the form provided in the Bidding documents, or another form, which is acceptable to the Purchaser and valid for thirty (30) days beyond the validity of the Bid; or
 - b) A cashier's or certificated check.
- 20.4 Any Bid not secured in accordance with ITB Clauses 20.1 and 20.3 will be rejected by the Purchaser as non-responsive.
- 20.5 Unsuccessful Bidders' Bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of Bid validity prescribed by the Purchaser.
- 20.6 The successful Bidder's Bid security will be discharged upon the Bidder signing the contract and furnishing the performance security, pursuant to ITB Clause 48.1.
- 20.7 The Bid security may be forfeited:
- a) if a Bidder:
 - (i) withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
 - (ii) Does not accept the correction or errors pursuant to ITB Clause 29.2.
 - (b) if a Bidder is successful/ accepted, but fails:
 - (i) to sign the contract in accordance with ITB Clause 47; or
 - (ii) To furnish performance security in accordance with ITB Clause 48.
- 22.1 Bids may not be withdrawn, amended or supplemented once they are tendered. Bids and the prices quoted therein shall be valid for 6 month from the date of expiration of the deadline for tendering bids, in light of the need to evaluate and compare

bids, obtain all required authorizations and approvals, and effect notification of adjudication of the bids.

22.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The requests and responses thereto shall be made in writing (or by cable). The Bid security provided under ITB Clause 20 shall also be responsively extended. A Bidder may refuse the request without forfeiting its Bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except where one or more items in the tender have gone out of production and have been replaced by new models whose characteristics are essentially identical to those contained in the tender. In any case, the unilateral modification of the financial tender shall not be allowed.

**23. FORMAT AND
SIGNING OF
BID**

23.1 The Bidder shall prepare an original **Bid and two copies**, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In event of any discrepancy between them, the original shall govern.

23.2 The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the Bid, except for un-amended printed literature, shall be initialed by the person or persons signing the Bid.

23.3 Any interlineations, erasure, or overwriting shall be valid only if they are initialed by the person or persons signing the Bid.

D. SUBMISSION OF BIDS

24. SEALING AND MARKING OF BIDS

24.1 The Bidder shall seal the original and each copy of the Bid in separate envelopes, duly marking the envelopes as “ORIGINAL” and “COPY” respectively.

The bid shall be submitted in a **single package** per each lot, sealed with sealing wax, countersigned on the closing flaps by the sender. Each package must contain three separate envelopes as set out below, each of which must be sealed with sealing wax and bear a signature written over the closing flaps:

- A) **Envelope** marked "**Documents**" containing the declarations and documents regarding bidder requirements as set out in ITB Clause 5, 6 and 7 above;
- B) **Envelope** marked "**Technical Bid**" must contain a detailed technical description of the equipment and services that are offered in the bid, demonstrating that all the technical requirements described in the technical specifications are fully satisfied. The “Technical Bid” must be signed with a legible signature in full by the Principal of the firm or by the Legal Representative or by the agent named as proxy, or by all the grouped firms. If the bid is made jointly it must specify the parts of the service that will be performed by the individual firms.

The technical documentation shall include:

- a) Project description and proposed technical approach;
- b) System engineering, describing in detail at least the following:
 - System configuration;
 - Site design drawings and sensor installation designs
 - Station and sensor performance;
 - Transmission mode(s);
 - Control Center configuration;
 - System performance;
 - treatment of data;
 - Specialized Software packages;
 - Remote observing station;

- Main and secondary centers.
- c) Technical specifications of each offered equipment, in English;
- d) Brochure in English of the offered equipment,
- e) Compliance form adequately filled and signed,
- f) List of spare parts included as an integral part of the Project (minimum 2 years) and of consumables;
- g) Methods and procedures for providing technical assistance, including authorized dealers, branches or Associated Companies in Maldives;
- h) Methods and procedures for providing adequate training to technical staff (in Italy and Maldives);
- i) Declaration that spare parts will be available for at least 10 years after installation of the equipment;
- j) Declaration that all necessary or useful accessories for the optimal functioning of the tender equipment are included in the offer and a breakdown of their cost in the Financial Tender.

The envelope must contain Special Terms and Conditions and Technical Specifications signed on every page to indicate acceptance by the legal representative as well as a declaration of acceptance of all the general rules.

C) Envelope marked "Financial Bid" containing the financial bid.

The bid must indicate:

- a) The total price, including all accessories, spare parts and consumables, provided with the basic configuration, for each item of equipment installed and functioning turn-key. Said price must include all expenses (packing, shipping, insurance, delivery, assembly, initial testing, initial stock of consumables, warranty, start-up, training of personnel and all necessary services as per the Technical Specifications);

b) the unit price and total price of spare parts recommended in the Technical Specifications;

24.2 The inner and outer envelopes shall:

(a) be addressed to the Purchaser at the address given in the Invitation for Bids;

(b) Bear the Project name, the Invitation for Bids (IFB) title and number, and a statement: "DO NOT OPEN BEFORE..." to be completed with the time and the date specified in the Invitation for Bids.

24.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late."

24.4 If the outer envelope is not sealed and marked as required by ITB Clause 23.2 and 23.3, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

25. DEADLINE FOR SUBMISSION OF BIDS

25.1 Bids must be received by the Purchaser at the address specified in Section I - Invitation of Bids (Article 4), no later than the time and date specified in the Invitation of Bids.

25.2 The Purchaser may, at its discretion, extend this deadline for the submission of Bids by amending the Bidding documents in accordance with ITB Clause 12, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

26. LATE BIDS

Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser pursuant to ITB Clause 24.1 will be rejected and returned unopened to the Bidder.

27. MODIFICATION AND

27.1 The Bidder may modify or withdraw its Bid after the Bid's submission, provided that written notice of the modification,

**WITHDRAWAL
OF BIDS**

including substitution or withdrawal of the Bids, is received by the Purchaser prior to the Bid submission.

27.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 26.1. A withdrawal notice may also be sent by cable, but followed by a signed confirmation copy, postmarked no later than the deadline for submission of Bids.

27.3 No Bid may be modified after the deadline for submission of Bids.

27.4 No Bid may be withdrawn during the interval between the deadline for submission of Bids and the expiration of Bid validity specified by the Bidder in the Bid Form. Withdrawal of a Bid during this interval may result in the Bidder's forfeiture of its Bid security, pursuant to the ITB Clause 20.7.

E. OPENING AND EVALUATION OF BIDS

**28. OPENING OF
BIDS BY THE
PURCHASER**

28.1 The Purchaser shall conduct the bid opening in public. The Purchaser shall invite representatives of the Bidders to attend by a notice when publishing the Bidding Documents.

28.2 . The bid opening will be executed after the bid closing period, date and time specified in the BDS before the attendance of the representatives not depending on the presence of an absence of the Bidder

28.3 The Bidders' names, and the presence or absence of requisite bid security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected a bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to Clause 25.

27.3 The Purchaser shall conduct the bid opening in the following order:

- a. Checking the sealing of the bid;
- b. Opening the bid;

29. CLARIFICATION OF BIDS

30. PRELIMINARY EXAMINATION

- c. Reading and recording the main information in the bid opening report:
 - Name of the Bidder;
 - Number of Origin and Copy;
 - Period of validity of Bids;
 - Bid prices in the Bid submission Form and discounts (if any);
 - Value, period of validity of Bids, form of Bid security;
 - Other related information.

27.4 The Purchaser will prepare minutes of the bid opening.

During the evaluation of Bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its Bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the Bid shall be sought, offered, or permitted.

30.1 The Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.

30.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of the errors, its Bid will be rejected, and its Bid security may be forfeited.

30.3 The Purchaser may waive any minor informality, nonconformity, or irregularity in a Bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

30.4 Prior to the detailed evaluation, the Purchaser will determine the substantial responsiveness of each Bid to the Bidding documents. For purposes of these Clauses, a substantially responsive Bid is the one conforms to all the terms and

**31. CONVERSION
TO SINGLE
CURRENCY**

conditions of the Bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security (ITB Clause 20), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

30.5 If a Bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correcting the nonconformity.

The price shall be quoted in EURO currency

To facilitate evaluation and comparison, prices quoted in MVR will be converted to EUROS at the official exchange rate for similar transactions announced by the Bank for Foreign Trade of Maldives at the bid opening date

**32. EVALUATION
AND
COMPARISON
OF BIDS**

32.1 The Purchaser will evaluate and compare the Bids which have been determined to be substantially responsive, pursuant to ITB Clause 29.

32.2 The Purchaser's evaluation of a bid will exclude and not take into account:

- a) in the case of goods of foreign origin already located 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 of foreign origin offered from abroad, customs duties and other similar import 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.

32.3 The comparison shall be between the EXW price of the goods offered from within the Purchaser's country including all costs, as well as duties and taxes paid or payable on components and raw material incorporated or to be incorporated in the goods, and the CIF named port of destination of the goods offered from outside the Purchaser's country.

**33. CONTACTING
THE
PURCHASER**

32.4 The Technical evaluation of a bid will take into account at least the following aspects, to be duly described by the Bidder in the relevant Technical Section:

- a) Overall project time schedule proposed by the bidder;
- b) Availability in the Purchaser's country of spare parts and after-sales services for the equipment offered in the bid;
- c) Proposed Organization of Project, with special reference to the involvement of concerned Maldivian Institutions, either at Central or local level;
- d) Proposed training facilities;
- e) Average lifetime of proposed equipment and average yearly time of system out-of service and Mean Time Between Failures, to be proved by the Bidder through appropriate statistical evidences;
- f) Projected operating and maintenance costs during the life of the equipment, to be statistically proved by the Bidder;
- g) Overall system performance, in terms of average expected loss of data, to be proved by the Bidder through appropriate statistical evidences;
- h) System maintenance: preventive, emergency and remote maintenance, indicating expected costs after the guarantee period;

32.5 Specific additional criteria: other specific additional criteria to be considered in the evaluation and the evaluation method shall be detailed in the Technical Specifications.

33.1 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 Bid, it should do so in writing.

33.2 Any effort of a Bidder to influence the Purchaser in its decisions on Bid evaluation, Bid comparison, or contract award may result in the rejection of the Bidder's Bid.

F. BID EVALUATION CRITERIA

This Section contains all the criteria that the Purchaser shall use to evaluate Bids and qualify Bidders. No other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in Section VI, Bidding Forms.

34. PRE-EVALUATION

The Bidder shall fully comply with pre-evaluation requirements, as per clauses 33.1 to 33.16 listed below. Non-compliance or partial compliance will be cause of exclusion.

	Tender documents' Requirements
	<i>A) Satisfaction of the necessary requirement stated by the bidding document:</i>
34.1	1 original + 2 copies In addition to the hard copy bidders are requested to supply a soft copy on CD.
34.2	Reply to invitation and price schedules must be applicable to bidding documents with legal signature
34.3	Bid security (validity of 90 days from the bids opening date)
34.4	Legal documents (as requirements in bidding documents)
	- Copies of original documents proving the legal constitution or juridical status and establishing the place of registration and corporate headquarters or registered office
	- A declaration as to the capital of the bidders
	- A declaration indicating the turnover of the specific sectors in hydro-meteorological monitoring fields in the three business years (2014-2015-2016) as for <i>Clause 6 - Economical and financial capability of Bidders</i>
	- A declaration of legal representatives or bank certification which can demonstrate both commercial and financial abilities of the bidders

	- A report containing supported references and information on the experience and past works of the bidder in tenders of the same nature and certification as for <i>Clause 7 - Requirements of technical capacity</i>
	- The documentary evidence of the bidders' eligibility to Bid shall establish to the Purchaser's satisfaction that the Bidder, as the time of submission of its bid, is from an eligible country
34.5	Joint venture agreement between bidders and sub bidders (if any)
34.6	Signature and stamp of the legal bidder (All pages must be signed by the authorized person who signs the reply letter except the documents without adjustments)
34.7	Bid security value of 12,000 Euro (Twelve Thousand)
34.8	Validity of the submitted bidding document (4 months since the bids opening date)
34.9	Price Schedules
	- Price per item and the total price of all offered goods
	- For goods offered from within the Purchaser's country: the price is quoted EXW. For goods offered from abroad: the price is quoted CIF (Male or other port of destination) or CIP (border point).
	- Bid price (in Euro)
34.10	Satisfaction of required technical specifications in the bidding documents
34.11	Engagement of countries origin of the commodities
	- The documentary evidence of conformity of the goods and services consist of a statement in the Price Schedule of the country of origin of goods and services offered
34.12	Attached appendix (as sample form in bidding documents)
34.13	Original catalogue(s)

	<i>B) Qualifications and experience of bidders:</i>
34.14	Manufacturing, installing and maintaining capability:
	- Bidder has capability to manufacture and provide system design in the fields described in the bidding documents. - Has capability to perform installation, maintenance and repair, directly and/or through local sub-contractors.
34.15	Financial capability: as per <i>Clause 6</i>
34.16	Experiences:
	- Years of activities: at least 15 years
	- Number of implemented contracts: as per <i>Clause 7</i>

35. EVALUATION OF THE PRE-EVALUATED BIDDING DOCUMENTS

36. TECHNICAL APPRAISAL:

The following Bid Technical Appraisal criteria will be applied:

37. SPECIFICATION OF GOODS	37.1 Technical Specifications of proposed equipment	15 points
	37.2 Use an open source operating system for the data-logger and the tenderer provides Kit to facilitate the free implementation of new elaborations and drivers for new sensors by the user	10 points
	37.3 Compliance with WMO accepted standards	10 points
	37.4 Integration and completeness of equipment, observation and data transmission system	5 points
	37.5 Control Centre configuration, including software and hardware and general system design	10 points
	37.6 Sub-total	50 points
	38.1 General system configuration	5 points

38. SUPPLYING AND TECHNICAL SUPPORT	38.2 Bidder organization, supplying and installation capabilities, qualification of personnel;	5 points
	38.3 Project engineering, implementation schedule and project organization;	10 points
	38.4 If the bidder is joined with a local party listed under ITB clause 9 as a Joint venture to undertake the assignment	05 points
	38.5 Sub-total	25 points
39. WARRANTY AND AFTER SALE SERVICES	39.1 Warranty performance	4 points
	39.2 Technical support, services experience and references	6 points
	39.3 Sub-total	10 points
40. TRAINING AND TECHNOLOGICAL TRANSFER	40.1 Training	10 points
	40.2 Technological transfer	5 points
	40.3 Sub-total	15 points
TOTAL Technical Score		100 points

Bids that have a Total Technical Appraisal score more than 70 points will be evaluated on financial and synthetic appraisal.

41. FINANCIAL APPRAISAL:

41.1. Determination of evaluated price

No	Content	Basic
1	Bid price	In accordance with Clause 16 Section I
2	Correct errors	In accordance with Clause 29 Section I
3	Rectification of errors	In accordance with Clause 29 Section I
4	Bid price after rectifying, correct errors and converting to single currency.	Value of the content No (1) + (2) + (3) and conversion according to Clause 29 Section I

5	Move to same level to compare. This criteria is based on: a) Implementation schedule b) Capacity, output, standards of equipment and materials c) Level of electrical energy, raw materials, fuel consumption d) Guarantee period, operation, maintenance expenditure e) Financial and trade conditions	
6	Evaluated price	Content value (4) + (5)

41.2. Financial score:

Bidders with the lowest evaluated price will receive the maximum financial score that is equivalent to 100 points.

The financial proposal submitted by other Bidders will be scored according to the following formula:

$$\text{Lowest evaluated Bid Price} \times 100$$

$$\text{Financial score} = \frac{\text{Lowest evaluated Bid Price} \times 100}{\text{Evaluated Price of being evaluated Bidder}}$$

$$\text{Evaluated Price of being evaluated Bidder}$$

42. SYNTHETIC APPRAISAL:

$$\text{Synthetic score} = (\text{technical score} \cdot K1) + (\text{financial score} \cdot K2)$$

In which:

$$K1 - \text{technical score coefficient: } 0.5$$

$$K2 - \text{financial score coefficient: } 0.5$$

The Bidder who reaches the maximum synthetic score will be proposed to be the tender awardee.

G. AWARD OF CONTRACT

43. POST-QUALIFICATION

- 43.1 In the absence of prequalification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the highest evaluated responsive bid is qualified to perform the contract satisfactorily.
- 43.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 5, 6 and 7 as well as other information, when the Purchaser deems necessary and appropriate.
- 43.3 An affirmative determination will be a prerequisite for awarding of the contract to the Bidder. A negative determination will result in the rejection of Bidder's Bid. In this case, the Purchaser will proceed to the next lowest evaluated Bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

44. AWARD CRITERIA

The Purchaser will award the contract to the successful Bidder whose Bid has been determined to be substantially responsive with the highest evaluated Bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

45. PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

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 explanations to the affected Bidder or Bidders in the case that the Purchaser have the proof showing collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the Purchaser of the benefits or free and open competition or in the case that all the Bids do not conform to almost the terms and conditions of Bidding documents.

46. NOTIFICATION OF AWARD

- 46.1 Prior to the expiration of the period of Bid validity, the Purchaser will notify the successful Bidder in writing by a registered letter

or by cable, to be confirmed in writing by registered letter, that its Bid has been accepted.

46.2 The notification of award will constitute the formation of the Contract.

46.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 48.1, the Purchaser will promptly inform the name of the winning Bidder to each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 20.5.

47. SIGNING OF CONTRACT

47.1 At the same time as the Purchaser notifies the successful Bidder that its Bid has been accepted, the Purchaser will send the Bidder the Contract Form provided in the Bidding documents, incorporating all agreements between the parties within (15) days

47.2 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Purchaser.

48. PERFORMANCE SECURITY

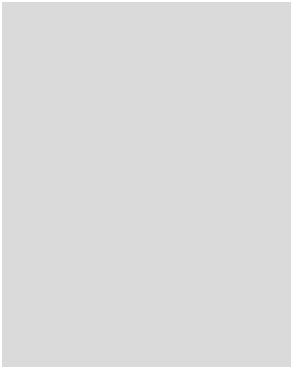
48.1 Within thirty (30) days of the receipt of notification of award from the Purchaser, successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the Bidding documents, or in another form acceptable to the Purchaser.

48.2 Failure of successful Bidder to comply with the requirement of ITB Clause 20.7 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid security. In this case, the Purchaser may make the award to the next lowest evaluated Bidder or call for new Bids.

49. CORRUPT OR FRAUDULENT PRACTICES

49.1 Defines, for the purposes of this provision, the terms set forth below as follows:

- (i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
- (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a



contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the Borrower of the benefits of free and open competition;

49.2 Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

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GENERAL CONDITIONS OF CONTRACT
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GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- (a) “The Contract” means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) “The Goods” means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.
 - (d) “The Services” means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) “GCC” means the General Conditions of Contract contained in this section.
 - (f) “SCC” means the Special Conditions of Contract.
 - (g) “The Purchaser” means the organization purchasing the Goods, as named in SCC.
 - (h) “The Purchaser’s country” is the country named in SCC.
 - (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract and named in SCC.

- (j) “The Project Site,” where applicable, means the place or places named in SCC.
- (k) “Day” means calendar day.

2. APPLICATION

- 2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

3. COUNTRY OF ORIGIN

- 3.1 At least 80% of Goods supplied under the Contract shall have Italian origin and territories eligible under the rules of the Italian Government as further elaborated in the SCC.
- 3.2 For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of Goods is distinct from the nationality of the Supplier.

4. STANDARDS

- 4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.

5. USE OF CONTRACT DOCUMENTS AND INFORMATION; INSPECTION AND AUDIT BY THE BANK

- 5.1 The Supplier shall not, without the Purchaser’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

- 5.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
- 5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.
- 5.4 The Supplier shall permit the Italian Government to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Italian Government, if so required by the Italian Government.

6. PATENT RIGHTS

- 6.1 The Supplier shall indemnify the Purchaser against all third party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Purchaser's country.
- 6.2 The awardee shall indemnify the Purchaser for all damages deriving from disputes regarding trademarks, patents or industrial property relating to the use of goods in the destination country.

7. PERFORMANCE SECURITY

- 7.1 Within thirty (30) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Purchaser the performance security in the amount specified in SCC.
- 7.2 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.
- 7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:
 - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Purchaser's country or

abroad, acceptable to the Purchaser, in the form provided in the bidding documents or another form acceptable to the Purchaser; or

(b) A cashier's or certified check.

7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise specified in SCC.

8. INSPECTIONS AND TESTS

- 8.1 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. SCC and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes. The costs of inspections and tests will be borne by Supplier.
- 8.2 The inspections and tests may be conducted on the premises of the Supplier, at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 8.3 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.
- 8.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Purchaser or its representative prior to the Goods' shipment from the country of origin.

8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

9. PACKING

9.1 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. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, 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.

9.2 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 SCC, and in any subsequent instructions ordered by the Purchaser.

10. DELIVERY AND DOCUMENTS

10.2 For purposes of the Contract, "EXW", "FOB", "CIF", and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of *Incoterms* published by the International Chamber of Commerce, Paris.

10.3 Documents to be submitted by the Supplier are specified in SCC.

11. INSURANCE

11.1 The Goods supplied under the Contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the manner specified in the SCC.

11.2 Where delivery of the Goods is required by the Purchaser on a CIF basis, the Supplier shall arrange and pay for cargo insurance, naming the Purchaser as beneficiary. Where delivery is on a FOB basis, insurance shall be the responsibility of the Purchaser.

11.3 Without prejudice to the awardees' obligation to procure insurance coverage, the awardees shall be exclusively responsible and shall hold the Purchaser harmless against claims of third parties for property damage and personal injury resulting from the performance on the contract on behalf of himself, his subcontractors and his employees.

12. TRANSPORTATION

12.1 Where the Supplier is required under Contract to deliver the Goods CIF, transport of the Goods to the port in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

12.2 Where the Supplier is required under Contract to deliver the Goods CIF, no restriction shall be placed on the choice of carrier.

12.3 The Maldivian Government will exempt from taxes and custom duties the goods and the equipment imported for project implementation.

13. INCIDENTAL SERVICES

13.1 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 startup 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;

- (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.

13.2 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.

14. SPARE PARTS

14.1 As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Purchaser may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
 - (ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. WARRANTY

15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is

required by the Purchaser's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

- 15.2 This minimum warranty shall remain valid for 12 (twelve) months after the Goods have been delivered to and accepted at the final destination indicated in the Contract, unless specified otherwise in SCC.
- 15.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from EXW or the port or place of entry to the final destination.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take 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.

16. PAYMENT

- 16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 16.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of 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 claim by the Supplier.
- 16.4 The currency or currencies in which payment is made to the Supplier under this Contract shall be specified in SCC subject

to the following general principle: payment will be made in the currency or currencies in which the payment has been requested in the Supplier's bid.

17. PRICES

17.1 Prices charged by the Supplier for Goods delivered and 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 SCC or in the Purchaser's request for bid validity extension, as the case may be.

18. CHANGE ORDERS

18.1 The Purchaser may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, 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/or
- (d) the Services to be provided by the Supplier.

18.2 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 delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

19. CONTRACT AMENDMENTS

Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

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The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Purchaser's prior written consent.

21. SUBCONTRACTS

21.1 The awardees shall not assign, in whole or in part, its obligations to perform under the conditions of this contract.

21.2 The total or partial assignment of this contract shall also be prohibited.

22. DELAYS IN THE SUPPLIER'S PERFORMANCE

22.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with GCC Clause 10.

22.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). 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, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

23. LIQUIDATED DAMAGES

Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in 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 SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.

24. TERMINATION FOR DEFAULT

24.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 22; or
- (b) If the Supplier fails to perform any other obligation(s) under the Contract.
- (c) If the Supplier, in the judgment of the Purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the Borrower of the benefits of free and open competition.

24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall

continue performance of the Contract to the extent not terminated.

**25. FORCE
MAJEURE**

25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, 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.

25.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

25.3 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.

**26. TERMINATION
FOR
INSOLVENCY**

26.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

**27. SETTLEMENT
OF DISPUTES**

27.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) 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.

- a) 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.
- b) Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

28. LIMITATION OF LIABILITY

28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,

- (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.

29. GOVERNING LANGUAGE

29.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

**30. APPLICABLE
LAW**

30.1 The Contract shall be interpreted in accordance with the laws of the Republic of Maldives, unless otherwise specified in SCC.

30.2 The contractual relations are regulated:

- by the provisions of the present BID INSTRUCTIONS;
- By the legal provisions in force of Maldives.

31. NOTICES

31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.

31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**32. TAXES AND
DUTIES**

32.1 A foreign Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country.

32.2 A local Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

SECTION III:
GENERAL CONDITIONS OF CONTRACT
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GENERAL CONDITIONS OF CONTRACT

1. DEFINITIONS

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- (a) “The Contract” means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) “The Goods” means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.
 - (d) “The Services” means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) “GCC” means the General Conditions of Contract contained in this section.
 - (f) “SCC” means the Special Conditions of Contract.
 - (g) “The Purchaser” means the organization purchasing the Goods, as named in SCC.
 - (h) “The Purchaser’s country” is the country named in SCC.
 - (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract and named in SCC.
 - (j) “The Project Site,” where applicable, means the place or places named in SCC.

(k) “Day” means calendar day.

2. APPLICATION

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

3. COUNTRY OF ORIGIN

3.1 At least 80% of Goods supplied under the Contract shall have Italian origin and territories eligible under the rules of the Italian Government as further elaborated in the SCC.

3.2 For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of Goods is distinct from the nationality of the Supplier.

4. STANDARDS

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.

5. USE OF CONTRACT DOCUMENTS AND INFORMATION; INSPECTION AND AUDIT BY THE BANK

5.1 The Supplier shall not, without the Purchaser’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

5.2 The Supplier shall not, without the Purchaser’s prior written consent, make use of any document or information enumerated

in GCC Clause 5.1 except for purposes of performing the Contract.

- 5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.
- 5.4 The Supplier shall permit the Italian Government to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Italian Government, if so required by the Italian Government.

6. PATENT RIGHTS

- 6.1 The Supplier shall indemnify the Purchaser against all third party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Purchaser's country.
- 6.2 The awardee shall indemnify the Purchaser for all damages deriving from disputes regarding trademarks, patents or industrial property relating to the use of goods in the destination country.

7. PERFORMANCE SECURITY

- 7.1 Within thirty (30) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Purchaser the performance security in the amount specified in SCC.
- 7.2 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.
- 7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:
 - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Purchaser's country or abroad, acceptable to the Purchaser, in the form provided

in the bidding documents or another form acceptable to the Purchaser; or

(b) a cashier's or certified check.

7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise specified in SCC.

8. INSPECTIONS AND TESTS

8.5 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. SCC and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes. The costs of inspections and tests will be borne by Supplier.

8.6 The inspections and tests may be conducted on the premises of the Supplier, at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

8.7 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.

8.8 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Purchaser or its representative prior to the Goods' shipment from the country of origin.

8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

9. PACKING

- 9.1 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. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, 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.
- 9.2 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 SCC, and in any subsequent instructions ordered by the Purchaser.

10. DELIVERY AND DOCUMENTS

- 10.2 For purposes of the Contract, "EXW", "FOB", "CIF", and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of *Incoterms* published by the International Chamber of Commerce, Paris.
- 10.3 Documents to be submitted by the Supplier are specified in SCC.

11. INSURANCE

- 11.1 The Goods supplied under the Contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the manner specified in the SCC.
- 11.2 Where delivery of the Goods is required by the Purchaser on a CIF basis, the Supplier shall arrange and pay for cargo insurance, naming the Purchaser as beneficiary. Where delivery is on a FOB basis, insurance shall be the responsibility of the Purchaser.
- 11.3 Without prejudice to the awardees' obligation to procure insurance coverage, the awardees shall be exclusively responsible and shall hold the Purchaser harmless against claims

of third parties for property damage and personal injury resulting from the performance on the contract on behalf of himself, his subcontractors and his employees.

12. TRANSPORTATION

- 12.1 Where the Supplier is required under Contract to deliver the Goods CIF, transport of the Goods to the port in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 12.2 Where the Supplier is required under Contract to deliver the Goods CIF, no restriction shall be placed on the choice of carrier.
- 12.3 The Maldivian Government will exempt from taxes and custom duties the goods and the equipment imported for project implementation.

13. INCIDENTAL SERVICES

- 13.1 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 startup 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;
 - (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.
- 13.2 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.

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14.1 As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Purchaser may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
 - (ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

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15.2 This minimum warranty shall remain valid for 12 (twelve) months after the Goods have been delivered to and accepted at

the final destination indicated in the Contract, unless specified otherwise in SCC.

- 15.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from EXW or the port or place of entry to the final destination.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take 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.

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- (b) the method of shipment or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

18.2 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 delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

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- (b) If the Supplier fails to perform any other obligation(s) under the Contract.
- (c) If the Supplier, in the judgment of the Purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

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24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

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MAJEURE**

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perform its obligations under the Contract is the result of an event of Force Majeure.

25.2 For purposes of this clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

25.3 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.

**26. TERMINATION
FOR
INSOLVENCY**

26.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

**27. SETTLEMENT
OF DISPUTES**

27.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) 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.

- a) 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.
- b) Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

28. LIMITATION OF LIABILITY

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,
- (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.

29. GOVERNING LANGUAGE

- 29.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

30. APPLICABLE LAW

- 30.1 The Contract shall be interpreted in accordance with the laws of the Republic of Maldives, unless otherwise specified in SCC.
- 30.2 The contractual relations are regulated:
- by the provisions of the present BID INSTRUCTIONS;
 - By the legal provisions in force of Maldives.

31. NOTICES

31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.

31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

32. TAXES AND DUTIES

32.1 A foreign Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country.

33.2 A local Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

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SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

1. DEFINITIONS (GCC CLAUSE 1)

GCC 1.1 (g) - The Purchaser is: Maldives Meteorological Service - MMS - Ministry of Environment and Energy.

GCC 1.1 (h) - The Purchaser's country is: The Republic of Maldives

GCC 1.1 (i) - The Supplier is:

2. COUNTRY OF ORIGIN (GCC CLAUSE 3)

Materials and equipment to be supplied under the Project shall be essentially of Italian origin. Part of the equipment may be purchased as stated by the Memorandum of Understanding approved, in Maldives, or in other developing countries or industrialized countries, up to the maximum value of 20% of the soft Grant.

3. PERFORMANCE SECURITY (GCC CLAUSE 7)

GCC 7.1 - The amount of performance security, as a percentage of the Contract Price, shall be ten (05) percent.

GCC 7.4 - After delivery and acceptance of the Goods, the performance security shall be reduced to 3 (three) percent of the Contract Price to cover the Supplier's warranty obligations in accordance with Clause GCC 15.2.

4. INSPECTIONS AND TESTS (GCC CLAUSE 8)

GCC 8.1 - Inspection and tests prior to shipment of Goods and at final acceptance are as follows: The Purchaser, reserves the right to inspect and test the goods and to check their conformity with the terms of the contract without incurring any extra costs.

5. PACKING (GCC CLAUSE 9)

As per clause 9 of GCC

6. DELIVERY AND DOCUMENTS (GCC CLAUSE 10)

For Goods supplied from abroad:

GCC 10.3 - Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable the full details of the shipment, including Contract number, description of Goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:

- (i) Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) Original and 2 copies of the negotiable, clean, on - board bill of lading marked "freight prepaid" and 2 copies of nonnegotiable bill of lading;
- (iii) Copies of the packing list identifying contents of each package;
- (iv) Insurance certificate;
- (v) Manufacturer's or Supplier's warranty certificate; and
- (vii) Certificate of origin.

For Goods supplied from within the Republic of Maldives:

GCC 10.3 - Upon delivery of the Goods to the transporter, the Supplier shall notify the Purchaser and mail the following documents to the Purchaser:

- (i) Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) Delivery note, railway receipt, or truck receipt;
- (iii) Manufacturer's or Supplier's warranty certificate;
- (iv) Inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (v) Certificate of origin.

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.

7. INSURANCE (GCC CLAUSE 11)

GCC 11.1 - The Insurance shall be in an amount equal to 110 percent of the CIF value of the Goods from "warehouse" to "warehouse" on "All Risks" basis, including War Risks and Strikes.

8. INCIDENTAL SERVICES (GCC CLAUSE 13)

GCC 13.1 - Incidental services to be provided are: **As per Technical Specifications.**

The assistance service provided for in this contract shall be provided in accordance with the procedures set out in the present article. The awardee shall perform or provide for the performance of the equipment's maintenance and repair as well as provide for the speedy re-supply of spare parts. As regards spare parts that the manufactures or distributes, the awardee shall be required to provide plans, design and technical specifications upon request by the Purchaser.

Assistance service shall include spare parts and intervention directed to repair the defective goods, within 15 days from the request of the intervention.

The awardee shall indicate the address and all necessary information of the company charged of the assistance service.

9. SPARE PARTS (GCC CLAUSE 14)

GCC 14.1 Spare parts must be available for at least ten years, from the date of final testing.

10. WARRANTY (GCC CLAUSE 15)

GCC 15.4 upon receiving a complaint, the awardee must repair or replace the defective goods, or the defective part thereof, at no additional cost to the purchaser, within 30 days of the request if the defects are the result of:

- a) the use of defective materials or workmanship, or design of the awardee, and/or
- b) acts of omission on the part of the awardee during the warranty period, or
- c) An inspection by the Purchaser or of someone acting on his behalf.

GCC 15.5 If, after receiving the complaint, the awardee does not repair the defects discovered within the indicated time period, the Purchaser may take all actions necessary.

Specifically, the Purchaser may:

- a) directly repair the defect or damage, or assign someone else to perform the work at the risk and expense of the awardee - in which case the costs incurred by the Purchaser shall be deducted from the amount due to the awardee - or
- b) Terminate the tender contract.

11. PAYMENT (GCC CLAUSE 16)

Payments shall be made in Euro to a bank indicated by the awardee.

GCC 16.1 the methods and procedures of payment for the goods and services under this contract are as follows:

14.1	<p>Payment</p> <p>The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>(a) Advance Payment: Fifteen (15) percent of the Contract Price shall be paid on the request of the Supplier and subject to the Approval of the Ministry of Finance and Treasury of the Republic of Maldives.</p> <p>The Payments succeeding the Advance Payment shall be paid after the deduction of the 15% against the Advance Payment and up to the total amount of the Advance Payment according to the to the Public Procurement Regulation (February 2017) of the Republic of Maldives.</p> <p>(a) Retention: Five (5) percent of each Payment (except for the Advance Payment) shall be retained up to a duration of 12 months from the Date of the issue of the Completion Certificate by the Purchaser according to the Public Procurement Regulation (February 2017) of the Republic of Maldives.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">#</th> <th style="width: 70%;">Payment Description and Requirements</th> <th style="width: 25%;">Allocation</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>At Port: Thirty (30) percent of the Contract Price shall be paid upon delivery to the designated Port of the Republic of Maldives and upon submission of supporting documents. (bill of lading, packing list, etc)</td> <td style="text-align: center;">30%</td> </tr> <tr> <td style="text-align: center;">2</td> <td>On Delivery: Thirty (30) percent of the Contract Price shall be paid upon delivery of the Goods to the final Destination (Proposed Islands to install the AWS) and upon submission of supporting documents.</td> <td style="text-align: center;">30%</td> </tr> <tr> <td></td> <td>On Installation & Integration: Thirty-five (35) percent of the Contract Price shall be paid upon completion of the installation and upon the Contractor has completed the integration at the control center and upon submission of</td> <td style="text-align: center;">35%</td> </tr> </tbody> </table>		#	Payment Description and Requirements	Allocation	1	At Port: Thirty (30) percent of the Contract Price shall be paid upon delivery to the designated Port of the Republic of Maldives and upon submission of supporting documents. (bill of lading, packing list, etc)	30%	2	On Delivery: Thirty (30) percent of the Contract Price shall be paid upon delivery of the Goods to the final Destination (Proposed Islands to install the AWS) and upon submission of supporting documents.	30%		On Installation & Integration: Thirty-five (35) percent of the Contract Price shall be paid upon completion of the installation and upon the Contractor has completed the integration at the control center and upon submission of	35%
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		Invoice of claim supported by the Acceptance Certificate issues by the Purchaser.	
	4	On Training: Five (5) percent of the Contract Price shall be paid upon completion of the Training as specified in the TOR and upon submission of the Invoice supported by the Completion Certificate of the Purchaser.	05%

12. LIQUIDATED DAMAGES (GCC CLAUSE 23)

- In accordance with the National Procurement Regulation issued by Ministry of Finance and Treasury of the Maldives
- Maximum deduction: In accordance with the National Procurement Regulation issued by Ministry of Finance and Treasury of the Maldives

13. SETTLEMENT OF DISPUTES (GCC CLAUSE 27)

GCC 27.2.b - The rules of procedure for arbitration proceedings pursuant to GCC Clause 28.2 shall be as follows: 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 Republic of Maldives Arbitration Rules as at present in force.

14. GOVERNING LANGUAGE (GCC CLAUSE 29)

GCC 29.1 - The Governing Language shall be: English and Maldivian (there of English prevails)

15. APPLICABLE LAW (GCC CLAUSE 30)

GCC 30.1 - The Applicable Law shall be laws of The Republic of Maldives

16. NOTICES (GCC CLAUSE 31)

GCC 31.1 - Purchaser's address for notice purposes: MALDIVES METEOROLOGICAL SERVICE (MMS) - **Male – Maldives.**

SECTION V: TECHNICAL SPECIFICATIONS

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PROJECT BACKGROUND

1.1 PROJECT FUNDAMENTALS

Project: Supply and Installation of 25 Automatic Weather Stations

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Maldives is one of the most vulnerable countries to the adverse impacts of climate change. The low lying nature of islands, dispersed geography, smallness of the islands, prone to extreme events, high dependency on foreign imports, narrow economic basis, and insufficient financial and institutional capacities in the Maldives makes it difficult to achieve the sustainable development. Therefore, climate change is expected to have far-ranging effects on the environmental and socio-economic prospectus of the country.

Maldives on account of its geo-climatic condition is highly vulnerable to natural disasters and the risks are apparent in the physical and socio-economic vulnerability profile of the country. The remoteness and inaccessibility of the islands (The two hundred inhabited islands of the Maldives is spread over 900 km) presents a challenge in delivery of services, communication and transportation even during the normal times. During a disaster, reaching the island communities with basic services and supplies would be a major challenge assuming that the response capability of the Government would be overwhelmed and communication and transportation services impaired.

Maldives experiences extreme weather events, especially during southwest monsoon season. The extreme events include flash floods, prolonged dry spells, high waves, rough sea conditions, cyclones, tornadoes and strong winds. Impacts associated with these events are expected to increase due to increase in frequency and intensity as the climate change. In particular, extreme weather and climate change is expected to have negative impacts on Maldives tourism, fisheries and agriculture, water resources, construction, transportation, infrastructure, energy and health sector.

Weather and natural hazards have an influence on almost every facet of the economy of any nation and must be taken into account both in development planning and in day-to-day operations in such diverse areas of weather-sensitive activities. Our main objective is to establish an efficient weather and climate monitoring network together with early warning dissemination mechanism that will convey the latest information available on weather and climate and other natural disasters to all Maldivians through modern technology.

In this context, the importance of strengthening continuous weather monitoring and expansion of weather monitoring network cannot be emphasized enough. Analysis of this data and timely dissemination of warnings to the general public is critical to save lives and to reduce damages to the property and infrastructure.

An Early Warning System (EWS) is the key to minimizing damage in the event of a discharge. A critical part of the EWS and one which is most important to such a system is data collection and assimilation. Access to information about the probability of a hazard and the extent of damage it could cause is therefore essential. Such a process requires expansion and enhancement of existing weather and climate monitoring network. Currently only mechanism to deliver/disseminate the early warning messages to the community is through public TV and Radio. There is urgent need to strengthen existing early warning system so that the messages can be delivered/disseminated to island community without delay.

The proposed project would help to reduce impact associated weather and climate related events and disasters and losses caused to the country by enhancing weather forecasting and climate prediction. The end users of MMS include government agencies and private sector. It is known that the occurrence of weather and climate related disasters cannot be stopped, but timely accurate meteorological and climate information would assist in reducing disaster impacts through planning and timely appropriate actions. Hence it is important for Maldives Meteorological Service to enhance its capacity to provide reliable weather and climate services. By enhancing weather monitoring network will contribute to minimize risks associated with climate change.

In order to fulfil the above-mentioned objective, the MMS studied and implemented the: “Project for Enhancing weather and climate monitoring and data management capacity of Maldives Meteorological Service (MMS) for reducing vulnerabilities of climate change in the Maldives”.

This project was approved by Maldivian Government and was authorized to use the financial aid received from Italian Government.

1.2 LOCATION AND OBJECTIVES

The present Project is therefore realized in order to strengthen weather and climate monitoring mechanism thereby allowing MMS to provide early warning with sufficient lead time thus reducing impacts. The project also aims to enhance meteorological data management capacity of MMS by building human resources and strengthening institutional capacity of the organization.

This project will be implemented Nationwide.

Specific Project objectives can be summarized as follows:

- Expansion of Automatic Weather Station Network with additional 25 automatic remote monitoring stations to uniformly distribute and maximize data measurement throughout the country.
- Integration of the meteorological data from 25 AWS by facilitating real-time data collection and assimilation to a unique SQL database.
- Strengthening data management system and communication of regional outposts of MMS and linking these facilities to MMS's head office.
- Capacity building for technical staff on remote telemetric devices for troubleshooting and maintenance of the remote monitoring network.

1.3 EXPECTED PROJECT DEVELOPMENT

As the above-mentioned networks will eventually cover the whole country, the improvement and modernization of the system requires a very accurate and skilled approach, in order to develop and implement adequate technical solutions in compliance with the present guidelines and budgetary capability.

Provide accurate, timely and reliable meteorological information to minimize the impact on life and property while supporting sustainable socio-economic development of the Maldives is the key objective of the project. This must be attentively considered by the bidder, when designing the system or proposing specific technical solutions.

1.4 NATURAL FEATURES OF THE PROJECT AREA

Maldives is located on the equator and therefore experiences monsoonal climate. There are two distinct seasons, dry season (Northeast Monsoon) and wet season (Southwest Monsoon). In these two seasons the temperature varies hardly. Northeast monsoon extends from January to March. Since Maldives consists of small islands and are surrounded by sea, hot days are often tempered by cooling sea breezes and balmy evening temperatures.

Throughout the year, temperature remains almost same in the Maldives. However, daily temperature ranges from around 31° Celsius in daytime to 23° Celsius in night time. The highest temperature ever recorded in the Maldives was 36.8° Celsius, recorded on 19 May 1991 at Kadhdhoo Meteorological Office. Likewise, the minimum temperature ever recorded in the Maldives was 18.2° Celsius, recorded on 23rd December 2002 for the Northern Maldives.

The wet season; southwest monsoon runs from mid-May to November. In this season Maldives experiences torrential rain. The highest rainfall ever recorded in the Maldives with in a 24 hour period was recorded on 24th November 2015 at Gan Meteorological Office and amounts to 228.4 mm of rainfall.

The fact that the Maldives is located at the equator, Maldives receives plentiful of sunshine throughout the year.

1.5 PROJECT COMPONENTS

The Maldivian Meteorological System is expected to be a complex system, thus requiring a combination of top-quality heavy duties hardware technologies, associated with highly reliable and flexible dedicated software.

Accuracy, reliability, robustness and also versatility must be the main features for a meteorology monitoring system. Data collected at meteorological stations are gathered, elaborated and sent from remote areas to the main monitoring center in real time, where the user can manage these data in order to understand how to mitigate the effects of extreme weather events or to make any other decision.

For these reasons it's requested for all equipment and services the total compliance to World Meteorology Organization (WMO) standards for the correct parameter detection. WMO generates data and information on weather, climate and water, according to internationally agreed standards and adopts technical regulations which lay down the meteorological practices and procedures to be followed (please refer to WMO-8 Guide to Meteorological Instruments and Methods of Observation, for recommended practices).

The supply will include installation and maintenance for the warranty period of the full system, leaving as much as possible to Contractors the responsibility of the system performance. It is of the utmost importance that the supply has to be conceived as a "turn-key system", perfectly operational and working in all its components (hardware, software, services), with penalties to the supplier in case of failure of project implementation.

Under these concepts, the following main components have been defined, to be attentively described by the Bidder.

1. Preliminary Project Engineering;
2. Manufacturing, testing, supply and installation of meteorological stations at selected locations;
3. Design and implementation of the most appropriate Data Transmission System, in accordance with the overall system design;
4. Design and implementation of requested Data Control Center;
5. Provide Early Warning and data dissemination at main users. Exchange of data with other main stakeholders;
6. Technology transfer and personnel training, in order to make MMS independent in the system's management and maintenance.

Technical specifications for the above components will be given hereinafter.

2. TECHNICAL SPECIFICATIONS

2.1 KNOWLEDGE OF SITES

In order to understand Maldives reality and pertinent local aspects, the Bidder is recommended to visit sites for AWS installation. Visits shall be agreed upon with MMS responsible Officers, transmitting the relevant request at least one week in advance of the proposed period of visit. During these visits, the Bidder will be allowed to discuss all potential problems and have clarifications from MMS officers on site and local Authorities.

Costs of traveling will be sustained by the Bidder and are not reimbursable.

The Bidder must contact MMS Project team at least one week in advance; giving official communication of the site inspection he intends to accomplish, in order to fix the necessary meetings.

Evidence of site inspections, through letters signed by local MMS officials or local Authorities, shall be given in the proposal, as an attachment to the correspondent section.

Islands for the proposed AWS installation has been screened and approved by the MMS, and please find the following list of 25 islands approved for AWS installation.

1. Ha. Hoarafushi
2. Ha. Kelaa
3. HDh. Kulhudhuffushi
4. Sh. Kanditheemu
5. Sh. Funadhoo
6. N. Maafaru
7. R. Maduvvari
8. Lh. Olhuvelifushi
9. B. Thulhaadhoo
10. Baa. Goidhoo
11. K. Gaafaru

12. K. Dhiffushi
13. K. Guraidhoo
14. AA. Thoddoo
15. AA.Himandhoo
16. V. Rakeedhoo
17. F. Nilandhoo
18. M. Muli
19. Dh. Kudahuvadhoo
20. Th. Buruni
21. L. Maavah
22. Ga. Kolamaafushi
23. Ga. Gemanafushi
24. Gdh. Thinadhoo
25. Gdh. Faresmaathodaa

Based on the preliminary studies and site visits, the proposed AWS in each island will most probably be installed inside the schools of each island or any other government institution in each island. But, we will also give priority to reserve a location from harbor area of each island (if applicable based on islands development plan) as it will provide the desired clear area for AWS coverage. The exact locations and details of the location shall be provided upon the selection of bidder for the project implementation.

2.2 PROJECT ENGINEERING (STUDY & RESEARCH ACTIVITY)

Scope of this activity will be the preparation of the best possible Project, taking into account not only the technical aspects of the system to be installed and DCPs, but the peculiar hydro-meteorological situation of Maldives, expected future system extensions and – as a priority issue - local environmental and socio-economic impacts.

Project Engineering will include the following sub-components:

- a) Review of potential previous studies and project priorities;
- b) General system design, including revision of installation sites, transmission system, design of Control Centers, etc.
- c) Detailed design of civil works and installation for each station, to be implemented in accordance with Maldivian standards.
- d) Proposed time schedule for project completion, warranty and training activities.

The overall Project Engineering must be completed within the maximum time of two months.

Whichever the final Project configuration will be, no variations of Project costs will be admitted.

The determination and selection of best suitable data transmission system will also be considered as an essential task, to be attentively evaluated by the potential Contractor. In principle, UMTS/GPRS is to be considered as priority solution, satellite transmission mode is also an alternative to be attentively evaluated. On this regard, discussions will be held, during project implementation with Maldivian Authorities on existing telecommunication network, etc., in order to take the best possible decision.

2.3 GENERAL SYSTEM CONFIGURATION

Only credited Italian manufacturers are invited to tender, in association with credited Maldivian Companies for provision of local supplies or services. Present System configuration includes a total of 25 (twenty five) Automatic Weather Stations

All Stations shall be equipped with necessary sensors, Data Collection and Processing Unit (data logger), the selected transmission system, lightning rod, electromagnetic discharge system and all necessary ancillary equipment.

Transmission system shall guarantee the highest reliability and minimum loss of data, especially during emergency, easy operation, possibility of system query according to needs and the lowest operating costs.

- a) A fully equipped Data Control Centers, to be located in MMS HQ
- b) A telecommunication network to connect the Data Control Centers to the ASR.
- c) Two sets of complete spare parts;

2.4 START UP, CALIBRATION AND TESTING

During tendering phase, the tenderer shall provide accurate description on how they intend to start up and calibrate the system. In case of contract assignment, after the installation, putting into operation, testing and verification of the measuring stations and central unit, the overall system testing and verification should be performed by the Contractor and supervised by the Contracting Authority.

Upon installation and putting into operation each measuring station should be tested, calibrated and verified by the Contractor.

2.5 DOCUMENTATION

As part of tender proposal, the bidder should provide relevant documentation describing how the start-up, calibration and testing of all component of the meteorological system will be performed with reference to:

- correction and validation for data transmission, control software and database synchronization;
- collection, analysis and comparison of observed and automatic data in weather station;
- Summary and evaluation for automatic data status (errors, missing data, accuracy, etc.);
- Evaluation reports for operation and testing of the whole system and final report.

Note that the Final Payment should be subjected to the previous clauses, as well as the release of the Bank guarantee to the Contractor.

Documentation on successful testing and verification should be provided to the Contracting Authority.

Hardware for Monitoring Center:

Upon installation and putting into operation, the central unit hardware and software application should be tested and verified by the Contractor. Documentation on successful testing and verification shall be provided to Contracting Authority.

Software for monitoring center:

Documentation on successful testing and verification shall be provided to Contracting Authority.

Technical manual and datasheet of data logger and sensors containing specification. Operating and Maintenance manual that defines the requirements and procedures for the effective operation, use, maintenance and calibration of the network. All document must be provided in English language.

2.6 SPECIFIC TECHNICAL REQUIREMENTS

2.6.1 GENERAL

Considering the harsh climatic conditions of Maldives, Automatic weather Stations to be installed must be heavy-duty, top-quality equipment, capable to operate under extreme climatic conditions, marine environment, highly flexible, user friendly and easy to maintain.

Proposed technologies shall comply with following standards:

a) Average useful life of stations	not less than 15 years
b) Average loss of data, considering the full cycle of data collection, transmission and reception in Control Centre	Less than 2 %
c) Average MTBF (Mean Time Between Failures)	Not less than 12.500 h

Compliance with all the above parameters must be clearly demonstrated by the Bidder, through statistical evidence officially supported by selected Clients.

All stations must be self-sustained and self-powered by solar panels with battery backup, equipped with lightning arrestor and electromagnetic discharge system. **The sizing of the power system will ensure proper operation of the stations in the total absence of sunshine for at least 30 days.**

Stations must allow local access to the data and the main configuration parameters either through a screen display (built-in in the data logger) and through the connection to a portable PC. It's also mandatory that the stations are remotely accessible via WEB by the mean of the most common internet browser, in order to visualize data and to configure data logger and sensor parameters.

In consideration of the importance of the monitoring system also for early warning, it is necessary that the operation of the equipment is guaranteed 24 hours and in any environment conditions through the use of components subjected to rigorous testing in the factory and designed for harsh environmental conditions, advanced logic of the communication modules management and data recovery, appropriate sizing of secondary power systems and different methods of storing data locally for at least 12 months.

All electronic components of the stations should be protected and enclosed in containers made up of materials resistant to corrosion in marine environment. It's mandatory to protect the station with a double enclosure, the inner one with at least IP65 protection for the data logger electronics and data transmission system, the outer one for data logger enclosure, battery, and interconnection cabling, with a double door lock and some mechanism for anti-vandalism protection.

Based on the preliminary site surveying and visits, the design of the AWS are to be as following. Among the 25 AWS to be installed, 19 AWS are to be installed in the local islands and 06 AWS to be installed in a developing domestic airports. Below find the details of design for the specific situations.

19 AWS to be installed in Local Islands

The main tower must be 15 meters in height to allow the installation of the wind sensor and at the same time allow the operator to easily access to the sensors, without ever interrupting the station's functionality. The mast must withstand wind gusts at 160 km/h, with hot-dip galvanizing (HDG) steel protection. The rain gauge should be installed (if possible) in a separate mast at 2 meters height, as recommended by WMO. Different kind of installation of the rain gauges should be considered if so required by the specific site conditions.

06 AWS to be installed in the developing domestic airports

The main tower must be 10 meters in height to allow the installation of the wind sensor at a height suggested by WMO and at the same time allow the operator to easily access to the sensors, without ever interrupting the station's functionality. The mast must withstand wind gusts at 160 km/h, with hot-dip galvanizing (HDG) steel protection. The rain gauge must be installed in a separate mast at 2 meters height, as recommended by WMO.

All electronic components must be designed to fully meet all standard requirements for the measurement of meteorological parameters as well as regulations of the World Meteorological Organization (WMO) except the specified conditions given by the purchaser due to the need of setting scope applicable to local context. Moreover, the stations installation and setup should follow the guidelines suggested by the World Meteorological Organization in order to ensure the significance of the measures. The technical features of sensors provided cannot be less than those required by the WMO-8 manual.

Each AWS will transmit data through GPRS network. For remote sites where GSM network will not available satellite transmission will be taken into consideration.

Each measurement site must be made keeping in mind the following needs:

- maximum significance of the measures according to the WMO guidelines;
- ensure long term reliability of operation and execution of the measures;
- ensure ease of access in order to facilitate the maintenance operations;
- Check the UMTS / GPRS coverage on the site.

Once the system installed, it shall be fully independent from external technology.

2.6.2 AWS SPECIFICATIONS

The single AWS will be composed by:

- one set of sensors(see table 2.1 below)
- one Data Collection and processing unit (data logger);
- one communication device (UMTS/GPRS);
- one power supply subsystem (solar panels, regulators, batteries, etc);
- All necessary additional devices, accessory and installation materials including masts.

Provision of sensors will be according to the following table:

Table 2.1

Sensors	Meteorological
	(25)
Rainfall (cumulated and rain intensity)	X
Air Temperature & Humidity	X
Wind Speed & Direction	X
Atmospheric Pressure	X

Specific requirements for the different type of sensors are given in the following paragraph 2.6.3.

2.6.2.1 TECHNICAL SPECIFICATIONS FOR SENSORS

A) Rainfall sensors

Measurement method shall be of "tipping bucket" type with knife support. The instrument shall be fully constructed of metallic material, with anti-corrosion protection. The sensor shall be equipped with built-in electronic that allows the immediate calculation of the intensity of rain as well as the cumulative rainfall, able to measure rain intensity at regular intervals (1 minute as minimum).

Other characteristics of the sensor shall be:

- Funnel area: ≥ 400 square cm²
- Rain intensity accuracy: better than 3% up to 300 mm/h in real time operation. Each sensor must be individually certified to demonstrate the accuracy on the whole range (test at minimum 3 rain intensity values);
- Resolution: 0,1 mm
- Measurement range: 0 - 400 mm/h or more;
- Internal memory for data record and storage > 6 months period
- Output: cumulated rain measurement; rain intensity
- Operational conditions: $0^{\circ}\text{C} \div 60^{\circ}\text{C}$; $0 \div 100$ % R.H.
- The instrument must be WMO compliant.

Bidders may propose different technical solutions for rainfall sensors, provided that specifications are equal or better than the ones listed above and instrument passed WMO testing, within the given ranges.

B) Air temperature and relative humidity sensors

The following specifications shall be complied:

- Integrated type with natural ventilation, made with material suitable to mitigate interferences and effects of solar radiation on measurement;
- Sensor shall be pre-calibrated and shall not require field re-setting.

B1) air temperature sensor:

- Measurement Range: -25°C to 60°C
- Accuracy: 0.2°C at 23°
- Resolution: 0.02°C ;
- Operational conditions: -40°C to 60°C ; 0 to 100 % R.H.
- Air temperature sensor can be integrated in a unique solution with relative humidity sensor;

B2) Humidity sensor

- Measurement Range: 0 to 100% R.H.
- Accuracy: $\pm 1, 5$ % (0 to 100% R.H.)
- Resolution: 0.1 % RH;
- Operating Temperature: -20°C to 50°C

- Can be integrated in a unique solution with air temperature sensor

Bidders may propose different technical solutions for air temperature and relative humidity sensors, provided that technical specifications are not lower than specified transducers and demonstrating the operative effectiveness.

C) Atmospheric Pressure sensor

The sensor shall be fully electronic technology, and provide reliability and accuracy of measurement under any weather conditions also in presence of mechanical vibrations. The following specifications shall be complied:

- range: 500 to 1200 hPa
- Resolution: 0.0011% F.S.;
- Accuracy: ± 0.4 hPa between -40 e $+85$ °C
- Long-term stability: ± 0.25 hPa/year;
- Temperature range: -40 to 85 °C.

D) Wind speed and Direction

The sensor shall be composed by a weathercock gonio-anemometer and a three-cup tacho-anemometer, equipped with high quality bearings. The supporting bar for sensors is integrated with a lightning rod to eliminate the risk of atmospheric induced damages.

Wind direction shall be a vane gonio-anemometer based on a Hall Effect sensor, with top-grade electrical and mechanical performance. Wind velocity transducer will be solid state with unlimited life duration.

Connectors shall be Watertight, connecting cables shall be sheltered in stainless steel support arms for total protection. Bidder shall provide the adequate support for the sensors (10 m height, according to WMO recommendations, unless specified otherwise)

D1) Wind Speed Sensor:

- Wind velocity measurement range: 0 to 160 km/h or higher
- Accuracy: ± 0.25 km/h;
- Resolution: 0.2 km/h;
- Operational conditions: 0°C to 60°C ; 0 to 100 % R.H.
- Lightning rod protection.

D2) Wind Direction Sensor:

- Wind direction measurement range: 0 to 360°
- Resolution: 0.35° ;
- Accuracy: better than $\pm 3^{\circ}$;
- Operating conditions: 0°C to 60°C ; 0 to 100 % R.H.

2.6.2.2 LOCAL ACQUISITION AND PROCESSING UNIT (DATA LOGGER)

The local acquisition unit shall perform the following basic functions:

Use an open source operating system
Support different communication protocols such as PakBus, Modbus, DHCP, FTP, HTTP, XML, Telnet, NTP
Be directly compatible to sensors with output resistance, voltage, current, frequency, digital without requiring hardware changes or additions
Possibility to create simulated sensors by combining input of physical sensors
Possibility to connect at least 8 sensors 1 CS I/O 1 RS-232
Include 13 bit AD converter
Menu in English
Real time clock synchronization by means of server in data center Automatic correction of leap year Maximum drift: 20 ppm/year
CPU: operating frequency 500 MHz minimum
RAM 4 MB minimum
Completely configurable either locally or remotely
Able to set acquisition intervals and flexible scheduling: each measurement can be independently scheduled. Sample intervals can be set from 1 sec. to 24 hr., in 1-second increments
Able to view realtime data locally via TCP/IP connection with standard web browsers
Non-volatile memory for storing data, 512KB minimum

<p>Built-in memory card slot for downloading data or extension of main memory with the possibility to expand memory up to a minimum 2GB via removable SD Card, capable to store at least 6 months of data on hourly basis (all sensors). Estimation of data storage to be provided by tenderers</p>
<p>The data logger must be pre-configured to plug play at least the sensors included into this project:</p> <ul style="list-style-type: none"> - barometer - air thermometer - air hygrometer - wind direction sensor - wind speed sensor - rain gauge for rainfall intensity - communication device (2G/3G modem)
<p>Able to monitor the power supply and other measured parameters, and in the case of preset critical conditions send an alarm; thresholds for alarms must be programmable either remotely or locally</p>
<p>Run an internal web server to store, process and deliver web pages to clients, enabling remote data download and basic configuration of the station without the usage of any intermediate software between the data-logger and the user. Functionalities will be made available to different users according to individual usernames and passwords. The site will be accessible using popular browsers by using mobile devices (tablets and smartphones) or PCs, using data mobile communication 2G/3G or Ethernet cable provided with public IP address</p>
<p>Be able to send – push data via GPRS/UMTS using Ftp protocol in ASCII format;</p>
<p>Be well documented to allow user to perform installation, configuration and firmware update</p>
<p>Accompanying configuration software for the logger</p>

Moreover:

A) Automatic acquisition of meteorological data

It shall be possible to set acquisition intervals and recording intervals independently for each acquisition channel. It shall be possible to configure acquisition parameters.

B) Data processing and storage

The Data Collection Platform (DCP) acquisition unit shall be capable of doing local treatment of measured data, in order to grant a very reliable data acquisition.

A LCD display shall give to local operator's information on acquired data and on operating conditions of the DCP.

It shall be possible to enter commands through an integrated keyboard.

It shall be possible to store in a removable memory more than 12 months of hourly data (rain, temperature and humidity, air pressure, and wind speed and direction).

C) Transmission/reception of data

The data transmission must be possible by remote request from the Front End, to allow immediate data reception.

For the 6 AWS to be installed in the developing domestic airports it should be compulsory to transmit data in real time from the station to a PC or laptop located nearby. Raw data will be transferred wirelessly through a radio link operating on a free frequency band. This transmission system will operate independently from the main mobile transmission system. PC or laptop will be made available by the Purchaser. The minimum distance between this station and PC is assumed to be at the minimum 100m and maximum distance of 120m.

D) Self-diagnosis and supervision

The DCP shall be able to gather and report alarm conditions upon failures of equipment and connected devices

E) Hardware minimal requirements:

- CPU: low power CMOS processor
- Real time clock
- Removable memories: ≥ 1 Mbytes memory card
- Telecommunication device: GSM
- Power supply: 12 VDC (solar panel power supply)
- Shut-off capability to minimize power supply drainage under low-battery voltage conditions
- Operating conditions: $-30^{\circ}\text{C} \div 50^{\circ}\text{C}$; $0 \div 100\%$ R.H.

F) Power supply subsystem

This subsystem shall comprise a solar panel, batteries of accumulators and voltage regulators. In addition, supply shall include all wiring and connectors for interconnection of components.

The subsystem shall be supplied completed and suitably dimensioned to satisfy consumption of all loads of ASR and to provide uninterrupted operation, with normal operation of the telecommunication transceiver.

Bidders have to provide calculations of the power supply system in order to guarantee a minimum of 30 (thirty) days of proper operation of the station in case of the total non-working conditions of the solar panel.

It shall have the following minimum technical requirements:

- Control unit for power supply of data logger, modems and sensors.
- Power control unit for use with solar panels.
- Lightning protection module for solar panel
- Power indicator connected to data logger as one of measured channels
- Deep discharge protection for battery

f1) Solar panel

The solar panel shall be resistant to heavy weather, marine environment, ultraviolet radiation, mechanical impacts and penetration of dust and humidity.

It shall have the following minimum technical requirements:

- Rated voltage: suitable for charging 12 VDC batteries
- Minimum solar panel power: 40W
- Peak power: suitable to grant the fully charge of the battery under the normal operating conditions
- Operating temperature range -30° to +50° C

f2) Battery

The battery shall be rechargeable, sealed lead-acid type, suitable for service in solar powered systems.

It shall have sufficient capacity to satisfy normal operational load for a period not less than 30 (thirty) continuous days without recharging from the solar panel.

f3) Regulator

The regulator shall guarantee that the battery is not over-charged and is always fed at correct voltage, at the same time preventing the discharge towards photovoltaic cells during low solar radiation condition.

2.6.2.3 CALIBRATION KIT

Bidders shall include in their offer 2 sets of kit for in field calibration. Each portable kit will be provided inside a case for easily transportation to installation sites and will be accompanied with Technical Manual about calibration procedures.

The kit will include at least the following:

- Module to connect the sensors: electronic device that will allow the technician to check the value of the sensors. Such device can be stand alone with a display or can be connected to a laptop with USB/serial connection.
- Cables and connectors;
- Battery pack: rechargeable battery pack to ensure at least 4 hours operation. Battery pack can be stored in a different case.
- Calibration kit:
 - Standard barometer for air pressure sensor
 - Convection tube with thermometer and hygrometer for temperature and humidity calibration;
 - Hopper: a funnel-shaped chamber and test tubes for the rain gauge
 - Caliber and compass for wind sensor.

2.6.2.4 DATA TRANSMISSION

Bidders shall include in their offer the full design of the telecommunication and data transmission system the they consider the best suitable solution for Maldives and the present project. Local conditions and available infrastructures shall be attentively considered when designing the system.

Data transmission between AWS and the Control Centre will use the existing 2G/3G networks, provided that the overall system query shall not exceed 15 minutes.

Operating conditions of all equipment shall be: -30°C ÷ 60 °C; 0 ÷ 100 % R.H.

The system shall be able to transmit in real time a minimum of 99% of measured data under whichever weather condition. Guarantees shall be given by the Bidder that this performance will be maintained during emergencies, such as torrential rains, very strong winds, typhoons, flooding, etc. (when data are mostly needed).

In the following some technical features about mobile communication unit:

GSM/GPRS MODEM Quad Band EDGE Class 33, Quad Band GPRS Class 10;
--

Mobile station class B
Download speed: Up to 7,2 Mbit/s HSPA+;
Max Characters in SMS Message: 160
Input/output connection: standard and compatible with the logger
Operating range: -30 to +80 °C
Power supply: 5 – 32 Vdc
Average power consumption over a 1 min measurement interval:
Standby (@ 12V) \approx 20 mA
Low Power Mode (@ 12V) \approx 10 mA
High gain bar antenna for external mounting with cable min. 5 m

2.6.3 SPECIFIC REQUIREMENTS FOR SUPPLYING OF DATA ACQUISITION CENTER

The stations will transmit the data to a control center. The **Data Acquisition Centre** is the brain of the environmental monitoring system. The role is to manage stations, to collect data and to distribute the data acquired to the operators. The infrastructure of the control center shall be made up of all hardware and software equipment necessary for execution of following main tasks:

- Data acquisition from remote stations,
- Data storage,
- Data validation;
- Database formation (SQL database)
- Data distribution to authorized users.
- Network configuration and monitoring
- Displaying time series of original and summary data (daily, weekly, monthly, annual, statistical indicators),
- Reporting for the generation, management and generation of alarms to the exceeding of thresholds configurable from the center,
- Access to the database from fixed locations and web in addition to the supervision and remote control of the entire network monitoring system.

The Central should be the real brain of the monitoring system, as it not only receives the monitoring data and makes them available to users, but allows the use and configuration of all devices in the field through the use of simple interfaces and user-friendly.

2.6.3.1 SOFTWARE FOR DATA MANAGEMENT

A database will ensure the uniformity of data management and should automatically merge both real-time and historical data. SQL (Structured Query Language) shall be used for retrieval and management of data in relational database. It shall be possible to unify (merging) the new database with the one existing, in order to obtain a unique complete database where all software and application can store and upload data.

The software platform will perform the acquisition and storage of data of one or more detection networks in remote-measurement. These data will constitute the working database of the whole system; it also checks the operation of the stations and performs their complete configuration. All the information necessary for the network management resides in the software: on-site devices and alarms configuration, settings, master data, data collected by the stations. This platform will be also used to check the progress of the processes, to regulate the flow of information to and from the control unit, to configure the on-site network depending on the specific needs.

Will enable users to individually monitor the status of each site and collect data 24 hours on 24 and 7 days out of 7 t, which ensures the reception of reliable observations and the use of high quality data, actively monitoring the status of the sites of the network and constantly performing real-time quality control and diagnostics.

The software in shall supports cellular network (UMTS/GPRS/GSM) transmission system and it also manages communications and interactions between the various components of the monitoring system.

The data from any monitoring network may transit in the software through standard file formats such as ASCII files, excel files (.csv), or any other proprietary compressed formats widely documented in the supply.

It shall have a geodatabase that can store geographic information, appropriately geo-referenced, that can be easily displayed in any GIS system. The spatial data must manage vector data

(points, lines, polygons) or more general geographic information (countries, regions, provinces, municipalities,).

2.6.3.2 FRONT END SYSTEM

The Front End (FE) acquisition system is composed by n. 2 Work Stations, the peripherals and the associated software needed for acquiring data from remote DCPs.

It shall include all hardware and software equipment necessary to the following basic tasks:

- Data acquisition from remote stations;
- Network configuration;
- Network monitoring;
- Network management;
- Alarm recognition and processing;
- Data validation;
- Database formation;
- Tabular and cartographic visualization of stations and data;
- Data distribution to authorized users.

The software for data visualization must be based on GIS DotSpatial libraries, which provides the geospatial representation of information arriving from a monitoring system, enabling the visualization of data on digital geo referenced maps. It shall allow the user to implement its own SIT (Territorial Information System).

Spatial data in the geo database must be vector data (points, lines, polygons) that fully describe typical entities linked to the territory monitoring, forecasting and prevention systems. In this way can be provided the geographical representation of entities such as monitoring stations, rivers, watersheds, alert zones or the representation of more general geographical information such as countries, regions, provinces, municipalities, roads or more detailed such as buildings in the city context (schools, hospitals, municipal buildings), emergency vehicles deployed permanently in the territory, branches of the main authorities in charge of rescue in case of critical issues in the territorial surveillance (civil protection, firefighters, police, forestry department, municipal police).

Therefore the end user will have a decision-making support tool for emergencies during the early warning scenarios combining, in real time, updated information from on-site sensors and the territorial information essential for the protection of the population.

The software must process and represent annual time series of data, to quickly show graphs of absolute or derived quantities, to set alarms represented with confidence intervals, i.e. color bands in the graphs, and to represent accurate point or areal information.

It must be always possible through the spatial interpolation methods of which it is equipped, to extract real-time updated areal information starting from the point data acquired from the monitoring network, in order to represent rainfall isohyets using rainfall data, isobars using data from the barometers and isotherms starting from the air thermometers with different interpolation methods like 'Thiessen Polygon Method', the 'Inverse Distance Weight Method - IDW' and the 'Kriging Method'.

The geo database must be equipped with routines for importing GRIB (.grb, .grib) format files, which give the possibility to combine the remote measurement data with the forecast data in the following 72 hours for all those situations in which updated provisional grib files are received.

It must be designed to be flexible also for the maps displaying so apart from default raster cartography it must always be possible to use maps available on the web, as well as open source maps such as OpenStreetMap, or any other maps owned by the customer such as those of Google or Bing.

The equipment in the Data Center will include with *minimal configuration* as following:

N	Item Description	Qty.	Remark
1	<p>Tower Server Xeon E5-2640V3 or equivalent</p> <p>Intel Xeon E5 v3 - 2,6 GHz Processor</p> <p>8 core, 3,4 GHz, n.1 processor</p> <p>20 MB intelligent cache, Bus 8 GT/s</p> <p>RAM 16GB</p> <p>Hard disk 2.5/3.5" , Serial ATA III, Serial Attached SCSI (SAS), RAID support</p> <p>Hot-swap</p> <p>Network 1 Gbps ;</p> <p>I/O expansion slots up to 1 PCIe 3.0;</p>	1	

	<p>1 x VGA/ 1 x Serial/ 4 x USB ports/ 1 x SD;</p> <p>Server management software:</p> <p>Microsoft Windows Server© 2008 R2 SP1 or Microsoft Windows Server© 2012 R2</p> <p>Microsoft SQL Server 2012 SP2 or higher (2014 o 2016).</p>		
2	<p>Software for network management</p> <p>The Centre shall be equipped with the software necessary for execution of following main tasks:</p> <ul style="list-style-type: none"> ● Data acquisition from remote stations, ● Data storage, ● Data validation; ● Database formation (SQL database) ● Data distribution to authorized users. ● Network configuration and monitoring ● Displaying time series of original and summary data (daily, weekly, monthly, annual, statistical indicators), ● Reporting for the generation, management and generation of alarms to the exceeding of thresholds configurable from the center. 	1	
3	<p>Workstation</p> <p>Processors 4 core, 2.6 GHz, 10 MB cache;</p> <p>Memory maximum 64GB, DIMM slots 8;</p> <p>RAM 16 GB ECC unbuffered DDR3 1866 MHz;</p> <p>Integrated 6-channel SATA controller: 2 ports 6 Gb/s + 4 ports 3 Gb/s, RAID 0, 1, 5, 10 capable;</p>	2	

	<p>Storage up to (4) 3.5-inch 7200 rpm SATA drives 12 TB max;</p> <p>HDD 3.5-inch 7200 rpm SATA 1TB;</p> <p>Optical drive DVD RW;</p> <p>Video card 1024 MB DDR3, 64bit, Memory band with 14 GB/sec, display per board 2, maximum resolution (digital@60) 2560 x 1600, Open GL 4.1, Direct X 11;</p> <p>2 PCI Express Gen3 x16 mechanical/electrical;</p> <p>1 PCI Express Gen3 x8 mechanical/electrical;</p> <p>1 PCI Express Gen2 x8 mechanical/x4 electrical;</p> <p>1 PCI Express Gen2 x4 mechanical/x1 electrical;</p> <p>1 Legacy PCI;</p> <p>Integrated HD Audio ;</p> <p>Integrated GbE LAN;</p> <p>Power supply 400 W;</p> <p>Form Factor convertible minitower;</p> <p>Keyboard, USB connection;</p> <p>Optical mouse with wheel, USB connection;</p> <p>Speakers;</p> <p>Preinstalled software Windows 7 64 bit Ultimate or equivalent.</p>		
<p>4</p>	<p>LCD Monitor</p> <p>23 inch diagonal LED Backlit panel;</p> <p>1920 X 1080 pixels resolution;</p> <p>178 viewing angles;</p>	<p>4</p>	

	VGA, DVI and DisplayPort (HDCP support); 2 port USB hub; ENERGY STAR compatibility; 100 mm VESA compatibility.		
5	Software for data visualization <ul style="list-style-type: none"> ● Network monitoring; ● Alarm recognition and processing; ● Tabular and cartographic visualization of stations and data; ● Data distribution to authorized users. 	2	
5	UPS (bypass, on-line, 5 KVA)	1	
6	Accessories for Network (RJ45, Outlet,TTP-Cable...)		
7	Router ADSL with firewall	1	

2.7 INSTALLATION

The Bidder must provide the installation and the activation of all the system and will execute the civil works needed to support the equipment and the sensors, including the positioning of all the interconnection cables that will be provided to the MMS for its acceptance.

The Bidder must provide a complete conceptual design of each type of typical meteorological stations (general layout) that shall be submitted to the Contracting Authority as part of Tender Submission. Bidders are requested to accurately describe lay-out schemes and description of proposed installation (pole, brackets, sensors etc.). Detailed technical designs, specifications and instructions to the Maldivian part.

Installation should include also the following:

- Constructing adequate and robust foundations (concrete or equivalent) for mounting the equipment;
- Anti-vandalism protection
- Marine-grade stainless steel arms and mounting brackets;

- Laying the cable connections between data loggers and sensors (adequate cable protection shall be implemented)
- Main mast design with sensor installations.

2.8 MANAGEMENT OF DATA

2.8.1 GENERAL REQUIREMENTS

Management of data will be performed at Central level. It will essentially concern the organization and management of a database and statistical elaborations.

The Bidder shall propose a full scheme for the management of data, specifying the activities to be performed at different levels and giving the overall system engineering.

For the elaboration of this part of the proposal, the following basic requirements shall be considered by the Bidder:

2.8.2 WEATHER DATA MANAGEMENT

The Bidder shall consider that final objective of the present Project is setting up a Real Time Environmental Data Acquisition System in Maldives, to help planning and decision making for future natural events.

The system should provide:

- a user-friendly interface;
- a spatial display of measurement station distribution;
- a display of raw data as well as data validated, reconstructed (when missing), and sampled at a constant time step;

Acquired Data shall be organized to be efficiently used in future dedicated studies (not part of the present Project) to estimate the risk associated with heavy rains and water level rising in flood prone or risk areas, in order to transmit reliable real-time information either to central or local Authorities, entitled to take decisions and/or directly intervene over the territory.

2.9 TECHNICAL ASSISTANCE AND TRAINING

In order to provide an adequate level of technical assistance and training, a coordination team with MMS experts will be established, to take responsibility for the project implementation.

The Contractor will provide technical and scientific support to MMS, in order to contribute to the system modernization process activated through the implementation of the present project.

Missions of international experts will be provided in various fields, in accordance with the technical assistance plan to be defined.

Specific training activity will be organized in the Maldives as following:

- **Domestic training:** organize 1 class in the MMS for managers and technical staff, with an estimate number of 20 people, 5 days training period, on (a) Equipment; (b) Information Technology and data transmission; (c) Maintenance; (d) Management at National level.

A **Remote learning system (e-learning)** should also be proposed by the Bidder, as an additional benefit.

Training will concern all aspects related to the system performance, and namely:

- a) Installation of provided stations;
- b) Installation of the Control Center;
- c) Use of specialized software;
- d) System maintenance: preventive, corrective and emergency maintenance;
- e) Maintenance of the Control Center;
- f) Remote maintenance; etc.
- g) Any other issue that will be considered of essential importance by the contractor.

The Contractor is committed to subscribe, if so requested by the Purchaser, a multi-year maintenance contract that can include partial or total on-field maintenance and/or telemaintenance.

ATTACHMENT I

LIST OF NEW METEOROLOGICAL AND METEO- STATIONS

N	Station Name	Station Type	
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ATTACHMENT II

PROPOSED LOCATION OF STATIONS

1.	Ha. Hoarafushi
2.	Ha. Kelaa
3.	HDh. Kulhudhuffushi
4.	Sh. Kanditheemu
5.	Sh. Funadhoo
6.	N. Maafaru
7.	R. Maduvvari
8.	Lh. Olhuvelifushi
9.	B. Thulhaadhoo
10.	Baa. Goidhoo
11.	K. Gaafaru
12.	K. Dhiffushi
13.	K. Guraidhoo
14.	AA. Thoddo
15.	AA.Himandhoo
16.	V. Rakeedhoo
17.	F. Nilandhoo
18.	M. Muli
19.	Dh. Kudahuvadho
20.	Th. Buruni
21.	L. Maavah
22.	Ga. Kolamaafushi
23.	Ga. Gemanafushi
24.	Gdh. Thinadhoo
25.	Gdh. Faresmaathodaa

SECTION VI:
BID FORM AND PRICE SCHEDULES

Form No 1

BID SUBMISSION FORM

Date: [insert date (as day, month and year) of bid submission]

To: Maldives Meteorological Service - Ministry of Environment and Energy.

Gentlemen and/or Ladies:

Having examined the bidding documents including Addenda Nos. *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver *[description of goods and services]* in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified per Clause 10 of GCC.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to _____ percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid for the Bid Validity Period specified in ITB Clause 21 and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

We certify/confirm that we comply with the eligibility requirements as per ITB Clause 3 of the Bidding documents.

Dated this ____ day of ____ 20 ____

(insert name, title, sign and seal)

A. Introduction
The Number of the Invitation for Bids is : NA
The Employer is: Ministry of Environment and Energy
The Beneficiary is: The Government of Maldives
Financing Agreement amount: Euro
The Name of the Project is: Supply and Installation of 25 Automatic Weather Stations
B. Bidding Documents
For clarification purposes only, the Employer's address is: Maldives Meteorological Services, Velana International Airport, Hulhule, 22000 Republic of Maldives, Tel: (+960) 3341554, (+960) 3323087 Fax: (+960) 3320021 Email: projects@meteorology.gov.mv CC: giyaas@meteorology.gov.mv
Web page: www.meteorology.gov.mv
C. Preparation of Bids
The language of the bid is: <u>ENGLISH</u> All correspondence exchange shall be in ENGLISH language. Language for translation of supporting documents and printed literature is ENGLISH
Alternative bids NOT permitted.
The currency(ies) of the bid and the payment currency(ies) shall be in Euro and Maldivian Rufiya (MVR)
The bid validity period shall be 120 days .
A Bid Security SHALL BE required. The amount and currency of the bid security shall be Euro 12,000 (Twelve thousand euro)
Bid Security Shall be an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company) or a cashier's or certified check may be submitted by a local bidder.
In addition to the original of the bid, the number of copies is: 2 No
The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Power of Attorney
D. Submission and Opening of Bids
For bid submission purposes only, the Employer's address is : Maldives Meteorological Services, Velana International Airport, Hulhule, 22000 Republic of Maldives, Tel: (+960) 3341554, (+960) 3323087 Fax: (+960) 3320021 Email: projects@meteorology.gov.mv

CC: giyaas@meteorology.gov.mv

The deadline for bid submission is:

Date: 13th August 2017

Time: 1100hrs

Bidders *do not* have the option of submitting their bids electronically.

If bidders have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: _____NA_____

The bid opening shall take place at:

Maldives Meteorological Services,

Velana International Airport, Hulhule, 22000

Republic of Maldives,

Tel: (+960) 3341554, (+960) 3323087

Fax: (+960) 3320021

Email: projects@meteorology.gov.mv

CC: giyaas@meteorology.gov.mv

Date: 13th August 2017

Time: 1100hrs

PRICE SCHEDULE**Goods manufactured outside the Purchaser's country, to be imported**

Item N°	Name of Goods	Description	Quantity	Country of Origin	Unit price (CIF, CIP...)	Total price (4 x 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Item A.....					.....
2	Item B.....					.....
3	Item C.....					.....
....
Total						.....
Taxes and costs						.....
Costs for transportation, insurance, and others to final destination						.....
Total price						.....

The legal representative of the Bidder

(Insert name, title, sign and seal)

PRICE SCHEDULE

Goods manufactured outside the Purchaser's country, already imported

Item N°	Name of Goods	Description	Quantity	Country of Origin	Unit Price (EXW) After deducting taxes and costs	Total Price (4 x 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Item A.....					.....
2	Item B.....					.....
3	Item C.....					.....
....
Total						.....
Taxes and costs						.....
Costs for transportation, insurance, and others to final destination						.....
Total price						.....

The legal representative of the Bidder

(Insert name, title, sign and seal)

REPORT

list of the same contract, already been implemented

1. Name of the Bidder:

- Address:

2. List of contracts:

Currency of Bid: EURO

Line item	Name of contract	Value of contract	Name of Project Manager	Value of part of incomplete work	The contract validity date	The contract execution period
1						
2						
3						
4						
...						

The report is enclosed with the copies of writing, documents related to that contracts (Project Manager's confirmation for the contracts already executed, certificate of goods' quality, high quality works if any).

....., date monthyear

The legal representative of the Bidder

(Insert name, title, sign and seal)

REPORT

Experience and capacity of the bidder

In the field of manufacture

1. Name of Bidder:

- Address:

2. Experience in the field of manufacture:

-from: to:

- from: to:

3. Quantities, species of the products in 3 recent years (2014, 2015, 2016):

- 2014:

- 2015:

- 2016:

4. Total number of employments:

In the field of manufacturing:

In which, Professional staffs:

....., date..... Monthyear.....

The legal representative of the Bidder

(Insert name, title, sign and seal)

Form No 7

REPORT ON FINANCIAL CAPACITY OF THE BIDDER

1. Name of Bidder:

- Address:

2. Brief summary of property and liability basing on audited financial report within recent 3 years (including notarized copy of audited financial report).

Currency of Bid: EURO

Item		Year of 2014	Year of 2015	Year of 2016
1	Total Assets (TA)			
2	Total Liabilities (TL)			
3	Net Worth (NW)			
4	Current Assets (CA)			
5	Current Liabilities (CL)			
6	Total Revenue (TR)			
7	Profits Before Taxes (PBT)			

3. Credit Commit:

....., date..... Monthyear.....

The legal representative of the Bidder

(Insert name, title, sign and seal)

BID SECURITY

....., date..... Monthyear.....

TO: Maldives Meteorological Service - Ministry of Environment and Energy,

Whereas [*name of the Bidder*] (hereinafter called “the Bidder”) has submitted its bid dated [*date of submission of bid*] for the supply of Meteorological equipment and Service (hereinafter called “the Bid”) under the Program funded by Italian Government.

We [*name of Bank*], having our registered office at [*address of Bank*] (hereinafter called “the Bank”) are bound unto Maldives Meteorological Service - Ministry of Environment and Energy in total an amount of [*insert amount in figures, in words expressed in the currency specified in the BDS*].

At the request of Maldives Meteorological Service - Ministry of Environment and Energy, we irrevocably undertake to pay you the above sum upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation under the bid conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

The legal representative of the Bank

(Insert name, title, sign and seal)

Form No 9

Form of contract

CONTRACT

....., date.... month..... Year.....

Contract No:

Under the Bid: Supply, Installation and Maintenance of Specialized Equipment and Related Services under the project: “CLIMATE ADAPTATION AND ENVIRONMENT CONSERVATION IN THE MALDIVES”

- Under the Agreement signed between the Maldives government and Italy government for the Program Aid of Italian Government, dated At

- Under..... (*Tender Regulations issued dated of.....*);

.....

- Under Decision Nodate month..... Year..... offor approving tender result and Award Notification Nodate month..... Year..... of Ministry of Environment and Energy

- Under the Agreement of the contract negotiation, signed between the Contracting Authority and the Contractor dated

We, representative for the Contract signed parties, including:

Purchaser:

Name: Maldives Meteorological Service - Ministry of Environment and Energy

-

Address: : xxxxxxxx- Male - Maldives

Tel:

Fax:

Email:

Account:

Represented by:

Supplier

Name:

Address:

Tell:

Fax:

Email:

Account:

Represented by:

Two parties agree to sign the contract with the following contents:

Clause 1. Object of Contract

Object of contract means the goods specified in the enclosed appendix.

Clause 2. Component of Contract

Contract component and legally prior order as follows:

1. Contract Writing;
2. The contract negotiation report;
3. Approval Decision on Award Notification;
4. Special Conditions of Contract;
5. General Conditions of Contract;
6. Bidding Dossier and documents clarifying the successful Bidder's bidding Dossier (if any);
7. Bidding Documents and supplement documents (if any);
8. Other enclosed documents (if any).

Clause 3. Responsibility of Supplier

The Supplier undertake to supply fully type of Goods for Purchaser as specified in Clause 1 of the Contract, at the same time undertake to execute obligations and responsibilities specified in the General Conditions and Special conditions of Contract.

Clause 4. Responsibility of Purchaser

The Purchaser hereby covenants to pay the Supplier the contract value, specified in Clause 5 of the Contract in the manner prescribed in the Special Conditions of Contract as well as implement other obligations and responsibilities, defined in the General Conditions and Special Conditions of Contract.

Clause 5. Contract value and payment manner

1. Contract value: *[Insert words and figures and currency]*.
2. Payment method: in accordance with Clause 16 - Special Conditions of Contract.

Clause 6. Type of Contract: lump sum.

Clause 7. The contract execution period:

Clause 8. Validity of Contract

1. The contract shall be effective when signed by two parties and approved by the authorities.
2. The contract shall be invalid after two parties conduct the contract liquidation in accordance with the laws of the Republic of Maldives.

The Contract is made out in..... sets, The Purchaser shall hold sets and The Supplier shall holdsets.

Legal representative of Purchaser

Legal representative of supplier

APPENDIX

Goods list in accordance with the contract

(Enclosed with the contract No....., date ... month... year)

(The appendix is established on the base of requirements in Bidding Document, Bidding Dossier and the agreements, gained during the progress of contract completion negotiation, including the list of supplied goods.).

List of Goods

- 1.....
- 2.....
- 3.....
- 4.....

PERFORMANCE SECURITY FORM

....., *date ...month ...year....*

To: Maldives Meteorological Service - Ministry of Environment and Energy -

[Insert name of Contract, number of contract]

We have been informed that *[insert complete name of Supplier]* (hereinafter called “the Supplier”) has entered into Contract No. *[Insert number]* dated *[insert day and month]*, with you, for the supply of *[description of goods]* (hereinafter called “the Contract”)

And whereas it has been stipulated by you in the Contract the Supplier shall furnish the Ministry of Maldives Meteorological Service - Ministry of Environment and Energy, with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with the Supplier’s performance obligations in accordance with the Contract.

We, *[insert name of bank]* in *[insert name of country]* (hereinafter called “Bank”), affirm that we are Guarantor and responsible to you, on behalf of the Supplier, up to a total of ... *[amount of the Guarantee in words and figures]*. We agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Maldives Meteorological Service - Ministry of Environment and Energy, upon your first written demand declaring the Supplier to be in default under the Contract, within the limit of *(amount of Guarantee)* as aforesaid.

This guarantee is valid until ... day of....

Legal representative of the bank

(Insert name, title, sign and seal)

ADVANCE PAYMENT SECURITY FORM

....., *date ...month ...year....*

To: Maldives Meteorological Service - Ministry of Environment and Energy

[Insert name of Contract, number of contract]

In accordance with the payment provision included in the Special Conditions of Contract, *[insert name and address of Supplier]* (hereinafter called “the Supplier”) shall deposit with the Maldives Meteorological Service - Ministry of Environment and Energy a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[Amount of guarantee in figures and works]*

We, the *[insert legal name and address of bank or financial institution]* (hereinafter called “the Supplier”), as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Maldives Meteorological Service - Ministry of Environment and Energy on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between the Purchaser and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

The guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until the end of the day....

Legal representative of the bank

(Insert name, title, sign and seal)