
*The Ministry of Natural Resources, Environment, and
Technical Supervision (MNRETS) of the Kyrgyz
Republic*

Request for Bids Plant

Design, Supply, and Installation

Two-envelope with rated criteria

Procurement of

*Improvement of the Air Quality Monitoring
System in the Kyrgyz Republic*

March 2026

Specific Procurement Notice
Request for Bids
Plant
Design, Supply and Installation
(Two-envelope Bidding Process, Without Prequalification)

Employer: *The Ministry of Natural Resources, Environment, and Technical Supervision (MNRETS) of the Kyrgyz Republic*

Project: *Air Quality Improvement Project*

Contract title: **Improvement of the Air Quality Monitoring System in the Kyrgyz Republic**

Country: *The Kyrgyz Republic*

Loan No. /Credit No. / Grant No.: *PI77467*

RFB No: **AQIP/1.1/RFB/INT 1-2026**

Issued on: **March 04, 2026**

1. The *Kyrgyz Republic* has received financing from the World Bank toward the cost of the *Air Quality Improvement Project*, and intends to apply part of the proceeds toward payments under the Contract¹ for Modernization of Air Quality and Meteorological Monitoring Infrastructure in Kyrgyzstan.
2. The *Ministry of Natural Resources, Environment, and Technical Supervision (MNRETS) of the Kyrgyz Republic* now invites sealed Bids from eligible Bidders for the design, supply and installation of:
 - 1) *Automatic Air Pollution Monitoring Stations - Bishkek (6), Osh (2), Kara-Balta (1), Tokmok (1), Cholpon-Ata (1), totalling 11 units including following Items:*
 - *Equipment for the modernization of air pollution monitoring stations (APMS);*
 - *Laboratory equipment and instruments for analysis and measurement of pollutants in atmospheric air;*
 - *Instrument for measuring atmospheric boundary layer temperature inversion.*
3. Bidding will be conducted through international competitive procurement using a Request for Bids (RFB) as specified in the World Bank's "Procurement Regulations for IPF Borrowers" *September 2023* ("Procurement Regulations") and is open to all eligible Bidders as defined in the Procurement Regulations. According to item 6.34 of the World Bank's Procurement Regulations Borrower may conduct negotiations following Bid/Proposal evaluations and before final contract award.

¹ *Substitute "contracts" where Bids are called concurrently for multiple contracts. Add a new para. 3 and renumber paras 3 - 8 as follows: "Bidders may Bid for one or several contracts, as further defined in the bidding document. Bidders wishing to offer discounts in case they are awarded more than one contract will be allowed to do so provided those discounts are included in the Letter of Bid."*

4. Bids will be evaluated in accordance with the evaluation process set out in the bidding documents. The following weightings shall apply for Rated Criteria (including technical and non-price factors): 20%. and for Bid cost: 80 %.
5. Interested eligible Bidders may obtain further information from *Project Implementation Unit of MNRETS* and aqip.procur@gmail.com, airqualitypiu@gmail.com and inspect the bidding document during office hours 09:00 to 18:00 hours at the address given below.
6. The bidding document in English and Russian languages may be received by interested eligible Bidders upon the submission of a written application to the address below. The document will be sent by email.
7. Bids must be delivered to the address below on or before 14:00 (*local time*), April 22, 2026. Electronic bidding *will not* be permitted. Late Bids will be rejected. The outer Bid envelopes marked "ORIGINAL BID", and the inner envelopes marked "TECHNICAL PART" will be publicly opened in the presence of the Bidders' designated representatives and anyone who chooses to attend, at the address below on 14:00 (*local time*), April 22, 2026. All envelopes marked "FINANCIAL PART" shall remain unopened and will be held in safe custody of the Employer until the second Bid opening.
8. All Bids must be accompanied by a "*Bid Security*" of 45,000 (*forty-five thousand*) US Dollars.
9. Attention is drawn to the Procurement Regulations requiring the Borrower to disclose information on the successful bidder's beneficial ownership, as part of the Contract Award Notice, using the Beneficial Ownership Disclosure Form as included in the bidding document.
10. The address(es) referred to above is (are):

**"Air Quality Improvement Project in the Kyrgyz Republic"
under the Ministry of Natural Resources, Environment, and Technical Supervision of
the Kyrgyz Republic**

Address: Bishkek, Erkindik Blvd. 2, office 141.

Phone: + 996 (554) 105002

E-mail: aqip.procur@gmail.com, airqualitypiu@gmail.com

Request for Bids Plant

Design, Supply & Installation
(Without Prequalification)

Procurement of

*Modernization of Air Quality and Meteorological
Monitoring Infrastructure in Kyrgyzstan
(Design, Supply & Installation)*

RFB No: AQIP/1.1/RFB/INT 1-2026

Project: *Air Quality Improvement Project*

Employer: *Ministry of Natural Resources, Environment, and Technical Supervision of the Kyrgyz Republic*

Country: *The Kyrgyz Republic*

Issued on: *March 04, 2026*

Standard Procurement Document

Table of Contents

PART 1 – Bidding Procedures3

- Section I - Instructions to Bidders..... 5
- Section II - Bid Data Sheet 39
- Section III - Evaluation and Qualification Criteria (Without prequalification)..... 47
- Section IV - Bidding Forms 65
- Section V - Eligible Countries 131
- Section VI - Fraud and Corruption 133

PART 2 - Employer’s Requirements135

- Section VII - Employer’s Requirements 137

PART 3 – Conditions of Contract and Contract Forms237

- Section VIII - General Conditions of Contract..... 239
- Section IX - Particular Conditions of Contract 337
- Section X - Contract Forms..... 341

PART 1 – Bidding Procedures

Section I - Instructions to Bidders

Contents

A.	General	8
	1. Scope of Bid.....	8
	2. Source of Funds.....	9
	3. Fraud and Corruption.....	9
	4. Eligible Bidders.....	9
	5. Eligible Plant and Installation Services.....	12
B.	Contents of Bidding Document	12
	6. Sections of Bidding Document.....	12
	7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting.....	13
	8. Amendment of Bidding Document.....	14
C.	Preparation of Bids	14
	9. Cost of Bidding.....	14
	10. Language of Bid.....	14
	11. Documents Comprising the Bid.....	15
	12. Letters of Bid and Price Schedules.....	16
	13. Alternative Bids.....	16
	14. Documents Establishing the Eligibility of the Plant and Installation Services.....	17
	15. Documents Establishing the Eligibility and Qualifications of the Bidder.....	17
	16. Documents Establishing the Conformity of the Plant and Installation Services.....	18
	17. Bid Prices and Discounts.....	18
	18. Currencies of Bid and Payment.....	21
	19. Period of Validity of Bids.....	21
	20. Bid Security.....	21

	21. Format and Signing of Bid	23
D.	Submission of Bids.....	23
	22. Submission, Sealing and Marking of Bids	23
	23. Deadline for Submission of Bids	24
	24. Late Bids	25
	25. Withdrawal, Substitution, and Modification of Bids.....	25
E.	Public Opening of Technical Parts of Bids	25
	26. Public Opening of Technical Parts of Bids	25
F.	Evaluation of Bids- General Provisions	26
	27. Confidentiality	27
	28. Clarification of Bids	27
	29. Deviations, Reservations, and Omissions.....	27
G.	Evaluation of Technical Part of Bids	28
	30. Determination of Responsiveness of Technical Part	28
	31. Eligibility and Qualifications of the Bidder	28
	32. Detailed Evaluation of Technical Part	29
H.	Notification of Evaluation of Technical Parts and Opening of Financial Parts ..	29
	33. Notification of Evaluation of Technical Parts and Opening of Financial Parts.....	29
I.	Evaluation of Financial Part of Bids.....	31
	34. Adjustments for Non-material Nonconformities	31
	35. Correction of Arithmetic Errors.....	31
	36. Evaluation Process, Financial Part	31
	37. Abnormally Low Bids	32
	38. Unbalanced or Front Loaded Bids.....	32
J.	Evaluation of Combined Technical and Financial Parts, Most Advantageous Bid and Notification of Intention to Award.....	33
	39. Evaluation of combined Technical and Financial Parts, Most Advantageous Bid.....	33
	40. Employer’s right to Accept Any Bid and to Reject Any or All Bids	34

41. Standstill Period	34
42. Notification of Intention to Award	34
K. Award of Contract	34
43. Award Criteria	34
44. Notification of Award.....	34
45. Debriefing by the Employer	35
46. Signing of Contract	36
47. Performance Security.....	36
48. Procurement Related Complaint	37

Section I - Instructions to Bidders

A. General

- 1. Scope of Bid**
- 1.1 In connection with the Specific Procurement Notice - Request for Bids (RFB), specified in the Bid Data Sheet (BDS), the Employer, as specified **in the BDS**, issues this bidding document for the Design, Supply and Installation of Plant as specified in Section VII, Employer’s Requirements. The name, identification, and number of lots (contracts) of this RFB are specified **in the BDS**.
- 1.2 Throughout this bidding document:
- (a) the term **“in writing”** means communicated in written form (e.g., by mail, e-mail, fax, including if specified **in the BDS**, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa;
 - (c) **“Day”** means calendar day, unless otherwise specified as **“Business Day.”** A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower’s official public holidays;
 - (d) **“ES”** means environmental and social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));
 - (e) **“Sexual Exploitation and Abuse” “(SEA)”** means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.
 - (f) **“Sexual Harassment” “(SH)”** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s or Employer’s Personnel.
 - (g) **“Contractor’s Personnel”** is as defined in GCC Sub-Clause 1; and

- (h) “**Employer’s Personnel**” is as defined in GCC Sub-Clause 1. A non-exhaustive list of (i) behaviors which constitute SEA and (ii) behaviors which constitute SH is attached to the Code of Conduct form in Section IV.
- 2. Source of Funds**
- 2.1 The Borrower or Recipient (hereinafter called “Borrower”) indicated **in the BDS** has applied for or received financing (hereinafter called “funds”) from the World Bank (hereinafter called “the Bank”) in an amount specified **in BDS**, toward the project named **in BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this bidding document is issued.
- 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Fraud and Corruption**
- 3.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Section VI.
- 3.2 In further pursuance of this policy, bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
- 4. Eligible Bidders**
- 4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to ITB 4.6, or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified **in the BDS**, there is no limit on the number of members in a JV.

- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or
 - (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Plant and Installation Services that are the subject of the Bid; or
 - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager for the Contract implementation; or
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Bidding process and execution of the Contract.
- 4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate as a Bidder or as JV member in more than one Bid except for permitted alternative Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. However, this does not limit the participation of a Bidder as subcontractor in another Bid or of a firm as a subcontractor in more than one Bid.

- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer.
- 4.7 A Bidder shall not be under suspension from Bidding by the Employer as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. Where the procurement is implemented across jurisdictional boundaries (and more than one country is a Borrower, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITB 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Borrowers involved in the procurement agree.

- 4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.10 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower’s request, is satisfied that the debarment; (a) relates to fraud or corruption, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.
- 4.11 This bidding is open only to prequalified Bidders unless specified **in the BDS**.
- 5. Eligible Plant and Installation Services**
- 5.1 The Plant and Installation Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of ITB 5.1 above, “origin” means the place where the Plant, or component parts thereof are mined, grown, produced or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially different in its basic characteristics or in purpose or utility from its components.

B. Contents of Bidding Document

- 6. Sections of Bidding Document**
- 6.1 The bidding document consists of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1. Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bid Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

PART 2. Employer’s Requirements

- Section VII -Employer’s Requirements

PART 3. Conditions of Contract and Contract Forms

- Section VIII - General Conditions of Contract (GCC)

- Section IX -Particular Conditions of Contract (PCC)
 - Section X -Contract Forms
- 6.2 The Specific Procurement Notice-Request for Bids (RFB) issued by the Employer, or the Notice of Request for Bids (RFB) issued by the Employer to the prequalified Bidders are not part of the bidding document.
- 6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.
- 7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**
- 7.1 A Bidder requiring any clarification of the bidding document shall contact the Employer in writing at the Employer’s address indicated **in the BDS** or raise his enquiries during the pre-Bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified **in the BDS**. The Employer shall forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified **in the BDS**, the Employer shall also promptly publish its response at the web page identified **in the BDS**. Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document following the procedure under ITB 8 and ITB 23.2.
- 7.2 The Bidder is advised to visit and examine the site where the Plant is to be installed and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a Contract for the provision of Plant and Installation Services. The costs of visiting the site shall be at the Bidder’s own expense.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer 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 the inspection.

- 7.4 If so specified **in the BDS**, the Bidder's designated representative is invited to attend a pre-Bid meeting and/or a site visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than one week before the meeting.
- 7.6 Minutes of the pre-Bid meeting, including the text of the questions raised without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the bidding document in accordance with ITB 6.3. If so specified **in the BDS**, the Employer shall also promptly publish the Minutes of the pre-Bid meeting at the web page identified **in the BDS**. Any modification to the bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to ITB 8 and not through the minutes of the pre-Bid meeting. Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

- 8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the bidding document by issuing addenda.
- 8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 23.2.

C. Preparation of Bids

9. Cost of Bidding

- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

10. Language of Bid

- 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in the language specified **in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified **in the BDS**, in which

case, for purposes of interpretation of the Bid, such translation shall govern.

**11. Documents
Comprising the
Bid**

11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL BID”

11.2 The Technical Part shall comprise the following:

- (a) **Letter of Bid** - Technical Part, prepared in accordance with ITB12;
- (b) **Bid Security** or **Bid Securing Declaration**, in accordance with ITB 20;
- (c) **Alternative Bid** - Technical Part: if permissible in accordance with ITB 13, the Technical Part of any Alternative Bid;
- (d) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 21.3;
- (e) **Eligibility of Plant and Installation Services**: documentary evidence established in accordance with ITB 14.1 that the Plant and Installation Services offered by the Bidder in its Bid or in any alternative Bid, if permitted, are eligible;
- (f) **Bidder’s Eligibility and Qualifications**: documentary evidence in accordance with ITB 15.1 establishing the Bidder’s eligibility and qualifications ;
- (g) **Conformity**: documentary evidence in accordance with ITB 16 that the Plant and Installation Services offered by the Bidder conform to the bidding document;
- (h) **Subcontractors**: list of subcontractors in accordance with ITB 16.2; and
- (i) any other document required **in the BDS**.

11.3 The Financial Part shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 12 and ITB 14;
- (b) **Price Schedules** completed in accordance with ITB 12 and ITB 17;
- (c) Alternative Bid - Financial Part: if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid; and
- (d) any other document required in the BDS.

- 11.4** The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive.
- 11.5** In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include in the Technical Part a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.
- 11.6** The Bidder shall furnish in the Letter of Bid - Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid
- 12. Letters of Bid and Price Schedules**
- 12.1** The Letter of Bid - Technical Part and the Letter of Bid- Financial Part including the Price Schedules shall be prepared, using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed as instructed in each form without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 21.3. All blank spaces shall be filled in with the information requested.
- 13. Alternative Bids**
- 13.1** Unless otherwise specified **in the BDS**, alternative Bids shall not be considered.
- 13.2** When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included **in the BDS**, and the method of evaluating different time schedules will be described in Section III, Evaluation and Qualification Criteria.
- 13.3** Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the Employer’s requirements as described in the bidding document must also provide: (i) a price at which they are prepared to offer a Plant meeting the Employer’s requirements; and (ii) all information necessary for a complete evaluation of the alternatives by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Employer.
- 13.4** When Bidders are invited **in the BDS** to submit alternative technical solutions for specified parts of the facilities, such parts will be identified **in the BDS**, as will the method for their evaluation, and described in Section VII, Employer’s Requirements.

- 14. Documents**
- Establishing the Eligibility of the Plant and Installation Services**
- 14.1 To establish the eligibility of the Plant and Installation Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 15. Documents**
- Establishing the Eligibility and Qualifications of the Bidder**
- 15.1 To establish Bidder’s eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid- Technical Part, included in Section IV, Bidding Forms.
- 15.2 To establish its qualifications to perform the Contract in accordance with Section III, Evaluation and Qualification Criteria, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.
- 15.3 Any change in the structure or formation of a Bidder after being prequalified and invited to Bid, if applicable, (including, in the case of a JV, any change in the structure or formation of any member and also including any change in any specialized subcontractor whose qualifications were considered to prequalify the Applicant) shall be subject to the written approval of the Employer prior to the deadline for submission of Bids. Such approval shall be denied if (i) a Bidder proposes to associate with a disqualified Bidder or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Bidder no longer substantially meets the qualification criteria; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition. Any such change should be submitted to the Employer not later than fourteen (14) days after the date of the notice for RFB sent to the prequalified Bidders

- 16. Documents Establishing the Conformity of the Plant and Installation Services**
- 16.1 The Bidder shall furnish the information stipulated in Section IV, Bidding Forms in sufficient detail to demonstrate substantial responsiveness of the Bidders' proposal to the work requirements and the completion time.
- 16.2 For major items of Plant and Installation Services as listed by the Employer in Section III, Evaluation and Qualification Criteria, which the Bidder intends to purchase or subcontract, the Bidder shall give details of the name and nationality of the proposed Subcontractors, including manufacturers, for each of those items. In addition, the Bidder shall include in its Bid information establishing compliance with the requirements specified by the Employer for these items. Quoted rates and prices will be deemed to apply to whichever Subcontractor is appointed, and no adjustment of the rates and prices will be permitted.
- 16.3 The Bidder shall be responsible for ensuring that any Subcontractor proposed complies with the requirements of ITB 4, and that any Plant, or services to be provided by the Subcontractor comply with the requirements of ITB 5 and ITB 16.1.
- 17. Bid Prices and Discounts**
- 17.1 Unless otherwise specified **in the BDS**, Bidders shall quote for the entire Plant and Installation Services on a "single responsibility" basis. The total Bid price shall include all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation and completion of the Plant. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the Plant and, where so required by the bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as specified in the bidding document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.
- 17.2 Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding document.
- 17.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Section IV, Bidding Forms.
- 17.4 Depending on the scope of the Contract, the Price Schedules may comprise up to the six (6) schedules listed below. Separate

numbered Schedules included in Section IV, Bidding Forms, from those numbered 1 to 4 below, shall be used for each of the elements of the Plant and Installation Services. The total amount from each Schedule corresponding to an element of the Plant and Installation Services shall be summarized in the schedule titled Grand Summary, (Schedule 5), giving the total Bid price(s) to be entered in the Letter of Bid. Bidders shall note that the plant and equipment included in Schedule Nos. 1 and 2 below exclude materials used for civil, building and other construction works. All such materials shall be included and priced under Schedule No. 4, Installation Services. The Schedules comprise:

- Schedule No. 1:** Plant (including Mandatory Spare Parts)
Supplied from Abroad
- Schedule No. 2:** Plant (including Mandatory Spare Parts)
Supplied from within the Employer's Country
- Schedule No. 3:** Design Services
- Schedule No. 4:** Installation Services
- Schedule No. 5:** Grand Summary (Schedule Nos.1 to 4)
- Schedule No. 6:** Recommended Spare Parts

17.5 In the Schedules, Bidders shall give the required details and a breakdown of their prices as follows:

- (a) Plant to be supplied from abroad (Schedule No. 1):
The price of the Plant shall be quoted on CIP-named place of destination basis as specified **in the BDS**.
- (b) Plant manufactured within the Employer's Country (Schedule No. 2):
 - (i) The price of the Plant shall be quoted on an EXW Incoterm basis (such as "ex-works," "ex-factory," "ex-warehouse" or "off-the-shelf," as applicable), including all customs duties, sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the Plant;
 - (ii) Sales tax and all other taxes payable in the Employer's Country on the Plant if the contract is awarded to the Bidder;
- (c) Design Services (Schedule No. 3);
- (d) Installation Services shall be quoted separately (Schedule No. 4) and shall include rates or prices for local transportation to named place of final destination as specified **in the BDS**, insurance and other services incidental to delivery of the Plant, all labor, contractor's equipment, temporary works, materials,

- consumables and all matters and things of whatsoever nature, including operations and maintenance services, the provision of operations and maintenance manuals, training, etc., where identified in the bidding document, as necessary for the proper execution of the installation and other services, including all taxes, duties, levies and charges payable in the Employer's Country as of twenty-eight (28) days prior to the deadline for submission of Bids;
- (e) Recommended spare parts shall be quoted separately (Schedule 6) as specified in either subparagraph (a) or (b) above in accordance with the origin of the spare parts.
- 17.6 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce, as specified **in the BDS.**
- 17.7 The prices shall be either fixed or adjustable as specified **in the BDS.**
- 17.8 In the case of **Fixed Price**, 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 rejected.
- 17.9 In the case of **Adjustable Price**, prices quoted by the Bidder shall be subject to adjustment during performance of the contract to reflect changes in the cost elements such as labor, material, transport and contractor's equipment in accordance with the procedures specified in the corresponding Appendix to the Contract Agreement. A Bid submitted with a fixed price quotation will not be rejected, but the price adjustment will be treated as zero. Bidders are required to indicate the source of labor and material indices in the corresponding Form in Section IV, Bidding Forms.
- 17.10 If so indicated in ITB 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction (discount) for the award of more than one Contract shall specify in their Letter of Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package, and the manner in which the price reductions will apply. **However, discounts on condition of award of more than one contract will not be used for Bid evaluation purpose.**
- 17.11 Bidders wishing to offer any unconditional discount shall specify in their Letter of Bid the offered discounts and the manner in which price discounts will apply.

- 18. Currencies of Bid and Payment**
- 18.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Employer’s country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Employer’s Country, unless otherwise specified **in the BDS**.
- 18.2 The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Employer’s Country.
- 19. Period of Validity of Bids**
- 19.1 Bids shall remain valid until the date specified **in the BDS** or any extended date if amended by the Employer in accordance with ITB 8. A Bid that is not valid until the date specified **in the BDS**, or any extended date if amended by the Employer in accordance with ITB 8, shall be rejected by the Employer as nonresponsive.
- 19.2 In exceptional circumstances, prior to the date of expiration of the Bid validity, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 20, the Bidder granting the request shall also extend the Bid Security for twenty-eight (28) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 19.3.
- 19.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity specified in accordance with ITB 19.1, the Contract price shall be determined as follows:
- (a) in the case of **fixed price** contracts, the Contract price shall be the Bid price adjusted by the factor or factors specified **in the BDS**;
 - (b) in the case of **adjustable price** contracts, no adjustment shall be made; or
 - (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.
- 20. Bid Security**
- 20.1 The Bidder shall furnish as part of the Technical Part of its Bid, either a Bid-Securing Declaration or a Bid Security as specified **in the BDS**, in original form and, in the case of a Bid Security, in the amount and currency specified **in the BDS**.
- 20.2 A Bid-Securing Declaration shall use the form included in Section IV Bidding Forms.

- 20.3 If a Bid Security is specified pursuant to ITB 20.1, the Bid security shall be a demand guarantee in any of the following forms at the Bidder's option:
- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security indicated **in the BDS**,
- from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Employer's Country the issuing non-bank financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable unless the Employer has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to Bid submission. The Bid Security shall be valid for twenty-eight (28) days beyond the original date of expiry of the Bid validity, or beyond any extended date if requested under ITB 19.2.
- 20.4 If a Bid Security or a Bid-Securing Declaration is specified pursuant to ITB 20.1, any Bid not accompanied by a substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Employer as nonresponsive.
- 20.5 If a Bid Security is specified pursuant to ITB 20.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the Performance Security pursuant to ITB 47.
- 20.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security.
- 20.7 The Bid Security may be forfeited:
- (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid or any extended date provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 46; or
 - (ii) furnish a Performance Security in accordance with ITB 47.

20.8 The Bid Security or the Bid-Securing Declaration of a JV shall be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the Bid Security or the Bid Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.5.

20.9 If a Bid Security is not required **in the BDS**: and

- (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid, or any extended date provided by the Bidder; or
- (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 46; or
 - (ii) furnish a Performance Security in accordance with ITB 47;

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

21. Format and Signing of Bid

21.1 The Bidder shall prepare the Bid, in accordance with this Instruction, ITB 11 and ITB 22.

21.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business. This may include proprietary information, trade secrets or commercial or financially sensitive information.

21.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified **in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid.

21.4 In the case that the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

21.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission of Bids

22. Submission, Sealing and Marking of Bids

22.1 The Bidder shall deliver the Bid in two separate, sealed envelopes (the Technical Part and the Financial Part.). These two envelopes shall be enclosed in a separate sealed outer envelope marked

“Original BID”. In addition, the Bidder shall submit copies of the Bid in the number specified **in the BDS**. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Bidder shall place both of these envelopes in a separate, sealed outer envelope marked “BID COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail.

- 22.2 If alternative Bids are permitted in accordance with ITB 13, the alternative Bids shall be submitted as follows: the original of the alternative Bid Technical Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE BID – ORIGINAL”, the copies of the alternative Bid will be placed in separate sealed envelopes marked “ALTERNATIVE BID – COPIES OF TECHNICAL PART”, and “ALTERNATIVE BID – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE BID - COPIES”.
- 22.3 The envelopes marked “ORIGINAL BID” and “BID COPIES” (and, if appropriate, a third envelope marked “ALTERNATIVE BID”) shall be enclosed in a separate sealed outer envelope for submission to the Employer.
- 22.4 The inner and outer envelopes shall:
- (a) bear the name and address of the Bidder;
 - (b) be addressed to the Employer in accordance with ITB 23.1;
 - (c) bear the specific identification of this Bidding process indicated in accordance with ITB 1.1; and
 - (d) bear a warning not to open before the time and date for Bid opening.
- 22.5 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

23. Deadline for Submission of Bids

- 23.1 Bids must be received by the Employer at the address and no later than the date and time indicated **in the BDS**. When so specified **in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures specified **in the BDS**.
- 23.2 The Employer may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of

the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

- 24. Late Bids** 24.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 23. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
- 25. Withdrawal, Substitution, and Modification of Bids** 25.1 A Bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 21.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 21 and ITB 22 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “Withdrawal,” “Substitution,” “Modification”; and
 - (b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 23.
- 25.2 Bids requested to be withdrawn in accordance with ITB 25.1 shall be returned unopened to the Bidders.
- 25.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the date of expiry of the Bid validity specified by the Bidder on the Letter of Bid or any extended date thereof.

E. Public Opening of Technical Parts of Bids

- 26. Public Opening of Technical Parts of Bids** 26.1 Except as in the cases specified in ITB 24 and ITB 25.2, the Employer shall publicly open and read out all Bids received by the deadline at the date, time and place specified **in the BDS** in the presence of Bidders’ designated representatives and anyone who choose to attend. Any specific electronic Bid opening procedures required if electronic Bidding is permitted in accordance with ITB 23.1, shall be as specified **in the BDS**.
- 26.2 First, the written notice of withdrawal in the envelopes marked “Withdrawal” shall be opened and read out and the envelope with the corresponding Bid shall not be opened but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening.
- 26.3 Next, envelopes marked “Substitution” shall be opened and read out and exchanged with the corresponding Bid being substituted, and the

- substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Bid opening.
- 26.4 Next, envelopes marked “Modification” shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening.
- 26.5 Next, all other envelopes marked “TECHNICAL PART” shall be opened one at a time. All envelopes marked “SECOND ENVELOPE: Financial PART” shall remain sealed and kept by the Employer in safe custody until they are opened at a later opening, following the evaluation of the Technical Part parts of the Bids. On opening the envelopes marked “TECHNICAL PART” the Employer shall read out: the name of the Bidder, the presence or the absence of a Bid Security, or Bid-Securing Declaration, if required, and whether there is a modification; and Alternative Bid - Technical Part; and any other details as the Employer may consider appropriate.
- 26.6 Only Technical Parts of Bids and Alternative Bid - Technical Parts that are read out at Bid opening shall be considered further for evaluation. The Letter of Bid- Technical Part and the separate sealed envelope marked “SECOND ENVELOPE: FINANCIAL PART” are to be initialed by representatives of the Employer attending Bid opening in the manner specified **in the BDS**.
- 26.7 The Employer shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 24.1).
- 26.8 The Employer shall prepare a record of the Bid opening that shall include, as a minimum:
- (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
 - (b) the receipt of envelopes marked “SECOND ENVELOPE: FINANCIAL PART”;
 - (c) if applicable, any alternative Bid-Technical Part; and
 - (d) the presence or absence of a Bid Security or a Bid-Securing Declaration.
- 26.9 The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

F. Evaluation of Bids- General Provisions

- 27. Confidentiality**
- 27.1 Information relating to the evaluation of the Technical Part shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the notification of evaluation of the Technical Part in accordance with ITB 33. Information relating to the evaluation of Financial Part, the evaluation of combined Technical Part and Financial Part, and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with the RFB process until the Notification of Intention to Award the Contract is transmitted to Bidders in accordance with ITB 42..
- 27.2 Any effort by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its Bid.
- 27.3 Notwithstanding ITB 27.2, from the time of Bid opening to the time of Contract Award, if any Bidder wishes to contact the Employer on any matter related to the Bidding process, it should do so in writing.
- 28. Clarification of Bids**
- 28.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer’s request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 35.
- 28.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer’s request for clarification, its Bid may be rejected.
- 29. Deviations, Reservations, and Omissions**
- 29.1 During the evaluation of Bids, the following definitions apply:
- (a) “Deviation” is a departure from the requirements specified in the bidding document;
 - (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
 - (c) “Omission” is the failure to submit part or all of the information or documentation required in the bidding document.
- 29.2 Provided that a Bid is substantially responsive, the Employer may waive any nonmaterial nonconformities in the Bid.
- 29.3 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify

nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

G. Evaluation of Technical Part of Bids

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| 30. Determination of Responsiveness of Technical Part | 30.1 | The Employer's determination of the Technical Part's responsiveness shall be based on the contents of the Bid, as specified in ITB 11. |
| | 30.2 | Preliminary examination of the Technical Part shall be carried out to identify proposals that are incomplete, invalid or substantially nonresponsive to the requirements of the Bidding documents. A substantially responsive Bid is one that materially confirms to the requirements of the Bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, <ul style="list-style-type: none"> (a) if accepted, would: <ul style="list-style-type: none"> (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the Bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids. |
| | 30.3 | If the Technical Part is not substantially responsive to the requirements of the Bidding document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission. |
| 31. Eligibility and Qualifications of the Bidder | 31.1 | The Employer shall determine to its satisfaction whether the Bidders that have been assessed to have submitted substantially responsive Bids are eligible, and either continue to meet (if prequalification applies) or meet (if prequalification has not been carried out), the qualifying criteria specified in Section III, Evaluation and Qualification Criteria. |
| | 31.2 | The determination shall be based upon an examination of the documentary evidence of the Bidder's eligibility and qualifications submitted by the Bidder, pursuant to ITB 15. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm. |

- 31.3 Prior to Contract award, the Employer will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Employer will conduct the same verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not meet the requirement, the Employer will require the Bidder to propose a replacement subcontractor.
- 31.4 Only substantially responsive bids submitted by eligible and qualified bidders shall proceed to the detailed technical evaluation specified in ITB 32.
- 32. Detailed Evaluation of Technical Part**
- 32.1 The Employer’s evaluation of Technical Part will be carried out as specified in Section III, Evaluation and Qualification Criteria.
- 32.2 The scores and weightings to be given to Rated Criteria (including technical and non-price factors and sub factors) are specified **in the BDS**.

H. Notification of Evaluation of Technical Parts and Opening of Financial Parts

- 33. Notification of Evaluation of Technical Parts and Opening of Financial Parts**
- 33.1 Following the completion of the evaluation of the Technical Parts of the Bids, the Employer shall notify in writing those Bidders whose Bids were considered substantially non-responsive to the bidding document or failed to meet the eligibility and qualification requirements, advising them of the following information:
- (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
 - (b) their envelopes marked “SECOND ENVELOPE: FINANCIAL PART” will be returned to them unopened after the completion of the selection process and the signing of the Contract; and
 - (c) notify them that: (i) the envelopes marked ‘Financial Part’ will not be opened in public, but in the presence of a probity auditor appointed by the Employer, and that (ii) the announcement of the names of the Proposers whose Financial Parts will be opened and the total Proposal prices will be deferred to the time that the Notification of Intention to Award the contract is issued.
- 33.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met the eligibility and qualification requirements, advising them of the following information:
- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the eligibility and qualification requirements;

- (b) notify them that: (i) the envelopes marked ‘Financial Part’ will not be opened in public, but in the presence of a probity auditor appointed by the Employer, and that (ii) the announcement of the names of the Proposers whose Financial Parts will be opened and the total Proposal prices will be deferred to the time that the Notification of Intention to Award the contract is issued; and
- 33.3 The opening date shall be not less than ten (10) Business Days from the date of notification of the results of the technical evaluation, specified in ITB 33.1 and 33.2. However, if the Employer receives a complaint on the results of the technical evaluation within the ten (10) Business Days, the opening date shall be subject to ITB 48.1.
- 33.1 When Negotiations apply and: (i) the envelopes marked ‘Financial Part’ will not be opened in public, but in the presence of a probity auditor appointed by the Employer, and that (ii) the announcement of the names of the Proposers whose Financial Parts will be opened and the total Proposal prices will be deferred to the time that the Notification of Intention to Award the contract is issued. When Negotiations apply the Financial Parts will not be opened in public and will be opened in the presence of a probity auditor appointed by the Employer.
- 33.2 Only envelopes of Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid – Financial Part and the Priced Activity Schedules are to be initialed by a representative of the Employer attending the Bid opening in the manner specified **in the BDS**.
- 33.3 The Employer shall neither discuss the merits of any Bid nor reject any envelopes marked “SECOND ENVELOPE: FINANCIAL PART” at this opening.
- 33.4 The Employer shall prepare a record of the opening of the Financial Part envelopes that shall include, as a minimum:
- (a) the name of the Proposers whose Financial Part was opened;
 - (b) the Proposal prices including any discounts. and
 - (c) The Probity Auditor’s report of the opening of the Financial Part.
- 33.5 At the opening each of the envelopes marked “Financial Part” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Employer. The Employer shall record the names of each Proposer, and the total Proposal prices and any other details as the Employer may consider appropriate. The Letter of Proposal - Financial Part and the Price

Schedules - are to be initialed by a representative of the Employer attending the opening and by the probity auditor.

- 33.6 The probity auditor shall sign the record. The contents of the envelopes marked 'Financial Part' and the record of the opening shall be kept in safe custody by the Employer and not disclosed to anyone until the time of the transmission of the Notification of Intention to Award the contract.

I. Evaluation of Financial Part of Bids

- 34. Adjustments for Non-material Nonconformities** 34.1 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component by adding the average price of the item or component quoted by substantially responsive Bidders. If the price of the item or component cannot be derived from the price of other substantially responsive Bidders, the Employer shall use its best estimate.
- 35. Correction of Arithmetic Errors** 35.1 In evaluating the Financial Part of each Bid, the Employer shall correct arithmetical errors on the following basis:
- (a) where there are errors between the total of the amounts given under the column for the price breakdown and the amount given under the Total Price, the former shall prevail and the latter will be corrected accordingly;
 - (b) where there are errors between the total of the amounts of Schedule Nos. 1 to 4 and the amount given in Schedule No. 5 (Grand Summary) the former shall prevail and the latter will be corrected accordingly;
 - (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 35.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 35.1, shall result in the rejection of the Bid.
- 36. Evaluation Process, Financial Part** 36.1 To evaluate the Financial Part, the Employer shall consider the following:
- (a) the Bid price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 35.1;

- (c) price adjustment due to discounts offered in accordance with ITB 17.11;
 - (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 34.1;
 - (e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 36.2; and
 - (f) the evaluation factors indicated in the BDS and detailed in Section III, Evaluation and Qualification Criteria.
- 36.2 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency **as specified in the BDS.**
- 36.3 No margin of domestic preference shall apply.
- 36.4 If price adjustment is allowed in accordance with ITB 17.7, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 36.5 If this bidding document allows Bidders to quote separate prices for different lots (contracts), each lot will be evaluated separately to determine the Most Advantageous Bid using the methodology specified in Section III, Evaluation and Qualification Criteria. **Discounts that are conditional on the award of more than one lot or slice shall not be considered for Bid evaluation.**
- 37. Abnormally Low Bids**
- 37.1 An Abnormally Low Bid is one where the Bid price, in combination with other elements of the Bid, appears so low that it raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid Price.
- 37.2 In the event of identification of a potentially Abnormally Low Bid, the Employer shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in correlation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document.
- 37.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to deliver the contract for the offered tender price, the Employer shall reject the Bid.
- 38. Unbalanced or Front Loaded Bids**
- 38.1 If the Bid that is evaluated as the lowest evaluated cost is, in the Employer’s opinion, seriously unbalanced or front loaded the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope of works, proposed

methodology, schedule and any other requirements of the bidding document.

- 38.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may:
- (a) accept the Bid; or
 - (b) if appropriate, require that the total amount of the Performance Security be increased, at the expense of the Bidder, to a level not exceeding twenty percent (20%) of the Contract Price; or
 - (c) reject the Bid.

J. Evaluation of Combined Technical and Financial Parts, Most Advantageous Bid and Notification of Intention to Award

- 39. Evaluation of combined Technical and Financial Parts, Most Advantageous Bid**
- 39.1 The Employer’s evaluation of responsive Bids will take into account technical factors, in addition to cost factors in accordance with Section III Evaluation and Qualification Criteria. The weight to be assigned for the Technical factors and cost is specified **in the BDS**. The Employer will rank the Bids based on the evaluated Bid score (B).
- 39.2 The Employer shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be substantially responsive to the Bidding document and is the Bid with the highest combined technical and financial score
- 39.3 If specified **in the BDS**, the Employer may conduct negotiations following the evaluation of the bids and before the final contract award. The procedure of the negotiations will be specified in the **BDS**.
- 39.4 Negotiations shall be held in the presence of probity auditor appointed by the Employer.
- 39.5 Negotiations may address any aspect of the contract so long as they do not materially change the specified business function and performance requirements.
- 39.6 The Employer may negotiate first with the Bidder that has the Most Advantageous Bid. If the negotiations are unsuccessful the Employer may negotiate with the Bidder that has the next best Most Advantageous Bid, and so on down the list until a successful negotiated outcome is achieved
- 39.7 The capabilities of the manufacturers and subcontractors proposed in its Bid to be used by the Bidder with the Most Advantageous Bid for identified major items of supply or services will also be evaluated for acceptability in accordance with Section III, Evaluation and Qualification Criteria. Their participation should be confirmed with a letter of intent between the parties, as needed. Should a

manufacturer or subcontractor be determined to be unacceptable, the Bid will not be rejected, but the Bidder will be required to substitute an acceptable manufacturer or subcontractor without any change to the Bid price. Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.

- 40. Employer’s right to Accept Any Bid and to Reject Any or All Bids** 40.1 The Employer reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities shall be promptly returned to the Bidders.
- 41. Standstill Period** 41.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 45. The Standstill Period commences the day after the date the Employer has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.
- 42. Notification of Intention to Award** 42.1 The Employer shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:
- (a) the name and address of the Bidder submitting the successful Bid;
 - (b) the Contract price of the successful Bid;
 - (c) the total combined score of the successful Bid;
 - (d) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated and technical score;
 - (e) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful;
 - (f) the expiry date of the Standstill Period; and
 - (g) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

K. Award of Contract

- 43. Award Criteria** 43.1 Subject to ITB 40, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid.
- 44. Notification of Award** 44.1 Prior to the date of expiry of the bid validity, and upon expiry of the Standstill Period, specified in ITB 41.1 or any extension thereof, and

upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Employer will pay the Contractor in consideration of the execution of the contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).

- 44.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information:
- (a) name and address of the Employer;
 - (b) name and reference number of the contract being awarded, and the selection method used;
 - (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
 - (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor;
 - (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and
 - (f) successful Bidder’s Beneficial Ownership Disclosure Form.

44.3 The Contract Award Notice shall be published on the Employer’s website with free access if available, or in at least one newspaper of national circulation in the Employer’s Country, or in the official gazette.

44.4 Until a formal contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract

45. Debriefing by the Employer

45.1 On receipt of the Employer’s Notification of Intention to Award referred to in ITB 42, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

45.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer

shall promptly inform, by the quickest means available, all Bidders of the extended standstill period.

45.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

45.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.

46. Signing of Contract

46.1 The Employer shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form shall be submitted within eight (8) Business Days of receiving this request.

46.2 The successful Bidder shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt.

46.3 Notwithstanding ITB 46.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Employer, to the country of the Employer, or to the use of the Plant and Installation Services to be supplied, where such export restrictions arise from trade regulations from a country supplying those Plant and Installation Services, the Bidder shall not be bound by its Bid, always provided, however, that the Bidder can demonstrate to the satisfaction of the Employer and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the Plant and Installation Services under the terms of the Contract.

47. Performance Security

47.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security in accordance with the General Conditions GCC 13.3, subject to ITB 38, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's

- Country, unless the Employer has agreed in writing that a correspondent financial institution is not required.
- 47.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid.
- 48. Procurement
Related
Complaint**
- 48.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet

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

A. General	
ITB 1.1	<p>The reference number of the Request for Bids (RFB) is: <i>AQIP/1.1/RFB/INT 1-2026</i></p> <p>The Employer is: <i>Ministry of Natural Resources, Environment, and Technical Supervision of the Kyrgyz Republic</i></p> <p>The name of the RFB is: Improvement of the Air Quality Monitoring System in the Kyrgyz Republic</p>
ITB 2.1	<p>The Borrower is: <i>The Kyrgyz Republic</i></p> <p>Loan or Financing Agreement amount: <i>50,000,000.00 US dollars</i></p> <p>The name of the Project is: <i>Air quality improvement project</i></p>
ITB 4.1	The maximum number of members in the Joint Venture (JV) shall be: <i>2 (two)</i> .
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
ITB 4.11	This Bidding Process <i>is not</i> subject to prequalification.
B. Bidding Document	
ITB 7.1	<p>For Clarification of Bid purposes only, the Employer's address is:</p> <p>Attention: <i>Gulnara Abdyl daeva</i></p> <p>Address: <i>Erkindik Blvd. 2,</i></p> <p>Floor/Room number: <i>115</i></p> <p>City: <i>Bishkek</i></p> <p>ZIP Code: <i>720 010</i></p> <p>Country: <i>The Kyrgyz Republic</i></p> <p>Telephone: <i>+996(312) 90 40 40 (1105)</i></p> <p>Electronic mail address: <i>airqualitypiu@gmail.com</i></p>

	<p>Requests for clarification should be received by the Employer no later than: no later than 14 days prior to the proposal submission deadline specified in ITB 22.1.</p> <p>Web page: https://mnr.gov.kg/</p>
ITB 7.4	<p>A Pre-Bid meeting will take place at the following date, time and place:</p> <p>Date: March 24, 2026</p> <p>Time: 2 pm (Bishkek time)</p> <p>Place: Head office, Ministry of Natural Resources, Environment, and Technical Supervision of the Kyrgyz Republic</p> <p>Street Address: Erkindik Blvd. 2,</p> <p>Floor/ Room number: 115</p> <p>City: Bishkek</p> <p>The Employer will not be organized site visit Bid However Bidders are free to visit sites at their own expense. The Employer will provide all needed administrative support.</p>
ITB 7.6	<p>Web page: https://mnr.gov.kg/</p>
C. Preparation of Bids	
ITB 10.1	<p>The language of the Bid is: English.</p> <p>In addition, the bidding document is translated into the Russian language.</p> <p>Bidders shall have the option to submit their Bid in any one of the languages stated above. Bidders shall not submit Bids in more than one language.</p> <p>Language for translation of supporting documents and printed literature is English or Russian.</p> <p>In case of discrepancy between English and Russian version of bid documents, English version shall prevail.</p> <p>In case the bid is submitted in English: to facilitate evaluation of bids, the Employer Requests Bidders to also submit translation of the Bid into Russian language. However, the lack of translation shall not be reason for rejection of Bid or affect evaluation.</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is Russian language.</p>
ITB 11.2 (i)	<p>The Bidder shall submit the following additional documents in the Technical Part of its Bid:</p>

- (a) originals of signed Manufacturer’s Authorizations as per form included in Section IV “Bidding Forms” for the Equipment namely:
- Air pollutant analyzers (NOx, SO₂, H₂S, CO, O₃, PM_{2.5}, PM₁₀, TSP),
 - Multi-calibration system (automatic calibrator, zero gas generator),
 - Meteorological sensors and mast,
 - Spectrophotometer,
 - analytical balance,
 - drying oven,
 - Instrument for measuring temperature inversion in the atmospheric boundary layer (including profiler),
 - Data management system including data loggers and software,
 - Software for data collection, transmission, and visualization and mobile laboratory (all analyzers, Telescopic mast and Data logger and software system).
- (b) Technical Data Sheets from manufacturer’s clearly demonstrating technical parameters of offered plant and equipment to be supplied and installed under the Contract;
- (c) completed and signed Form FUNC – Functional Guarantees indicated in Section IV “Bidding Forms”.

Code of Conduct for Contractor’s Personnel (ES)

The Bidder shall submit its Code of Conduct that will apply to the Contractor’s Personnel (as defined in GCC Sub- Clause 1) employed for the execution of Installation Services (defined in GCC Sub- Clause 1) at the Site (or other places in the country where the Site is located), to ensure compliance with the Contractor’s Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.

Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks

The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:

- *Traumatism and accidents at work site during preparation works (strict compliance with the national regulations is required);*
- *Direct or indirect hazards resulting from construction activities to the public, traffic and pedestrians (prevention of unauthorized access by the public, especially children).*

The bidder shall further refer to the Environmental and Social Management Framework (ESMF) for the Air Quality Improvement Project (AQIP), dated September 2023, Annex 1.

ITB 13.1	Alternative Bids <i>shall not be</i> considered.
ITB 17.5 (a) and (d)	<p>Place of destination: CIP Bishkek</p> <p>Final destination (Project Site):</p> <p>Automatic meteorological station: <i>Bishkek (6 units), Osh (1 units), Djalal–Abad (1 unit), Kara-Balta (1unit), Tokmok (1 unit), Cholpon-Ata (1unit):</i></p> <ol style="list-style-type: none"> 1) Bishkek c., Chui oblast, Ak-Bata residential area, Ak-Bata-3 Street- (1 unit); 2) Kara-Balta, Chui oblast, intersection of Sverdlova/Kalinskoe streets (near school No. 12) - (1 unit); 3) Tokmok c., Chui oblast, Tokmok meteorological station - (1 unit); 4) Bishkek c., Chui oblast, Tunguch microdistrict, intersection of Ankara Street and Ch. Valikhanov Street 7/1 - (1 unit); 5) Manas c., Jalal-Abad oblast, Manas Central Market - (1 unit); 6) Osh c., Osh oblast, Ak-Tilik microdistrict - (1 unit); 7) Cholpon-Ata c., Issyk-Kul oblast, intersection of Sovetskaya and Pravda streets (Z. Abdrakhmanov Square) - (1 unit); 8) Kashka-Suu village (Baitik weather station), Chui oblast - (1 unit); 9) Bishkek c., Chui oblast, intersection of Manas Avenue and Moskovskaya Street 171A (near Anadolu Lyceum) - (1 unit); 10) Bishkek c., Chui oblast, 12 microdistrict, 41 Aaly Tokombaev Street - (1 unit); 11) Osh c., Osh oblast (the street will be determined before signing contract) - (1 unit). <p>Note: transportation will be carried out at the Supplier’ expenses after the Employer has notified that the goods are cleared of customs duty. The supplier will need to pick up the goods from the customs warehouse within 3 business days after such notification and complete the transportation to final destination within 28 days from the date of notification.</p>
ITB 17.6	The Incoterms edition is: <i>Incoterms 2020.</i>
ITB 17.7	The prices quoted by the Bidder <i>shall not be</i> subject to adjustment during the performance of the Contract.
ITB 18.1	The Bidder <i>is not</i> required to quote in the currency of the Employer’s Country the portion of the Bid price that corresponds to expenditures incurred in that currency.
ITB 19.1	<i>The Bid shall be valid until: 120 days</i>
ITB 19.3 (a)	The prices quoted by the Bidder shall not be adjustable.

ITB 20.1	<p>A bid security shall be required.</p> <p>The amount of the bid security shall be 45 000.00 USD or its equivalent in a convertible currency.</p> <p>The Bid Security for a JV or Consortium shall be in the name of the JV or Association that submits the bid. If the JV or Association has not been legally constituted into a legally enforceable entity at the time of bidding, the Bid Security shall be in the names of all future partners as named in the letter of intent referred to in ITB 4.1.</p>
ITB 20.3 (d)	<p>Other types of acceptable securities: an unconditional bank guarantee in the form of SWIFT message MT760. Authenticity of the message shall be confirmed by the local bank who has received the SWIFT message.</p>
ITB 21.3	<p>The written confirmation of Authorization to sign on behalf of the Bidder shall consist of: An organizational document, board resolution or its equivalent, or power of attorney specifying the representative’s authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing Joint Venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the Joint Venture to sign on behalf of, and legally bind, the intended or existing Joint Venture.</p>
D. Submission and Opening of Bids	
ITB 22.1	<p>In addition to the original of the Bid, the number of copies is:</p> <p>Hard Copies:</p> <p>One (1) original of the complete bid, clearly marked “Original”;</p> <p>Two (2) hard copies of the Technical Bid and two (2) hard copies of the Financial Bid, each marked “Copy”.</p> <p>Electronic Copies:</p> <p>An electronic version of the Technical Bid in PDF format, scanned from the signed original, shall be submitted on a USB flash drive and enclosed with each hard copy.</p> <p>In addition, all financial tables (such as Bill of Quantities and Price Schedules) shall be submitted as editable Microsoft Excel files on the USB drive inserted in the envelope of the Technical Bid.</p> <p>Absence of the electronic versions wont be a reason for rejection but will simplify the evaluation process.</p> <p>Discrepancy Clause:</p> <p>In case of any discrepancy between the hard copy of the Price Bid and its electronic version, the information provided in the original hard copy shall prevail.</p>
ITB 23.1	<p>For <u>Bid submission purposes</u> only, the Employer’s address is:</p> <p>Attention: <i>Gulnara Abdyldeeva</i></p>

	<p>Address: <i>Erkindik Blvd. 2,</i> Floor/Room number: <i>115</i> City: <i>Bishkek</i> ZIP Code: <i>720 010</i> Country: The Kyrgyz Republic Telephone: +996(312)90 40 40 (1105) Electronic mail address: <i>airqualitypiu@gmail.com, aqip.procur@gmail.com</i></p> <p>The deadline for Bid submission is: Date: <i>April 22, 2026</i> Time: 2 pm. (Bishkek time).</p> <p>Bidders <i>shall not</i> have the option of submitting their Bids electronically.</p>								
E. Public Opening of Technical Parts of Bids									
ITB 26.1	<p>The Bid opening shall take place at: Address: <i>Erkindik Blvd. 2,</i> Floor/Room number: <i>115</i> City: <i>Bishkek</i> ZIP Code: <i>720 010</i> Country: The Kyrgyz Republic</p> <p>The deadline for Bid submission is: Date: <i>April 22, 2026</i> Time: 2 pm. (Bishkek time).</p>								
G. Evaluation of Technical Part of Bids									
ITB 32.2	<p>The technical factors and sub factors as applicable and the corresponding scores out of 100% are:</p> <p><i>The following parameters will be considered for rated criteria with 20% technical weightage and 80% financial weightage for evaluation</i></p> <table border="1" data-bbox="410 1675 1328 1877"> <thead> <tr> <th data-bbox="410 1675 561 1780">Sr/ No</th> <th data-bbox="561 1675 954 1780">Technical factors and subfactors</th> <th data-bbox="954 1675 1110 1780">Weighting</th> <th data-bbox="1110 1675 1328 1780">Max Score</th> </tr> </thead> <tbody> <tr> <td data-bbox="410 1780 561 1877">1</td> <td data-bbox="561 1780 954 1877">Extension of the guarantee period free of charge.</td> <td data-bbox="954 1780 1110 1877">20%</td> <td data-bbox="1110 1780 1328 1877">80</td> </tr> </tbody> </table>	Sr/ No	Technical factors and subfactors	Weighting	Max Score	1	Extension of the guarantee period free of charge.	20%	80
Sr/ No	Technical factors and subfactors	Weighting	Max Score						
1	Extension of the guarantee period free of charge.	20%	80						

	2	Availability of spare parts and after-sales services	80%	320
	Total		100%	400
<p>Minimum technical score (St) required to pass/qualify = 80%</p> <p>The technical proposal scoring methodology is specified in Section III- Evaluation and Qualification Criteria</p> <p>The total technical points assigned to each Proposal in the Evaluated Proposal Formula will be determined by adding and weighting the scores assigned by an evaluation committee to technical features of the Proposal in accordance with the PDS and the scoring methodology below.</p>				
<h3>H. Notification of Evaluation of Technical Parts and Opening of Financial Parts</h3>				
ITB 33.5	<p>The Letter of Bid – Financial Part and the Price Schedules shall be initialed by 2 representatives of the Employer conducting Bid opening.</p> <p><i>Each Financial Part of Bid shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Employer, etc.</i></p>			
<h3>I. Evaluation of Financial Part of Bids</h3>				
36.1(f)	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: <i>[refer to Section III, Evaluation and Qualification Criteria; insert complementary details if necessary]</i></p> <ul style="list-style-type: none"> (a) Deviation in Time for Completion: <i>No.</i> (b) Life cycle costs: the projected operating and maintenance costs during the life of the Facilities <i>No.</i> (c) Functional Guarantees of the Facilities <i>No</i> (d) Work, services, facilities, etc., to be provided by the Employer <i>No</i> 			
ITB 36.2	<p>The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: <i>Kyrgyz som (KGS)</i></p> <p>The source of exchange rate shall be: <i>National Bank of the Kyrgyz Republic</i> https://www.nbkr.kg/index1.jsp?item=1562&lang=ENG</p>			

	The date for the exchange rate shall be: <i>28 (twenty-eight) days before the Bid Opening Date</i>
J. Evaluation of Combined Technical and Financial Parts and Most Advantageous Bid	
ITB 39.1	The weight to be given for cost is: 0.8
ITB 39.3	Negotiation - <i>applies</i> If negotiation applies, the procedure: <i>According to Item 6.34 of the World Bank's Procurement Regulations Borrower may conduct negotiations following Bid/Proposal evaluations and before final contract award.</i>
K. Award of Contract	
ITB 48.1	<p>The procedures for making a Procurement-related Complaint are detailed in the “<u>Procurement Regulations for IPF Borrowers</u> (Annex III).” If a Bidder wishes to make a Procurement-related Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to:</p> <p>Attention: <i>Gulnara Abdyldeeva</i></p> <p>Address: <i>Erkindik Blvd. 2,</i></p> <p>Floor/Room number: <i>115</i></p> <p>City: <i>Bishkek</i></p> <p>ZIP Code: <i>720 010</i></p> <p>Country: The Kyrgyz Republic</p> <p>Telephone: +996(312) 90 40 40 (1105)</p> <p>Electronic mail address: <i>airqualitypiu@gmail.com, aqip.procur@gmail.com</i></p> <p>A copy of the complaint can be sent for the Bank’s information and monitoring to: <u>pprocurementcomplaints@worldbank.org</u></p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ol style="list-style-type: none"> 1. the terms of the Bidding Documents; and 2. the Employer’s decision to award the contract.

Section III - Evaluation and Qualification Criteria (Without prequalification)

This section contains all the criteria that the Employer shall use to evaluate Bids and qualify Bidders. No other factors, methods or criteria shall be used other than specified in this Bidding document. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:

- For turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
- Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the ITB 36.2. Any error in determining the exchange rates in the Bid may be corrected by the Employer.

[The Employer shall select the criteria deemed appropriate for the Bidding process, insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

Table of Contents

1.	Qualification	49
2.	Evaluation of Technical Part.....	50
3.	Evaluation of Financial Part	51
4.	Combined Evaluation.....	52
5.	Multiple Contracts.....	53

1. Qualification

1.1 Qualification Requirements

The Bidder's qualification shall be assessed in accordance with the Qualification table included in this section.

1.2 Contractor's Representative and other Key Personnel

The Bidder must demonstrate that it will have suitably qualified Contractor's Representative and other suitably qualified (and in adequate numbers) key personnel, as described in the Employer's Requirements.

The Bidder shall provide details of the Contractor's Representative and other key personnel and such other key personnel that the Bidder considers appropriate to perform the Contract, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

1.3 Equipment

Not Applicable

1.4 Subcontractors/Manufacturers

Subcontractors for the following additional major items of supply or services must meet the following minimum criteria, listed herein for that item:

Item No.	Description of Item	Minimum Criteria to be met
1	Site preparation	Must have at least 5 years of experience in the field of construction works, also must have a license of at least 3 levels issued by the Ministry of Construction, Architecture, and Housing and Utilities of the Kyrgyz Republic.
2	Electrecity works	Must have at least 5 years of experience in the field of electrecity works, also must have a license of at least 3 levels issued by the Ministry of Construction, Architecture, and Housing and Utilities of the Kyrgyz Republic.

Failure to comply with this requirement will result in rejection of the subcontractor.

In the case of a Bidder who offers to supply and/or install Plant and equipment under the contract that the Bidder did not manufacture or otherwise produce and/or install, the Bidder shall provide the manufacturer's authorization, using the form provided in Section IV, showing that the Bidder has been duly authorized by the manufacturer or producer of the related Plant and equipment or component to supply and/or install that item in the Employer's country. The Bidder is responsible for ensuring that the manufacturer or producer complies with the requirements of **ITB 4** and **ITB 5** and meets the minimum criteria listed above for that item.

2. Evaluation of Technical Part

The total technical points assigned to each Bid in the Evaluated Bid Formula will be determined by adding and weighting the scores assigned by an evaluation committee to technical factors of the Bid in accordance with the criteria set forth below.

The technical factors to be evaluated are generally defined below and specifically identified in the BDS

TECHNICAL PART SCORING METHODOLOGY

Warranty and Technical Support

Score	Description
0	Warranty 12 months. Minimum requirements for technical support terms are covered, local presence is not confirmed.
1	Free provision of extended 18-months warranty. Minimum requirements for technical support terms are covered, no local presence or support of malfunctioning equipment restoration or replacement in 30 calendar days is not confirmed.
2	Free provision of extended 24-month warranty. Minimum requirements for technical support terms are covered, no local presence or support of malfunctioning equipment restoration or replacement in 30 calendar days is not confirmed.
3	Free provision of extended 30-month warranty. Local presence is confirmed, technical support schedule provided.
4	Free provision of extended over 36-month warranty. Local presence is confirmed, technical support schedule provided, local presence is confirmed.

Availability of Spare Parts

Score	Description
0	List of free recommended spare parts is not provided for additional time of operation (after mandatory 36 months of operation), or list is incomplete, replacement schedule is not provided.
1	The list of free additional recommended spare parts for additional 1-year operation (after mandatory 36 months of operation) is provided with no description of parts and without replacement schedule.
2	The list of free additional recommended spare parts for additional 2-year operation (after mandatory 36 months of operation) is provided with description of parts and replacement schedule.
3	The list of free additional recommended spare parts for additional 3-year operation (after mandatory 36 months of operation) is provided with description of parts and replacement schedule.
4	The list of free additional recommended spare parts for additional 4-year operation (after mandatory 36 months of operation) is provided with description of parts and replacement schedule.

Calculation of the final Technical score:

The Factor Technical Scores will be combined in a weighted sum to form the total Technical Part Score using the following formula:

$$T \equiv \sum_{j=1}^n S_j * W_j$$

where:

S_j = the Factor Technical Score of factor “j”

W_j = the weight of factor “j” as specified in the BDS

n = the number of Factors

$$\text{and } \sum_{j=1}^n W_j = 1$$

3. Evaluation of Financial Part

The following factors and methods will apply:

(a) Time Schedule

Time to complete the Plant and Installation Services from the effective date specified in Article 3 of the Contract Agreement for determining time for completion of pre-commissioning activities is: 9 months. No credit will be given for earlier completion.

(b) Life Cycle Costs

Not Applicable

(c) Functional Guarantees of the Facilities

Not Applicable

(d) Sustainable Procurement

Not Applicable

(e) Work, services, facilities, etc., to be provided by the Employer

Where Bids include the undertaking of work or the provision of services or facilities by the Employer in excess of the provisions allowed for in the Bidding document, the Employer shall assess the costs of such additional work, services and/or facilities during the duration of the contract. Such costs shall be added to the Bid price for evaluation.

4. Combined Evaluation

The Employer will evaluate and compare the Bids that have been determined to be substantially responsive.

An Evaluated Bid Score (B) will be calculated for each responsive Bid using the following formula, which permits a comprehensive assessment of the evaluated cost and the technical merits of each Bid:

$$B \equiv \frac{C_{low}}{C} * X * 100 + \frac{T}{T_{high}} * (1 - X) * 100$$

where

C = Evaluated Bid Cost

C_{low} = the lowest of all Evaluated Bid Costs among responsive Bids

T = the total Technical Score awarded to the Bid

T_{high} = the Technical Score achieved by the Bid that was scored best among all responsive Bids

X = weight for Cost as **specified in the BDS, ITB 39.1 (X=0.8)**

The Bid with the best evaluated Bid Score (B) among responsive Bids shall be the Most Advantageous Bid provided the Bidder is qualified to perform the Contract.

.....

5. Multiple Contracts - *Not Applicable*

2. Qualification

Factor	1 Eligibility					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture(existing or intended)			
All members combined			Each Partner	At least one Partner		
1.1 Nationality	Nationality in accordance with ITB 4.4.	Must meet requirement	must meet requirement	Must meet requirement	N / A	Form ELI –1.1 and 1.2, with attachments
1.2 Conflict of Interest	No- conflicts of interests as described in ITB 4.2	Must meet requirement	must meet requirement	Must meet requirement	N / A	Letter of Bid
1.3 Bank Ineligibility	Not having been declared ineligible by the Bank as described in 4.5.	Must meet requirement	must meet requirement	Must meet requirement	N / A	Letter of Bid
1.4 State Owned Enterprise or Institution	Compliance with conditions of ITB 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI –1.1 and 1.2, with attachments
1.5 Ineligibility based on a United Nations resolution or Borrower’s country law	Not having been excluded as a result of the Borrower’s country laws or official regulations, or by an act of compliance with UN Security Council resolution, in accordance with ITB 4.8and Section V.	Must meet requirement	must meet requirement	Must meet requirement	N / A	Letter of Bid

Factor	2. Historical Contract Non-Performance					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
2.1 History of non-performing contracts	Non-performance ¹ of a contract did not occur within the last five (5) years prior to the deadline for application submission, based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the Bidder have been exhausted.	Must meet requirement by itself or as member to past or existing JV	N / A	Must meet requirement ²	N / A	Form CON - 2

¹ Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e., dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

² This requirement also applies to contracts executed by the Bidder as JV member.

2.2 Suspension	Not under suspension based on execution of a Bid Securing Declaration or Proposal Securing Declaration pursuant to ITB 4.7 and ITB 20.9	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Letter of Bid
2.3 Pending Litigation	Bid's financial position and prospective long term profitability still sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	N / A	Must meet requirement	N / A	Form CON – 2
2.4 Litigation History	No consistent history of court/arbitral award decisions against the Bidder ³ since 1 st January 2019	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2
2.5 Declaration: Environmental and Social (ES) past performance	Declare any contract that has been suspended or terminated and/or performance security called by an employer for reasons of breach of environmental, or social (including Sexual Exploitation, and Abuse) contractual obligations in the past five years. ⁴	Must make the declaration. Where there are Specialized Subcontractor/s, the Specialized Subcontractor/s must also make the declaration.	N/A	Each must make the declaration. Where there are Specialized Subcontractor/s, the Specialized Subcontractor/s must also make the declaration.	N/A	Form CON-3 ES Performance Declaration

³ The Bidder shall provide accurate information on the related Letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Bidder or any member of a joint venture may result in failure of the Bid.

⁴ The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

2.6 Bank's SEA and/or SH Disqualification	At the time of Contract Award, not subject to disqualification by the Bank for non-compliance with SEA/ SH obligations	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Letter of Bid, Form CON-4
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Factor	3 Financial Situation					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
3.1 Financial Capabilities	Submission of audited balance sheets or if not required by the law of the Bidder's Country, other financial statements acceptable to the Employer, for the last three [3] years (2022-2024) to demonstrate the current soundness of the Bidders financial position and its prospective long term profitability.	Must meet requirement	N / A	Must meet requirement	N / A	Form FIN – 3.1 with attachments
3.2 Average Annual Turnover	Minimum average annual turnover of 4.5 million USD equivalent calculated as total certified payments received for contracts in progress or completed, within the last three (3) years (2023-2025).	Must meet requirement	Must meet requirement	Must meet Twenty percent (20%) of the requirement	Must meet Forty percent (40%) of the requirement	Form FIN –3.2

Factor	3 Financial Situation					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
3.3 Financial Resources	<p>The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets⁵, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet:</p> <p>(i) the following cash-flow requirement: 0.7 million USD equivalent and</p> <p>(ii) the overall cash flow requirements for this contract and its current commitments.</p>	Must meet requirement	Must meet requirement	Must meet Twenty-five percent (25%) of the requirement	Must meet fifty percent (50%) of the requirement	Form FIN –3.3

⁵ Assets which can be quickly transferred into cash (bank deposits, short-term accounts receivable (except for advance payments and in-doubt indebtedness)).

Factor	4 Experience					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
			All members combined	Each member	At least one member	
4.1 General Experience	Experience in supply and installation in hydrometeorology, air or water quality control areas in the role of contractor, subcontractor, or management contractor for at least the last three [3] years prior to the applications submission deadline.	Must meet requirement	N / A	Must meet requirement	N / A	Form EXP-4.1
4.2(a) Specific Experience	Participation as contractor, joint venture member, management contractor, or subcontractor, in at least two (2) contracts, within the last five (5) years, each contract shall be with a value of at least 1,500,000 US dollars or equivalent that have been successfully and substantially completed (not less than 70%) and that are similar to the proposed Plant and Installation Services. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics as described in Para 2.4.2(b) below	Must meet the requirement	Must meet requirements for all characteristics	N / A	Must meet the requirement for one characteristic	Form EXP 4.2(a)

Factor	4 Experience					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	and characteristics as described in Section VII. Employer's Requirements.					
4.2(b) Specific Experience	For the above or other contracts executed during the period stipulated in 4.2(a) above, a minimum experience in the following key activities: The bidder at least must have successfully: (a) Design works for the installation of the comprehensive air pollution monitoring and analysis system (Automatic air pollution monitoring stations; Gas analytical complex; Air Pollution Monitoring Stations (Apms);	Must meet requirements	Must meet requirements ⁶	N / A	Must meet requirements	Form EXP-4.2(b)

⁶ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Factor	4 Experience					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	Laboratory equipment and instruments for the analysis and measurement of pollutants in atmospheric air; Instrument for measuring atmospheric boundary layer temperature inversion; Mobile laboratory). (b) Supply of Equipment for a Comprehensive Air Pollution Monitoring and Analysis System (Automatic air pollution monitoring stations; Gas analytical complex; Air Pollution Monitoring Stations (Apms); Laboratory equipment and instruments for the analysis and measurement of pollutants in atmospheric air; Instrument for measuring atmospheric boundary layer					

Factor	4 Experience					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	temperature inversion; Mobile laboratory). (c) Installation and commissioning of the Air Pollution Monitoring and Analysis System During last 3 (three) years as on date of bid opening.					

Section IV - Bidding Forms

Table of Forms

Letter of Bid- Technical Part	67
Technical Proposal	70
Site Organization.....	71
Method Statement.....	72
Mobilization Schedule	73
Construction Schedule.....	74
ES Management Strategies and Implementation Plans (ES-MSIP).....	75
Risk assessment and Proposed Management Plan	76
Code of Conduct for Contractor’s Personnel (ES) Form.....	77
Plant	81
Contractor’s Equipment	82
Functional Guarantees	83
Personnel	86
Resume of Proposed Personnel	88
Proposed Subcontractors for Major Items of Plant and Installation Services	89
Others - Time Schedule.....	90
Bidders Qualification without prequalification.....	91
Bidder Information Sheet	92
Party to JV Information Sheet.....	93
Historical Contract Non-Performance, Pending Litigation and Litigation History	94
Current Contract Commitments / Works in Progress.....	100
Financial Situation	101
Historical Financial Performance	101
Average Annual Turnover	103

Financial Resources	104
Experience	105
General Experience.....	105
Specific Experience	107
Specific Experience in Key Activities	109
Form of Bid Security.....	112
Form of Bid Security – Bank Guarantee.....	112
Manufacturer’s Authorization	114
Schedule of Rates and Prices	117
Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad	117
Country of Origin Declaration Form	120
Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer’s Country	120
Schedule No. 3. Design Services.....	124
Schedule No. 4. Installation and Other Services	125
Schedule No. 5. Grand Summary	127
Schedule No. 6. Recommended Spare Parts.....	128
Price Adjustment.....	129

Letter of Bid- Technical Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

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

Note: All italicized text is to help Bidders in preparing this form.

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

RFB No.: *[insert number of RFB process]*

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

We, the undersigned, hereby submit our Bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part

In submitting our Bid, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with Instructions to Bidders (ITB 8);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's country in accordance with ITB 4.7;
- (d) **Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH):** *[select the appropriate option from (i) to (v) below and delete the others].*

We *[where JV, insert: "including any of our JV members"]*, and any of our subcontractors:

- (i) *[have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- (ii) *[are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- (iii) *[had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.]*
- (iv) *[had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have subsequently provided and*

demonstrated that we have adequate capacity and commitment to comply with SEA and SH prevention and response obligations.]

- (v) [had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have attached documents demonstrating that we have adequate capacity and commitment to comply with SEA and SH prevention and response obligations.]
- (e) **Conformity:** We offer to provide design, supply and installation services in conformity with the bidding document of the following: *[insert a brief description of the Plant, Design, Supply and Installation Services]* _____
_____;
- (f) **Bid Validity:** Our Bid shall be valid until **120 days in accordance with ITB 19.1**, and it shall remain binding upon us and may be accepted at any time on or before this date;
- (g) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;
- (h) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;
- (i) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **State-owned enterprise or institution:** *[select the appropriate option and delete the other]* *[We are not a state-owned enterprise or institution]* / *[We are a state-owned enterprise or institution but meet the requirements of ITB 4.6]*;
- (k) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (l) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and
- (m) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

Name of the Bidder: **[insert complete name of the Bidder]*

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

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

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

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

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

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

Technical Proposal

- Site Organization
- Method Statement
- Mobilization Schedule
- Construction Schedule
- ES Management Strategies and Implementation Plans
- Sustainable Procurement Proposal
- Risk Assessment and Proposed Management Plan
- Code of Conduct for Contractor's Personnel (ES)
- Plant
- Contractor's Equipment
- Personnel
- Proposed Subcontractors for Major Items of Plant and Installation Services
- Others

Site Organization

Method Statement

[Note to the Bidder: (i) As required in BDS 11.2 (i), also include method statement, management strategies, implementation plans and innovations, to manage cyber security risks; (ii) if there are assessed supply chain risks, the method statement must include proposed supply chain risks management plans.]

Mobilization Schedule

Construction Schedule

ES Management Strategies and Implementation Plans (ES-MSIP)

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.1 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ES provisions of the contract including those as may be more fully described in the Employer's Requirements in Section VII.

Risk assessment and Proposed Management Plan

The Bidder should submit a risk register identifying the hazards anticipated during the implementation of the contract.

For the key hazards ranked by impact, the risk register shall include a description of the hazard, an assessment of the potential impact on health and safety, environment, cost, program or other, and the proposed mitigation strategy for each hazard.

Code of Conduct for Contractor's Personnel (ES) Form

Note to the Employer:

The following minimum requirements shall not be modified. The Employer may add additional requirements to address identified issues, informed by relevant environmental and social assessment.

The types of issues identified could include risks associated with: labour influx, spread of communicable diseases, and Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) etc.

Delete this Box prior to issuance of the bidding documents.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

We are the Contractor, [enter name of Contractor]. We have signed a contract with [enter name of Employer] for [enter description of the Facilities]. The Plant for the Facilities will be installed at [enter the Site]. Our contract requires us to implement measures to address environmental and social risks, related to the Installation Services i.e. services ancillary to the supply of the Plant for the Facilities, such as inland transportation, site preparation works/ associated civil works, installation, testing, precommissioning, commissioning, operations and maintenance etc. as the case may require.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Installation Services.

All personnel that we utilize in the execution of the Contract, including staff, labor and other employees of us and of each Subcontractor, and any other personnel assisting us in the execution of the Contract, are referred to as Contractor's Personnel.

This Code of Conduct identifies the behavior that we require from the Contractor's Personnel employed for the execution of Installation Services at the Site (or other places in the country where the Site is located).

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel employed for the execution of Installation Services at the Site (or other places in the country where the Site is located) shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation and Abuse, and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism.

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling sexual exploitation, sexual abuse and sexual harassment cases, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Contractor's hotline (*if any*) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by the Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person(s) with relevant experience*] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature:

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

ATTACHMENT 1: Behaviors constituting SEA and behaviors constituting SH

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM**BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND
BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)**

The following non-exhaustive list is intended to illustrate types of prohibited behaviors.

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- A Contractor's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g., cooking and cleaning) in exchange for sex.
- A Contractor's Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Contractor's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Contractor's Personnel denies a person access to the Site unless he/she performs a sexual favor.
- A Contractor's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) **Examples of sexual harassment in a work context**

- A Contractor's Personnel comment on the appearance of another Installation Services Personnel (either positive or negative) and sexual desirability.
- When a Contractor's Personnel complains about comments made by another Contractor's Personnel on his/her appearance, the other Contractor's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Contractor's Personnel or Employer's Personnel by another Contractor's Personnel.
- A Contractor's Personnel tells another Contractor's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

Plant

Contractor's Equipment

Form EQU

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key Contractor's equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

Functional Guarantees

Form FUNC

The Bidder shall copy in the left column of the table below, the identification of each functional guarantee required in the Specification and stated by the Employer in para. 1.2 (c) of Section III, Evaluation and Qualification Criteria, and in the right column, provide the corresponding value for each functional guarantee of the proposed plant and equipment.

Functional warranties

Required functional guarantee	Functional guarantee value of the proposed equipment
<p>Continuous automatic monitoring of pollutants (NO, NO₂, NO_x, SO₂, H₂S, CO, O₃, PM_{2.5}, PM₁₀, TSP)</p> <p>Guarantee round-the-clock operation of the equipment (24 hours a day, 7 days a week for 1 month) with automatic recovery after power outages.</p> <p>Real-time data transfer to the central server with an update interval of no more than 1 minute and a delay of no more than 5 minutes from the moment of measurement.</p> <p>Ensure complete data transfer for at least 95% of the total number of measurements per month. The system must provide automatic local data storage in case of loss of connection to the server, with the possibility of subsequent transfer after the connection is restored.</p>	
<p>Accuracy and quality of measurement data</p> <p>Guarantee compliance with the requirements:</p> <p>1) EN 14211 (NO₂), EN 14212 (SO₂), EN 14626 (CO), EN 14625 (O₃), EN 12341 (PM₁₀ and PM_{2.5}), USEPA EQPM/EQGA standards (method equivalence), TÜV certification, and ISO/IEC 17025 accreditation (for laboratories and verification).</p> <p>Functional guarantees – Accuracy and quality of measurement data</p> <p>Gas analyzers (NO/NO₂/NO_x, SO₂, H₂S, CO, O₃):</p>	

<p>Compliance with EN 14211, EN 14212, EN 14626, EN 14625, US EPA 40 CFR Part 50/53, EN 15267 requirements. Minimum detection limit: NO/NO₂/NO_x: ≤ 0.5 ppb SO₂: ≤ 0.5 ppb; H₂S: ≤ 0.5 ppb CO: ≤ 0.02 ppm O₃: ≤ 0.5 ppb Noise level: < 0.2 ppb (NO_x), ≤ 0.15 ppb (SO₂/H₂S), ≤ 0.05 ppm (CO), ≤ 1.0 ppb (O₃). Repeatability: ±1% of full scale (all gas analyzers). Linearity: ±1% of full scale. Zero drift: no more than ±1 ppb over 7 days (NO_x), < sensitivity at the lower range (SO₂/H₂S, O₃), <0.2 ppm over 7 days (CO). Range drift: ±1.5% over 7 days (NO_x), < sensitivity at the lower range (SO₂/H₂S, O₃), ±1% of scale over 7 days (CO). Particulate matter analyzers (PM₁₀, PM_{2.5}, PM₁, TSP): Compliance with EN 16450, EN 12341:2023, US EPA 40 CFR Part 53 (FEM/Ref. method). Measuring range: 0–1000 µg/m³ (PM₁₀, TSP), 0–500 µg/m³ (PM_{2.5}, PM₁). Resolution: ≤ 1 µg/m³ or ≤ 1% of reading. Minimum detection limit: ≤ 5 µg/m³ (1-hour average). Averaging time: from 1 min to 24 h (1-hour average required). Black Carbon Analyzer: al optical method (reflective/transmissive). Measurement range: 0–100 µg/m³ or higher. Resolution: ≤ 0.01 µg/m³. Minimum detection limit: < 0.005 µg/m³ (over 1 hour). Capability to measure at multiple wavelengths (black/brown carbon separation).</p>	
<p>System availability/uptime Guarantee a system availability level of at least 99% per year, including hardware, software, and data transmission channels</p>	
<p>Autonomous operation from UPS (uninterruptible power supply) Guarantee autonomous operation: at least 4 hours for automatic stations; at least 2 hours for laboratory analyzers and server equipment</p>	
<p>Climate control and ventilation (HVAC) in stations and server rooms Ensure temperature maintenance between +18 °C and +24 °C; relative humidity ≤ 65%;</p>	

protection of equipment from dust and condensation	
Calibration and stability of readings (Zero/Span Stability) Ensure drift of no more than $\pm 2\%$ of the measurement range within 24 hours; no more than $\pm 5\%$ within 7 days	
Completeness and success of data transfer to the central system (MDMS / AQMIS) Guarantee data completeness $\geq 95\%$ of all measurements; successful transmission of $\geq 95\%$ of data packets to the central server	
Reliability and service life of key components Guarantee service life: sensors ≥ 5 years, pumps ≥ 3 years, UPS ≥ 5 years, HVAC ≥ 7 years, subject to scheduled maintenance	

Personnel

Form PER -1

Contractor's Representative and other Key Personnel Schedule

Bidders should provide the names of suitably qualified personnel to meet the specified requirements stated in Section VII. The data on their experience should be supplied using the Form below for each candidate.

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
2.	Title of position: [Environmental Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
3.	Title of position: [Health and Safety Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>

	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
4.	Title of position: [Social Specialist]	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
5.	Title of position: Sexual Exploitation, Abuse and Harassment Expert <i>[Where a Project SEA risks are assessed to be substantial or high, key personnel shall include an expert/s with relevant experience in addressing sexual exploitation, sexual abuse and sexual harassment cases]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
6.	Title of position: Cyber security Expert/s <i>[Include as required]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
7.	Title of position: [insert title]	

Form PER-2

Resume of Proposed Personnel

Name of Bidder

Position		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience over the last 20 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company / Project / Position / Relevant technical and management experience

Proposed Subcontractors for Major Items of Plant and Installation Services

A list of major items of Plant and Installation Services is provided below.

The following Subcontractors and/or manufacturers are proposed for carrying out the item of the facilities indicated. Bidders are free to propose more than one for each item

Major Items of Plant and Installation Services	Proposed Subcontractors/Manufacturers	Nationality

Others - Time Schedule

(to be used by Bidder when alternative Time for **Completion is invited in ITB 13.2**)

Bidders Qualification without prequalification

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI 1.1

Bidder Information Sheet

Date: _____

RFB No.: _____

Page _____ of _____ pages

1. Bidder's Legal Name
2. In case of JV, legal name of each party:
3. Bidder's actual or intended Country of Registration:
4. Bidder's Year of Registration:
5. Bidder's Legal Address in Country of Registration:
6. Bidder's Authorized Representative Information Name: Address: Telephone/Fax numbers: Email Address:
7. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6, documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not under the supervision of the Employer
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.

Form ELI 1.2

Party to JV Information Sheet

Date: _____

RFB No.: _____

Page _____ of _____ pages

1. Bidder's Legal Name:
2. JV's Party legal name:
3. JV's Party Country of Registration:
4. JV's Party Year of Registration:
5. JV's Party Legal Address in Country of Registration:
6. JV's Party Authorized Representative Information Name: Address: Telephone/Fax numbers: Email Address:
7. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Employer, in accordance with ITB 4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.

Form CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No pending litigation in accordance with Sub-Factor 2.3.			
<input type="checkbox"/> Pending litigation in accordance with Sub-Factor 2.3 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
		Contract Identification: _____ Name of Employer: _____ Address of Employer: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No Litigation History in accordance with Sub-Factor 2.4. <input type="checkbox"/> Litigation History in accordance with Sub-Factor 2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)

<i>[insert year]</i>	<i>[insert percentage]</i>	<p>Contract Identification: [indicate complete contract name, number, and any other identification]</p> <p>Name of Employer: <i>[insert full name]</i></p> <p>Address of Employer: <i>[insert street/city/country]</i></p> <p>Matter in dispute: <i>[indicate main issues in dispute]</i></p> <p>Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i></p> <p>Reason(s) for Litigation and award decision <i>[indicate main reason(s)]</i></p>	<i>[insert amount]</i>
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Form CON – 3

Environmental and Social Performance Declaration

[The following table shall be filled in for the Bidder, each member of a Joint Venture and each Specialized Subcontractor]

Bidder’s Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Joint Venture Member’s or Specialized Subcontractor’s Name: *[insert full name]*
 RFB No. and title: *[insert RFB number and title]*
 Page *[insert page number]* of *[insert total number]* pages

Environmental and Social Performance Declaration in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.5.			
<input type="checkbox"/> Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g., gender-based violence; sexual exploitation or sexual abuse breaches]</i>	<i>[insert amount]</i>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...

Performance Security called by an employer(s) for reasons related to ES performance		
Year	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for calling of performance security: <i>[indicate main reason(s) e.g., for gender-based violence; sexual exploitation, or sexual abuse breaches]</i>	<i>[insert amount]</i>

Form CON – 4

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

[The following table shall be filled in by the Bidder, each member of a Joint Venture and each subcontractor proposed by the Bidder]

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Subcontractor's Name: *[insert full name]*

RFB No. and title: *[insert RFB number and title]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration
in accordance with Section III, Evaluation and Qualification Criteria
<p>We:</p> <ul style="list-style-type: none"> “ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations “ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations “ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>

Form CCC

Current Contract Commitments / Works in Progress

Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Name of contract	Employer, contact address/tel/fax	Value of outstanding work (current US\$ equivalent)	Estimated completion date	Average monthly invoicing over last six months (US\$/month)
1.				
2.				
3.				
4.				
5.				
etc.				

Form FIN – 3.1

Financial Situation

Historical Financial Performance

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Page _____ of _____ pages

To be completed by the Bidder and, if JV, by each member

Financial information in US\$ equivalent	Historic information for previous _____ () years (US\$ equivalent in 000s)						
	Year 1	Year 2	Year 3	Year ...	Year n	Avg.	Avg. Ratio
Information from Balance Sheet							
Total Assets (TA)							
Total Liabilities (TL)							
Net Worth (NW)							
Current Assets (CA)							
Current Liabilities (CL)							
Information from Income Statement							

Financial information in US\$ equivalent	Historic information for previous _____ () years (US\$ equivalent in 000s)						
	Year 1	Year 2	Year 3	Year ...	Year n	Avg.	Avg. Ratio
Total Revenue (TR)							
Profits Before Taxes (PBT)							

Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following conditions:

- (a) Must reflect the financial situation of the Bidder or member to a JV, and not sister or parent companies
- (b) Historic financial statements must be audited by a certified accountant
- (c) Historic financial statements must be complete, including all notes to the financial statements
- (d) Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted)

Form FIN – 3.2

Average Annual Turnover

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Page _____ of _____ pages

Annual turnover data		
Year	Amount and Currency	US\$ equivalent
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
*Average Annual Turnover	_____	_____

*Average annual turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Evaluation Criteria, Sub-Factor 2.3.2.

Form FIN3.3**Financial Resources**

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject contract or contracts as indicated in Section III, Evaluation and Qualification Criteria

Source of financing	Amount (US\$ equivalent)
1.	
2.	
3.	
4.	

Form EXP 4.1

Experience

General Experience

Bidder's Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Page _____ of _____ pages

Starting Month / Year	Ending Month / Year	Years*	Contract Identification	Role of Bidder
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____

Starting Month / Year	Ending Month / Year	Years*	Contract Identification	Role of Bidder
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____
_____	_____		Contract name: Brief Description of the contract performed by the Bidder: Name of Employer: Address:	_____

*List calendar year for years with contracts with at least nine (9) months activity per year starting with the earliest year

Form EXP –4.2(a)

Specific Experience

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Page _____ of _____ pages

Similar Contract Number: ___ of ___ required.	Information			
Contract Identification	_____			
Award date	_____			
Completion date	_____			
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total contract amount	US\$ _____			
If member in a JV or subcontractor, specify participation of total contract amount	_____ %		_____	US\$ _____
Employer’s Name:	_____			
Address:	_____ _____			
Telephone/fax number:	_____			
E-mail:	_____			

Form EXP –4.2(a) (cont.)

Specific Experience (cont.)

Bidder’s Legal Name: _____

Page _____ of _____ pages

JV Member Legal Name: _____

Similar Contract No. __[insert specific number] of [total number of contracts] __ required	Information
Description of the similarity in accordance with Sub-Factor 4.2a) of Section III:	
Amount	_____ _____
Physical size	_____ _____
Complexity	_____ _____
Methods/Technology	_____ _____
Physical Production Rate	_____ _____

Form EXP –4.2(b)

Specific Experience in Key Activities

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Subcontractor’s Legal Name: _____

Page _____ of _____ pages

				Information		
Contract Identification				_____		
Award date				_____		
Completion date				_____		
Role in Contract				Prime Contractor <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total contract amount				US\$ _____		
If member in a JV or subcontractor, specify participation of total contract amount				_____ %	_____	US\$ _____
Employer’s Name:				_____		
Address:				_____ _____		
Telephone/fax number:				_____		
E-mail:				_____		

Form EXP –4.2 (b)(cont.)

Specific Experience in Key Activities (cont.)

Bidder’s Legal Name: _____

Page _____ of _____ pages

JV Member Legal Name: _____

Subcontractor’s Legal Name: _____

	Information
Description of the key activities in accordance with Sub-Factor 4.2b) of Section III:	

Form EXP –4.2(c)

Specific Experience in Managing ES aspects and any additional sustainable procurement aspects

Bidder’s Legal Name: _____

Date: _____

JV Member Legal Name: _____

RFB No.: _____

Subcontractor’s Legal Name: _____

Page _____ of _____ pages

1. Key Requirement no 1 in accordance with 4.2 (c): __

Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount	US\$ _____			
Details of relevant experience				

2. Key Requirement no 2 in accordance with 4.2 (c): _____

3. Key Requirement no 3 in accordance with 4.2 (c): _____

Form of Bid Security

Form of Bid Security – Bank Guarantee

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

[Guarantor letterhead or SWIFT identifier code]

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

RFB No.: *[Employer to insert reference number for the Request for Bids]*

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

Date: *[Insert date of issue]*

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

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

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

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

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

- (a) has withdrawn its Bid prior to the Bid validity expiry date set forth in the Applicant's Letter of Bid, or any extended date provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary prior to the expiry date of the Bid validity or any extension thereto provided by the Applicant, (i) has failed to execute the Contract Agreement, or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful Bidder,

upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the expiry date of the Bid validity.

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

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

[Signature(s)]

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

Manufacturer’s Authorization

Date: _____

RFB No.: _____

To: _____

WHEREAS

We _____, who are official manufacturers of _____, having factories at _____, do hereby authorize _____ to submit a Bid the purpose of which is to provide the following goods, manufactured by us _____, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 27 of the General Conditions, with respect to the goods offered by the above firm.

Signed: _____

Name: _____

Title: _____

Duly authorized to sign this Authorization on behalf of:

Dated on _____ day of _____, _____

Letter of Bid - Financial Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

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

Note: All italicized text is to help Bidders in preparing this form.

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

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

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

To: *[insert complete name of Employer]*

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Bill of Quantities. This accompanies the Letter of Bid- Technical Part.

In submitting our Bid, we make the following additional declarations:

(a) **Bid Validity:** Our Bid shall be valid until *120 days in accordance with ITB 19.1*, and it shall remain binding upon us and may be accepted at any time on or before this date;

(b) **Total Price:** The total price of our Bid, excluding any discounts offered in item (f) below is: *[Insert one of the options below as appropriate]*

[Total price is: [insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies]];

(c) **Discounts:** The discounts offered and the methodology for their application are:

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

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts];*

(d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].*

Name of Recipient	Address	Reason	Amount

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

Name of the Bidder: **[insert complete name of the Bidder]*

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

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

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

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

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

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

Schedule of Rates and Prices

Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad

Item	Description	Code ¹	Unit	Qty.	Unit Price ²		Total Price ²
						<i>CIP</i>	
				(1)	(2)	(3)	(1) x (3)
1.	Automatic station of air quality control (AAQMS). Places of installation: A1-A11 ⁸		Set	11			
1.1	Pavilion – ASMKAV		set	1			
1.2	Air conditioner		pcs	2			
1.3	Heater		pcs	1			
1.4	Uninterruptible power supply (UPS) (recommended power 10 kVA*)		pcs	1			
1.5	Uninterruptible power supply (UPS) (recommended power 5 kVA*)		pcs	1			
1.6	Tool kit		set	1			
1.7	Container status sensor and devices complex		set	1			
1.8	Software for monitoring the status of station #1		set	1			
1.9	Analyzer No. 1. (NO, NO ₂ , NO _x)		pcs	1			
1.10	Analyzer No. 2. (SO ₂) 1 (SO ₂ → H ₂ S)		pcs	1			
1.11	Analyzer No. 3 (CO)		pcs	1			
1.12	Analyzer No. 4 (O ₃)		pcs	1			
1.13	Analyzer No. 5		pcs	1			

⁸ Exact location as per Section VII - Table 1.2. Location of planned AAQMS

Item	Description	Code ¹	Unit	Qty.	Unit Price ²		Total Price ²
						<i>CIP</i>	
				(1)	(2)	(3)	(1) x (3)
	(PM ₁₀ , PM _{2.5} , PM ₁ , TSP)						
1.14	Lightning protection system		set	1			
1.15	Meteorological observation system (sensors: temperature, humidity, wind speed and direction, pressure)		set	1			
1.16	Cabinet for 19" standard equipment		pcs	2			
1.17	Communication equipment/data transmission equipment set		set	1			
1.18	Gas calibration cylinders		pcs	4			
1.19	PC Workstation		Set	1			
1.20	Industrial electricity supply		Set	1			
1.20.1	Electricity meters		pcs	1			
1.20.2.	Poles**		set	1			
1.20.3.	Cable**		set	1			
2.	Additional Equipment to be supplied and installed:						
2.1	Sequential automatic sampler for gravimetric measurement of fine particulate matter PM _{2.5} /PM ₁₀ . Installation sites: A01, A04, A05, A06.		pcs	4			
2.2	Analyzer No. 6 (black carbon) Installation sites: A03, A04, A05		pcs	3			
2.3	Software for collecting data from automatic stations and manual PNZ */central #2 Installation site: B02		Set	1			
2.4	PC Workstation Installation site: B02		Set	1			
2.5	Clean air generator Installation sites: A01, A08, A09, A10		pcs	4			
2.6	Multi-gas calibrator Installation sites: A01, A08, A09, A10		pcs	4			

Item	Description	Code ¹	Unit	Qty.	Unit Price ²		Total Price ²
						<i>CIP</i>	
				(1)	(2)	(3)	(1) x (3)
3	Mandatory Spare Parts						
3.1	Communication equipment/data transmission equipment kit		Set	2			
3.2	Serial automatic sampler for gravimetric measurement of fine particulate matter PM2.5/PM10		pcs	2			
3.3	Multi-gas calibrator		pcs	1			
3.4	Generator for clean air		pcs	1			
3.5	Gas calibration cylinders		pcs	44			
3.6	Tool kit		set	2			

TOTAL (to Schedule No. 5. Grand Summary)	
	Name of Bidder _____ Signature of Bidder _____

¹ Bidders shall enter a code representing the country of origin of all imported plant and equipment.

² Specify currency. Create and use as many columns for Unit Price and Total Price as there are currencies.

Country of Origin Declaration Form

Item	Description	Code	Country

Schedule of Rates and Prices

Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

Item	Description	Unit	Qty.	EXW Unit Price ¹	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 17.5 (b) (ii))	EXW Total Price ¹
			(1)	(2)	(3)	(1) x (2)
1.	Automatic station of air quality control (AAQMS). Places of installation: A1-A11	Set	11			
1.1	Pavilion – ASMKAV	set	1			
1.2	Air conditioner	pcs	2			
1.3	Heater	pcs	1			
1.4	Uninterruptible power supply (UPS) (recommended power 10 kVA*)	pcs	1			
1.5	Uninterruptible power supply (UPS) (recommended power 5 kVA*)	pcs	1			
1.6	Tool kit	set	1			
1.7	Container status sensor and devices complex	set	1			
1.8	Software for monitoring the status of station #1	set	1			
1.9	Analyzer No. 1. (NO, NO ₂ , NO _x)	pcs	1			
1.10	Analyzer No. 2. (SO ₂) 1 (SO ₂ → H ₂ S)	pcs	1			
1.11	Analyzer No. 3 (CO)	pcs	1			
1.12	Analyzer No. 4 (O ₃)	pcs	1			

Item	Description	Unit	Qty.	EXW Unit Price ¹	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 17.5 (b) (ii))	EXW Total Price ¹
			(1)	(2)	(3)	(1) x (2)
1.13	Analyzer No. 5 (PM ₁₀ , PM _{2.5} , PM ₁ , TSP)	pcs	1			
1.14	Lightning protection system	set	1			
1.15	Meteorological observation system (sensors: temperature, humidity, wind speed and direction, pressure)	set	1			
1.16	Cabinet for 19" standard equipment	pcs	2			
1.17	Communication equipment/data transmission equipment set	set	1			
1.18	Gas calibration cylinders	pcs	4			
1.19	PC Workstation	Set	1			
1.20	Industrial electricity supply	Set	1			
1.20.1	Electricity meters	pcs	1			
1.20.2.	Poles**	set	1			
1.20.3.	Cable**	set	1			
2.	Additional Equipment to be supplied and installed:					
2.1	Sequential automatic sampler for gravimetric measurement of fine particulate matter PM _{2.5} /PM ₁₀ . Installation sites: A01, A04, A05, A06.	pcs	4			
2.2	Analyzer No. 6 (black carbon) Installation sites: A03, A04, A05	pcs	3			
2.3	Software for collecting data from automatic stations and manual PNZ */central #2 Installation site: B02	Set	1			
2.4	PC Workstation Installation site: B02	Set	1			

Item	Description	Unit	Qty.	EXW Unit Price ¹	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 17.5 (b) (ii))	EXW Total Price ¹
			(1)	(2)	(3)	(1) x (2)
2.5	Clean air generator Installation sites: A01, A08, A09, A10	pcs	4			
2.6	Multi-gas calibrator Installation sites: A01, A08, A09, A10	pcs	4			
3	Mandatory Spare Parts					
3.1	Communication equipment/data transmission equipment kit	Set	2			
3.2	Serial automatic sampler for gravimetric measurement of fine particulate matter PM2.5/PM10	pcs	2			
3.3	Multi-gas calibrator	pcs	1			
3.4	Generator for clean air	pcs	1			
3.5	Gas calibration cylinders	pcs	44			
3.6	Tool kit	set	2			

TOTAL (to Schedule No. 5. Grand Summary)						
					Name of Bidder	_____
					Signature of Bidder	_____
¹ Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1						

Country of Origin Declaration Form

Item	Description	Code	Country

Schedule No. 3. Design Services

Item	Description	Qty.	Unit Price ¹		Total Price ¹
			Local Currency Portion	Foreign Currency Portion	
		<i>(1)</i>	<i>(2)</i>	<i>(optional)</i>	<i>(1) x (2)</i>
DS-1	Design for whole system to complete the project	Lump sum	1		
TOTAL (to Schedule No. 5. Grand Summary)					

Name of Bidder _____

Signature of Bidder _____

Schedule No. 4. Installation and Other Services

Item	Description	Qty. (1)	Unit Price ¹		Total Price ¹	
			Foreign Currency Portion (2)	Local Currency Portion (3)	Foreign (1) x (2)	Local (1) x (3)
1	Preparation and presentation of the Documentation described in the Section VII - Employer's Requirements, Clause 5.1. Documentation	1				
2	Conducting the Commissioning Testing Procedures and preparation of the Test Report	1				
3	Preparation and presentation of the As-built drawings and the completion report	1				
4	Inspection of work sites	11				
5	Site preparation Including: Connection to electricity	11				
8	Equipment installation and configuration Including: Integration into the Kyrgyz Hydrometeorological Service Verification Laboratory And Integration into the Kyrgyzhydromet Central Data Collection and Observation System (CDSOS) And including Obtaining certificates of approval of the type of measuring instruments of the Kyrgyz Republic	1				
11	Training of the users	1				
12	Warranty service and technical support	11				
TOTAL (to Schedule No. 5. Grand Summary)						

Name of Bidder _____
Signature of Bidder _____

¹ Specify currency in accordance with ITB 18

Schedule No. 5. Grand Summary

Item	Description	Total Price ¹	
		Foreign	Local
	Total Schedule No. 1. Plant, and Mandatory Spare Parts Supplied from Abroad		
	Total Schedule No. 2. Plant, and Mandatory Spare Parts Supplied from Within the Employer's Country		
	Total Schedule No. 3. Design Services		
	Total Schedule No. 4. Installation and Other Services		
	TOTAL (to Letter of Bid)		
<div style="margin-top: 50px;">Name of Bidder _____</div> <div style="margin-top: 50px;">Signature of Bidder _____</div>			

¹Specify currency in accordance with ITB 18. Create and use as many columns for Foreign Currency requirement as there are foreign currencies

Price Adjustment

NOT APPLICABLE

Section V - Eligible Countries

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

In reference to ITB 4.8 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8 (a) and 5.1: “*none*”.

Under ITB 4.8 (b) and 5.1: “*none*”.

Section VI - Fraud and Corruption

(this Section shall not be changed)

1. Purpose

1.1 The Bank’s Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. “obstructive practice” is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti-Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 - Employer’s Requirements

Section VII - Employer's Requirements

Contents

Scope of Supply of Plant and Installation Services by the Contractor	141
Specification.....	Error! Bookmark not defined.
Forms and Procedures	216
Form of Completion Certificate	217
Change Order Procedure and Forms	219
Change Order Procedure.....	220
Annex 1. Request for Change Proposal.....	221
Annex 2. Estimate for Change Proposal.....	223
Annex 3. Acceptance of Estimate.....	225
Annex 4. Change Proposal.....	226
Annex 5. Change Order	229
Annex 7. Application for Change Proposal	233
Drawings.....	235
Supplementary Information.....	236

TABLE OF CONTENTS

A. DELIVERY REQUIREMENTS141

1. Location of automatic air quality monitoring stations141

3. Mandatory Spare parts for proposed equipment146

4. List of related services and schedule of performance147

5. List of required Documentation149

1. General Information150

2. Parameters Measured150

Air Pollutants:150

Meteorological Parameters (if applicable):150

3. Technical Specifications150

4. Equipment Configuration151

5. Certification and Compliance151

6. Maintenance and Warranty151

7. Responsible Persons151

6. Calibration and certification documentation (for all measuring instruments)152

7. Inspection of work sites152

8. Site preparation153

9. Delivery and installation of equipment154

10. Integration into the Kyrgyzhydromet Verification Laboratory155

11. Integration into the Central Data Collection and Observation System (CDCOS) of Kyrgyzhydromet155

12. User trainings156

5.10 Acceptance tests161

5.11 Warranty service163

B. TECHNICAL SPECIFICATIONS FOR AIR QUALITY MONITORING STATIONS OF ATMOSPHERIC AIR QUALITY165

1. Description of the automatic atmospheric air quality monitoring system (AAQMS)165

2. Technical specifications for an automatic atmospheric air monitoring station166

2.1. Requirements for the pavilion with installed systems166

2.2. Life support system requirements	174
2.3. Air conditioning and ventilation	175
2.4. Heating system.....	176
2.5. Technical requirements for the uninterruptible power supply (UPS) system	178
2.6. Storage of gas cylinders.....	180
2.7 Tool kit.....	180
2.8. Telephone lines / mobile communication lines.....	180
2.9. Container and device status sensors	180
2.10. Software for container status sensors and devices.....	181
2.10. Sampling system	181
2.11. Sampling inlet for particulate matter analyzer	182
2.12. Technical specifications for gaseous pollutant analyzers	183
2.13. Technical specifications for automatic particulate matter analyzers (PM ₁₀ , PM _{2.5} , PM ₁ , TSP).....	189
2.14. Lightning protection system.....	192
3. Meteorological observation system.....	194
3.1. Technical requirements.....	194
4. Cabinet - 19" standard.....	197
C. TECHNICAL REQUIREMENTS FOR THE ARCHITECTURE OF THE SYSTEM FOR COLLECTING, PROCESSING, AND VISUALIZING DATA FROM AUTOMATIC AIR QUALITY MONITORING STATIONS	198
1. Technical requirements for software architecture coordination and interaction procedures.....	199
1.1. Software.....	199
1.2. Technical requirements for communication equipment	202
1.3 PC - Workstation.....	203
D. CALIBRATION SYSTEM	205
1. Requirements for the multi-calibration system.....	207
1.1. Clean air generator	208
1.2. Multi-gas calibrator	209
1.3 Calibration gases for stations.....	210
1.3.1 Additional mandatory elements	211

Scope of Supply of Plant and Installation Services by the Contractor

A. DELIVERY REQUIREMENTS

1. Location of automatic air quality monitoring stations

The tables below provide information on the locations of automatic air quality monitoring stations (AAQMS) where work will be carried out in accordance with the technical specifications set out in this document.

Table 1.1 . Kyrgyzhydromet premises

Note:

The Supplier must ensure delivery of goods to the Kyrgyzhydromet warehouse. Incoterms - CIP delivery. The Employer will carry out the initial acceptance of the equipment at the Kyrgyzhydromet warehouse. The Supplier must deliver the goods from the Kyrgyzhydromet warehouse to each place of work.

Upon delivery of the equipment to the Kyrgyzhydromet warehouse and to the place of work, it must be checked for completeness, appearance, absence of mechanical damage, integrity of packaging, and compliance with technical specifications. If any shortages or damage are found, replacement shall be made within 20 days at the Supplier 's expense. The delivery of the Goods shall be accompanied by shipping documents and an Act of Inspection of the integrity of the packaging, name, model, and quantity of the delivered Goods, signed by the Supplier and the Recipient.

Place of Contract Performance	Address of the place of performance	Location code performance of work
Hydrometeorological Service under the Ministry of Emergency Situations of the Kyrgyz Republic, warehouse	Kyrgyz Republic, Bishkek, 71 A Lushchikhina Street	B01
Hydrometeorological Service under the Ministry of Emergency Situations of the Kyrgyz Republic, central office	Kyrgyz Republic, Bishkek, 1 Kerimbekov Street	B02

Table 1.2. Location of planned AAQMS

No.	Name of stations (contract performance locations)	Latitude N	Longitude E	Code of the place of work
1	Bishkek, intersection of Manas Avenue and Moskovskaya Street 171A (near Anadolu Lyceum)	42.870591	74.586427	A01

Section VII Employer's Requirements

2	Bishkek, 12 microdistrict, 41 Aaly Tokombaev Street	42.812442	74.633229	A02
3	Bishkek, Tunguch microdistrict, intersection of Ankara Street and Ch. Valikhanov Street 7/1	42.856046	74.673297	A03
4	Bishkek, Ak-Bata residential area, Ak-Bata-3 Street	42.951225	74.613915	A04
5	Kashka-Suu village (Baitik weather station)	42.650380	74.497125	A05
6	Kara-Balta, intersection of Sverdlova/Kalinskoe streets (near school No. 12)	42.80273	73.85386	A06
7	Tokmok, Tokmok meteorological station	42.836563	75.289667	A07
8	Cholpon-Ata, intersection of Sovetskaya and Pravda streets (Z. Abdrakhmanov Square)	42.642746	77.065666	A08
9	Jalal-Abad, Jalal-Abad Central Market	40.933027	72.969714	A09
10	Osh c. (the exact address will be determined before signing contract)			A10
11	Osh c., Ak-Tilik microdistrict			A11

2. List of goods and delivery schedule

No	Description of goods	Unit	Overall Quantity	Reference to the section in the Bidding document	Destination	Delivery date (according to Incoterms)
1	Pavilion – ASMKAV	set	11	Error! Reference source not found.	A01- A11	Time to complete the Plant and Installation Services from the effective date specified in Article 3 of the Contract Agreement for determining time for completion of pre-commissioning activities is: Within 9 months.
2	Air conditioner	pcs	22	Error! Reference source not found.	A01- A11	
3	Heater	pcs	11	Error! Reference source not found.	A01- A11	
4	Uninterruptible power supply (recommended power 10 kVA*)	power (UPS) pcs	11	Error! Reference source not found.	A01- A11	
5	Uninterruptible power supply (recommended power 5 kVA*)	power (UPS) pcs	11	Error! Reference source not found.	A01- A11	
6	Tool kit	set	11	Error! Reference source not found.	A01- A11	
7	Container status sensor and device complex	set	11	Error! Reference source not found.	A01- A11	
8	Station status monitoring software #1	set	11	Error! Reference source not found.	A01- A11	

Section VII Employer's Requirements

9	Analyzer No. 1. (NO, NO ₂ , NO _x)	pcs	11	Error! Reference source not found.	A01- A11
10	Analyzer No. 2. (SO ₂) 1 (SO ₂ → H ₂ S)	pcs	11	Error! Reference source not found.	A01- A11
11	Analyzer No. 3 (CO)	pcs	11	Error! Reference source not found.	A01- A11
12	Analyzer No. 4 (O ₃)	pcs	11	Error! Reference source not found.	A01- A11
13	Analyzer No. 5 (PM ₁₀ , PM _{2.5} , PM ₁ , TSP)	pcs	11	Error! Reference source not found.	A01- A11
14	Sequential automatic sampler for gravimetric measurement of fine particulate matter PM _{2.5} /PM ₁₀	pcs	4	Error! Reference source not found.	A01, A04, A05, A06
15	Analyzer No. 6 (black carbon)	pcs	3	Error! Reference source not found.	A03, A04, A05
16	Lightning protection system	set	11	Error! Reference source not found.	A01- A11
17	Meteorological observation system (sensors: temperature, humidity, wind speed and direction, pressure)	set	11	Error! Reference source not found.	A01- A11

18	Cabinet for 19" standard equipment	pcs	22	Error! Reference source not found.	A01- A11
19	Software for collecting data from automatic stations and manual PNZ */central #2	Set	1	Error! Reference source not found.	B02
20	Communication equipment/data transmission equipment set	set	11	Error! Reference source not found.	A01- A11
21	PC Workstation	Set	12	Error! Reference source not found.	A01- A11, B02
22	Clean air generator	pcs	4	Error! Reference source not found.	A01, A08, A09, A10
23	Multi-gas calibrator	pcs	4	Error! Reference source not found.	A01, A08, A09, A10
24	Gas calibration cylinders	pcs	44	Error! Reference source not found.	A01- A11
25	Electricity supply	Set	11	Error! Reference source not found.	A01- A11
25.1	Electricity meters	pcs	11	Error! Reference source not found.	A01- A11
25.2.	Poles	set	11		A01- A11
25.3.	Cable	set	11		A01- A11

3. Mandatory Spare parts for proposed equipment

Section VII Employer's Requirements

No.	List	Unit	Quantity	Place where services will be provided	Date of completion of service provision
General requirements: The supplier must provide a set of mandatory spare parts and consumables for the equipment supplied, sufficient for the uninterrupted operation of automatic air pollution monitoring. The spare parts and consumables shall include, at a minimum, the main replaceable sensor elements, filters, fuses, connecting elements, batteries, communication elements, and calibration accessories.				B01 - Kyrgyz Republic, Bishkek, 71 A Lushchikhina Street	Within 9 months after the contract comes into force
1.	Communication equipment/data transmission equipment set	2	Set		
2.	Serial automatic sampler for gravimetric measurement of fine particulate matter PM2.5/PM10	2	pcs.		
3.	Multi-gas calibrator	1	pcs.		
4.	Clean air generator	1	pcs.		
5.	Gas calibration cylinders	44	pcs.		
6.	Tool kit	2	set		

4. List of related services and schedule of performance

Note: this table must be completed by the Customer. The required delivery dates must be realistic and correspond to the required delivery terms (in accordance with Incoterms).

No.	Description of services	Quantity	Unit of measurement	Place of performance	Date(s) of final completion of Services
1	Inspection of work sites	11	Service	A01- A11	1 month from the date of contract signing

2	Site preparation Including: Connection to electricity	11	Service	A01- A11	3 months from the date of contract signing
3	Delivery and installation of equipment Including Obtaining certificates of approval of the type of measuring instruments of the Kyrgyz Republic And Integration into the Kyrgyz Hydrometeorological Service's verification laboratory and Central Hydrometeorological Service of Kyrgyzstan	11	Service	A01- A11	4-6 months from the date of signing the contract
4	Acceptance tests	1	Service	A01- A11	After installation of equipment 1 month
5	User training	1	Service	B02, A01- A11	Within 2 weeks after acceptance is done.
6	Documentation	1	Service	B02	Within 1 month after acceptance is done.
7	Warranty service and technical support	11	Service	A01- A11	3 years from the date of signing the acceptance certificate

5. List of required Documentation

5.1	Operational documentation must, at a minimum, contain requirements for assembly, installation, and configuration of equipment; a description of the specifics of preparing for operation and working with the IS; requirements for connected devices; requirements for climatic and other influencing factors; and other information ensuring the correct operation of the IS.
5.2	<p>The Supplier shall provide a complete set of operational and technical documentation for the Automatic Air Quality Monitoring Station (AAQMS).</p> <p>The documentation shall include, but not be limited to:</p> <ul style="list-style-type: none"> • User manual for the data logger; • Data monitoring and processing manual; • Description of procedures for processing measurement results within the data logger; • User manual for the Automated Workstation (AWS) of the station operator; • AWS manual for the gas analysis complex; • Standard installation design, working drawings, diagrams, connection schemes, electronic diagrams, control points, and methodological guidelines; • Installation, commissioning, operation, maintenance, troubleshooting, calibration, cleaning, equipment protection, and safety instructions; • Training program; • Equipment passport; • Original brochures, technical specifications, catalogs; • All certificates (copies) provided by the Supplier. <p>For each installed analyzer and device, the Supplier shall provide a detailed table indicating brand, model, serial number, calibration certificate details, and barcode (if applicable).</p> <p>The documentation shall also include detailed maintenance schedules (daily, monthly, annual) and system diagrams.</p> <p>All Working Documentation shall be prepared in Russian and provided in:</p> <ul style="list-style-type: none"> • 2 hard copies; and • 2 electronic copies (USB) in MS Word and PDF formats. <p>Additionally, the Supplier shall prepare and provide (on USB) a video training manual for Kyrgyzhydromet personnel covering operation of the AAQMS system and maintenance of equipment and software.</p> <p>All documentation shall be delivered to the Employer simultaneously with the equipment delivery.</p>
5.3	<p>Supplier shall develop design documentation for each work site, including at least the following:</p> <ul style="list-style-type: none"> • Detailed station installation designs for each work site (previously agreed with the Customer); • A set of documents describing information on design, design features, composition of the installed equipment, indicating serial numbers, quantities, models, etc.;
	<ul style="list-style-type: none"> • Instructions for installation/maintenance of installed equipment, technical maintenance, routine repairs, instructions for setting up/installing measuring instruments and communication equipment, etc. • Technical specifications of equipment and materials;

	<ul style="list-style-type: none"> • Rules for safe operation of stations (storage and transportation of station components); • Table of connections and hookups; • Cable connection and wiring diagram, electrical diagram, pin assignment by color • Software description;
5.4	<p>Information about required certification:</p> <p>For each IS, the Supplier shall provide: a type approval certificate recognized in the Kyrgyz Republic, an approved verification method, type test reports, an individual verification/calibration certificate, a test report, and the passport and operating manual in Russian.</p> <p>A type approval certificate for measuring instruments is obtained for the equipment model, and a calibration certificate must be obtained for each unit of measuring instrument (sensor).</p> <p>Certificate (copy) of initial calibration with a test report for the measuring instrument from the laboratory that performed the initial calibration, indicating the test methods, test conditions, schedules (if any), and test results;</p> <p>Originals or duly certified copies of all documents shall be delivered to the Employer together with the equipment.</p>
5.5	<p>Automatic Air Quality Monitoring Station (AAQMS) passport included following:</p> <p>1. General Information</p> <ul style="list-style-type: none"> • Equipment Name: • Station Model: • Manufacturer: • Country of Origin: • Year of Manufacture: • Serial Number: • Installation Address: • Geographic Coordinates (Latitude/Longitude): • Operating Organization: • Date of Commissioning: <p>2. Parameters Measured</p> <p>Air Pollutants:</p> <ul style="list-style-type: none"> • PM2.5 (measurement method, range, accuracy) • PM10 (measurement method, range, accuracy) • NO₂ (method) • SO₂ (method) • CO (method) • O₃ (method) • Other pollutants (if applicable) <p>Meteorological Parameters (if applicable):</p> <ul style="list-style-type: none"> • Air Temperature • Relative Humidity • Atmospheric Pressure • Wind Speed and Direction • Precipitation <p>3. Technical Specifications</p> <ul style="list-style-type: none"> • Sampling Method: • Measurement Frequency: • Averaging Time: • Detection Limit: • Measurement Accuracy: • Operating Temperature Range:

	<ul style="list-style-type: none"> • Power Supply Requirements: • Data Transmission System (GPRS/LTE/Fiber, etc.): • Backup Power Supply (UPS): <p>4. Equipment Configuration</p> <ul style="list-style-type: none"> • Gas Analyzers (list and models) • Particulate Matter Monitors • Sampling System • Calibration Equipment • Meteorological Sensors and Mast • Air Conditioning System • Data Acquisition and Processing Software • Shelter/Container Type and IP Protection Rating <p>5. Certification and Compliance</p> <ul style="list-style-type: none"> • Compliance with International Standards (EU EN, US EPA, ISO, etc.) • Certificates of Conformity • Calibration and Verification Certificates <p>6. Maintenance and Warranty</p> <ul style="list-style-type: none"> • Warranty Period: • Maintenance Schedule: • Calibration Requirements: • Service Provider Contact Details: <p>7. Responsible Persons</p> <ul style="list-style-type: none"> • Responsible Operator: • Contact Information: • Date of Passport Completion: • Signature and Official Stamp:
5.6	Other documentation
1) Maintenance plan for an automatic air pollution monitoring station	<p>The Supplier shall provide a detailed maintenance plan for the automatic air pollution monitoring station, including a list of scheduled procedures with their frequency (daily, weekly, monthly, quarterly, annually), responsible persons, and personnel qualification requirements. The plan must cover the maintenance of all station components, including gas analyzers, samplers, weather sensors, data loggers, communication devices, uninterruptible power supplies (UPS), air conditioners, ventilation and security systems. For each procedure, the following must be specified: the purpose of the procedure, the necessary tools and materials, step-by-step instructions for implementation, acceptable parameters and standards, as well as actions to be taken in case of deviations or malfunctions. The maintenance plan must contain forms for recording the work performed, a table of equipment verification and calibration intervals, and a list of consumables with codes and recommended quantities for the period of operation. The document must be submitted in electronic and printed form and agreed with the customer before the station begins operation.</p>
2) License agreements and software rights	<p>The Supplier is obliged to provide all necessary license agreements and documents confirming the right to use the software installed on automatic air pollution monitoring stations, including data logger software, data collection and transmission systems, operator interfaces, server and analytical software, as well as all auxiliary software components. All software supplied must have valid licenses allowing its legal use by the Employer for an unlimited period, without the need for additional payments for basic functions. Licenses must be registered to Kyrgyzhydromet and Supplier shall have the right to install, operate, back up, and provide technical support. If third-party (including open source) software is</p>
	<p>used, the Supplier is required to provide a list of such components, indicating the terms and conditions of their use. The following must also be provided: license keys, certificates of authenticity, activation instructions, and, if necessary, access to personal accounts or technical support portals. All terms of use, including restrictions, updates, and transfer of</p>

	rights, must be clearly stated in the accompanying documentation and provided to the Employer together with the software.
3) List of spare parts	The Supplier is obliged to provide a complete list of recommended spare parts, tools, and accessories (SPAs) necessary for the normal functioning, regular maintenance, and emergency repair of the automatic air pollution monitoring station for at least 36 months of operation. The list of spare parts and accessories must include consumables (filters, gaskets, fuses, batteries, etc.), standard spare parts for gas analyzers and samplers, pre-filled calibration gases or their cylinders (if necessary), cables, connectors, pre-configured communication modules, as well as tools necessary for basic maintenance (wrenches, screwdrivers, brushes, etc.). For each spare part, a table must be provided indicating the name, description, serial number (if applicable), quantity, manufacturer code, and storage period. All spare parts must be delivered in appropriate packaging and accompanied by documentation ensuring their correct use.

6. Calibration and certification documentation (for all measuring instruments)

<p>All measuring instruments (MI) supplied must be fully ready for operation and accompanied by a valid calibration certificate with a remaining validity period of at least 80% at the time of acceptance of the equipment. Initial verification must be performed by the MI manufacturer or an accredited verification laboratory that meets the requirements of ISO/IEC 17025. The verification certificate must be accompanied by a test report containing a description of the methods used, the conditions of the test, schedules (if any), and test results. Calibration and certification documentation shall also include: a certificate of approval of the type of measuring instrument issued by an authorized body of the Kyrgyz Republic; an approved verification procedure; type test reports; individual verification or calibration certificates for each device; as well as the device passport, operating manual, and calibration instructions in Russian. If necessary, certificates for reference calibration equipment and verification logs shall also be provided. All originals or certified copies of the above documents, including electronic versions in the case of electronic document management, shall be handed over to the Employer at the same time as the equipment is delivered.</p> <p>All measuring instruments supplied under the Contract must be entered in the State Register of Measuring Instruments of the Kyrgyz Republic.</p> <p>The Supplier must provide certificates of approval of the type of measuring instruments of the Kyrgyz Republic for all measuring instruments.</p>

7. Inspection of work sites

<p>The Supplier is obliged to visit all work sites (MVR) in order to survey the sites for the installation of automatic air pollution monitoring stations and gas analysis complexes within 1 month from the date of signing the contract. As part of the survey, the contractor must clarify the coordinates and elevation marks of the terrain, check the availability and quality of mobile communications and the Internet, record the presence of fiber optic lines nearby, assess the possibility of connecting to the power supply, identify potential obstacles to correct measurements (e.g., buildings, trees, high-voltage lines), as well as possible natural and man-made risks. The transport accessibility of the site is also checked and the optimal location for installing the Automatic Air Quality Monitoring Station (AAQMS) and gas analysis equipment structures is determined. Based on the results of the survey, the supplier prepares a report confirming the technical feasibility of installation at each MVR. If any restrictions or obstacles are identified, the contractor is required to draw up a report describing the problem and propose solutions to be agreed upon with the customer.</p>
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Obligation of Kyrgyzhydromet. After site inspection is conducted and based on the submitted documents on land ownership rights, Kyrgyzhydromet must obtain Technical Conditions for connecting all ASM sites to the industrial power grid.

8. Site preparation

The Supplier shall ensure the preparation of each site for the installation of an Automatic Air Quality Monitoring Station (AAQMS) in accordance with the requirements of the approved Standard Design and the results of the site survey.

The Standard Design (Typical Project) for the AAQMS installation is a comprehensive set of technical, architectural, structural, electrical, and engineering documentation establishing uniform requirements for site preparation, pavilion construction, utility connections, equipment protection, and commissioning of the station.

The Standard Design shall include:

- Architectural and structural drawings of the station pavilion/container;
- Foundation and anchoring solutions (concrete slab, anchor bolts, mounting systems);
- Grounding and lightning protection systems;
- Cable routing schemes and communication line layouts;
- Rainwater drainage and site leveling requirements;
- Electrical power supply design, including load calculations, protection systems (overload and overvoltage protection), panels, and control systems;
- Compliance with applicable national regulations and approved Technical Conditions;
- Measures for protection against vandalism, animals, adverse weather, and geological factors;
- Safety requirements for personnel and equipment;
- Requirements for commissioning and formal acceptance of site readiness.

The Standard Design shall serve as the baseline technical document and must be adapted to each specific site, taking into account survey results and local climatic, geological, and transport conditions. Where required, it shall be approved by the relevant state authorities.

The Supplier shall develop detailed designs, drawings, and diagrams for the AAQMS pavilions in accordance with established requirements and obtain the necessary architectural and technical approvals from competent state authorities.

Site preparation works shall include clearing and leveling of the site; installation or preparation of the foundation for the container (including anchor bolts, concrete slab, or other fastening systems); installation of grounding; laying of cable ducts; and installation of rainwater drainage systems, where necessary. Provision shall also be made for connection to the power supply and installation of communication lines.

The Supplier shall implement appropriate protective measures to safeguard the equipment against vandalism, animals, weather conditions, and geological risks (including fencing, drainage, and foundation reinforcement). All works shall be carried out with due consideration of site-specific climatic, geological, and logistical conditions. Completion of site preparation for each location shall be confirmed by an acceptance certificate signed by both Parties.

Connection to electricity

For electrical and control systems, in particular, all relevant components, devices, panels, shields, systems, and installations that are part of the scope of work must comply with applicable (local) standards. The Supplier's work must comply with current regulations KR.

The supplier must connect electricity to the AAQMS .

The Supplier shall carry out the works for connection to the electrical networks in strict accordance with the approved Technical Conditions.

Based on the diagrams provided in the appendix to the “Draft Technical Conditions” the supplier must independently calculate and propose a solution for supplying the AMS with electricity and agreed with Kyrgyzhydromet.

The solution must ensure a stable and reliable power supply to the AMS for uninterrupted operation and accurate measurements.

The solution must provide protection against overloads and overvoltages to prevent damage to the equipment.

The supplier must take into account safety standards and regulations to ensure the safe operation of electrical equipment.

The solution must ensure the safety of personnel working with the equipment and provide precautions to prevent possible accidents or injuries.

After successful completion, the Supplier must perform the work on connecting to the electricity supply in accordance with the approved design and estimate documentation.

Draft Technical Conditions (DTC) and Connection to the Power Supply Network

For the purpose of ensuring reliable power supply to the Automatic Air Quality Monitoring Station (AAQMS), the Supplier shall develop a Draft Technical Conditions (DTC) document for connection to the electrical network.

The DTC shall be prepared by the Supplier on the basis of:

- Technical Conditions (TC) officially issued by the power supply organization;
- Schemes provided in the appendix to the present documentation;
- Requirements of the Client (Kyrgyzhydromet);
- Applicable laws, regulations, and technical standards of the Kyrgyz Republic (including PUE KR, electrical safety regulations, construction norms, and other relevant standards).

The Supplier shall independently perform electrical load calculations for the station, including all installed analyzers, auxiliary systems, air conditioning units, communication equipment, and backup power systems, and develop a comprehensive power supply solution.

The proposed solution shall:

- Ensure stable and uninterrupted power supply for 24/7 operation and accurate measurements;
- Provide protection against overloads, short circuits, and overvoltage;
- Comply with electrical safety and occupational health requirements;
- Ensure protection of both equipment and personnel.

The developed DTC shall be subject to approval by Kyrgyzhydromet and, where required, by the relevant power supply organization.

All connection works shall be carried out strictly in accordance with the approved DTC, the issued Technical Conditions, and the approved design and cost estimate documentation.

Upon completion of the works, the Supplier shall submit as-built documentation, testing protocols, and acceptance certificates to the Client.

9. Delivery and installation of equipment

The Supplier is obliged to ensure the delivery and installation of automatic air quality monitoring stations (AAQMS) equipment at the prepared sites, as well as to perform a full range of turnkey installation and

commissioning works. The AAQMS shall be connected to the power grid, communication equipment, power supply and protection systems shall be installed, and connecting cables shall be laid. The Supplier shall configure the data logger software it has proposed, entering the main parameters of the station and configuring the communication channels. All systems undergo comprehensive testing and performance verification. The work is completed with the commissioning of the AAQMS and the issuance of the corresponding acceptance certificate.

10. Integration into the Kyrgyzhydromet Verification Laboratory

The Supplier must integrate the analyzers supplied to the Kyrgyzhydromet Calibration Laboratory.

Integration into the verification laboratory means connecting the analyzers to the Kyrgyzhydromet verification complexes. Configuring the software of the complexes. Performing successful calibration of the supplied analyzers.

The capabilities and equipment of the Kyrgyzhydromet Calibration Laboratory are listed below:

Sensors for barometric pressure, air temperature and humidity, wind direction and speed must have a digital output for connection to the digital inputs of the Output SDI-12 data logger or an adapter.

The dimensions of the air temperature and humidity sensors must not exceed the dimensions of the Climatic Chamber, type KK-105 CHULT, with internal dimensions: width 530 mm x height 500 mm x depth 460 mm;

Pressure calibrator_Appendix Pressurewell_product sheet

Climatic chamber

Appendix _ en_climatic_chamber_kambic_kk-105_chult_data_sheet

11. Integration into the Central Data Collection and Observation System (CDCOS) of Kyrgyzhydromet

Integration into the Central Data Collection and Observation System (CDCOS) of Kyrgyzhydromet shall include the reception, processing, validation, and archiving of data received from newly installed Automatic Air Quality Monitoring Stations (AAQMS).

For data transmission, the Supplier shall use the MeteoXML file format and the MeteoXML application in accordance with the approved technical specifications.

As part of the integration, the Supplier shall ensure the full and correct integration (receipt, processing, and display) of data transmitted from the AAQMS into the CDCOS.

If specialized software is proposed or developed for integration purposes, the following conditions shall apply:

All intellectual property rights to the software developed under this Contract shall belong to the Hydrometeorological Service under the Ministry of Emergency Situations of the Kyrgyz Republic (Kyrgyzhydromet) from the date of conclusion of the Contract or from the date such rights arise (if later).

The Supplier shall execute or ensure the execution of all necessary acts, documents, and measures required to formally confirm Kyrgyzhydromet's full ownership rights, title, and interest in such software.

The Supplier shall ensure that authors or holders of moral rights do not assert such rights in a manner that limits Kyrgyzhydromet's lawful use of the software. Where permitted by applicable law, the Supplier shall obtain waivers of moral rights upon request of Kyrgyzhydromet.

Not later than two weeks prior to acceptance testing, the Supplier shall transfer to Kyrgyzhydromet:

- Full intellectual property rights to the developed software;
- A detailed list of exclusive rights objects;
- Annotated software architecture and data flow diagrams;
- Source codes of all developed software modules (on machine-readable media such as DVD or USB).

Kyrgyzhydromet shall have the unrestricted right to transfer, in whole or in part, the intellectual property rights to third parties without additional remuneration to the Supplier, for the full term of copyright protection and in all countries worldwide.

The Supplier may use the developed software solely for its internal purposes. Any use in third-party contracts or transfer to third parties shall require prior written approval from Kyrgyzhydromet and shall be subject to conditions determined by Kyrgyzhydromet.

Complete all related turnkey works necessary for full operational functionality.

12. User trainings

Training #1: Organization and conduct of training at the national level (in Bishkek) B02 for environmental pollution monitoring department (after UNZPS) Kyrgyzhydromet: training program on the operation, maintenance, and administration of the automated air quality monitoring system.

No	Description of trainings	Unit	Quantity
1	The Supplier is obliged to organize and conduct training at the central level for employees of the Kyrgyz Hydrometeorological Center:	Employees	8
2	The supplier must provide training materials in Russian before the start of training, in accordance with the training plan provided. The working language of training is Russian.	set	8
3	Upon completion of the training, the Supplier shall issue certificates to the training participants confirming their compliance with the required qualifications (e.g., filter replacement, calibration, etc.).	pcs	8
4	All expenses related to the organization and conduct of training at the central level shall be covered and paid for by the Supplier, as follows: <ul style="list-style-type: none"> • air travel • transportation expenses • accommodation • office supplies • unforeseen expenses 		
5	The Supplier must include in the tender proposal a description of the training approach, including the program, duration, format, and qualifications of the instructors. The training program should cover both theoretical and practical training for Kyrgyzhydromet specialists, ensuring their ability to independently operate, administer, and maintain the supplied equipment and software. Training should be conducted both at Kyrgyzhydromet and at the station (at the equipment operating site) using the installed software and hardware complex. The training program should include the following areas: - calibration and intercalibration control of data received from various stations; - data validation and verification: quality control algorithms, identification of outliers and unreliable	days	5

	<p>values; - use of specialized software for data processing and archiving; - control and documentation of data changes, maintenance of calibration logs and QA/QC procedures;</p> <p>The training program should include at least 30% theory and 70% practice, including demonstrations of real equipment and software modules. Training shall be provided by Supplier offline in the Kyrgyzhydromet office. Kyrgyzhydromet will provide space for training.</p> <p>Training materials (presentations, instructions, methodological aids) are provided in printed and/or electronic form to each participant. Duration: five days offline training (at least 30 academic hours);</p>		
6	<p>Qualification of the Trainer</p> <p>Training shall be delivered by an authorized and qualified specialist. The instructor must hold a valid certificate issued by the equipment manufacturer, software developer, or an accredited training center confirming authorization to conduct such training. A copy of the certificate shall be included in the Supplier's proposal.</p> <p>The trainer shall meet the following minimum requirements:</p> <ul style="list-style-type: none"> • Higher education in environmental engineering, instrumentation, electrical engineering, or a related technical field; • At least 5 years of professional experience with automatic air quality monitoring stations (installation, commissioning, operation, or maintenance); • Proven experience in conducting technical training for operational personnel; • Knowledge of relevant international air quality monitoring standards; • Proficiency in Russian (language of training). <p>If the trainer is not Russian-speaking, the Supplier shall provide a qualified interpreter at its own expense.</p> <p>Upon request, the Supplier shall submit documentary evidence confirming the trainer's qualifications and experience.</p>		

Training #2: Organization and delivery of training at the central level (in Bishkek, B02) for Kyrgyzhydromet technical specialists, including information technology department employees and equipment operation specialists.

No.	Description of related services provided by the Supplier	Unit	Quantity
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1	The supplier is obliged to organize and conduct training at the central level for technical specialists in Bishkek.	Employees	10
2	The supplier must provide training materials in Russian before the start of training, in accordance with the training plan provided. The working language of the training is Russian.	set	10
3	Upon completion of the training, the Supplier shall issue certificates to the training participants confirming their compliance with the required qualifications (e.g., filter replacement, calibration, etc.).	pcs	10
4	All expenses related to the organization and conduct of training at the central level shall be provided and paid for by the Supplier, as follows:		
	• air travel		
	• transportation expenses		
	• accommodation		
	• office supplies		
	• unforeseen expenses		
	Duration - offline training	Days	5 (at least 30 academic hours);
5	<p>The supplier must include in the tender proposal a description of the training approach, including the program, duration, format, and qualifications of the instructors. The training program should cover both theoretical and practical training for Kyrgyzhydromet specialists, ensuring their ability to independently operate, administer, and maintain the supplied equipment and software.</p> <p>The training program should include the following areas:</p> <p>1. For IT specialists:</p> <ul style="list-style-type: none"> — configuration and administration of software and data collection systems; — working with API/FTP interfaces, databases, and data exchange in MeteoXML format; — monitoring and ensuring system security; — maintaining uninterrupted data transmission; — backing up and restoring data. <p>2. For technical specialists:</p> <ul style="list-style-type: none"> — installation, connection, and initial configuration of automatic air pollution monitoring stations; — calibration, maintenance, and operation of gas analyzers, samplers, and auxiliary equipment; — monitoring parameters and diagnosing equipment; — scheduled and unscheduled maintenance of equipment; — troubleshooting, replacement of consumables and spare parts; — maintenance of maintenance logs and recording of operating parameters; - ensuring proper operating conditions for equipment (temperature control, ventilation, protection from dust and moisture). 		

	<p>- Compliance with safety requirements and requirements for working with measuring instruments.</p> <p>The training program should include at least 30% theory and 70% practice, including demonstrations of real equipment and software modules.</p> <p>Training materials (presentations, instructions, methodological aids) are provided in printed and/or electronic form to each participant.</p>		
6	<p>Training shall be conducted by an authorized specialist/instructor. The authorized instructor shall have a valid certificate issued by the equipment manufacturer, software developer, or accredited training center confirming his or her qualification to conduct training. A copy of the certificate shall be included in the Supplier's proposal.</p> <p>Training shall be delivered by an authorized and qualified trainer who meets the following minimum requirements:</p> <ul style="list-style-type: none"> • Higher education in environmental engineering, instrumentation, electrical engineering, IT, or a related technical field; • At least 5 years of proven professional experience in installation, commissioning, operation, or maintenance of automatic air quality monitoring systems and related software; • Practical experience in conducting technical training for IT and technical specialists; • Valid certification issued by the equipment manufacturer, software developer, or an accredited training center authorizing the trainer to conduct such training (a copy of the certificate shall be included in the Supplier's proposal); • Knowledge of relevant international air quality monitoring standards; • Proficiency in Russian (language of training). <p>If the trainer is not Russian-speaking, the Supplier shall provide a qualified interpreter at its own expense. Upon request, the Supplier shall submit documentary evidence confirming the trainer's qualifications and experience.</p>		

5.9.3. Training #3: Organization and delivery of local trainings for Kyrgyzhydromet employees at each station (2 days) (A06-A011, Osh, Jalal-Abad, Tokmok, Kara-Balta, and Cholpon-Ata)

No.	Description of the Supplier's related services	Unit	Quantity
1	The supplier is obliged to organize and conduct training at the local level for Kyrgyzhydromet employees at each station	Employees	Total 10 (2 people for each station)
2	The supplier must provide training materials in Russian before the start of training, in accordance with the training plan provided. The working language of training is Kyrgyz/Russian.	Set	10
3	Upon completion of the training, the Supplier shall issue certificates to the training participants confirming their	pcs	10

	compliance with the required qualifications (e.g., filter replacement, calibration, etc.).		
4	<p>All expenses related to the organization and conduct of training at the central level shall be covered and paid by the Supplier, as follows:</p> <ul style="list-style-type: none"> • air travel • transportation expenses • accommodation • office supplies • unforeseen expenses <p>Duration: two days offline training (at least 12 academic hours);</p>	days	2 (at least 12 academic hours);
5	<p>The supplier must include in the tender proposal a description of the training approach, including the program, duration, format, and qualifications of the instructors. The training program should cover both theoretical and practical training for Kyrgyzhydromet specialists, ensuring their ability to independently operate, administer, and maintain the supplied equipment and software.</p> <p>Training should be conducted both at Kyrgyzhydromet and at the station (at the equipment operating site) using the installed software and hardware complex.</p> <p>The training program should include the following areas:</p> <ul style="list-style-type: none"> - installation, connection, and initial configuration of automatic air pollution monitoring stations; - calibration, maintenance, and operation of gas analyzers, samplers, and auxiliary equipment; - monitoring of parameters and diagnostics of equipment; - scheduled and unscheduled maintenance of equipment; - troubleshooting, replacement of consumables and spare parts; - maintenance of maintenance logs and recording of operating parameters; — ensuring proper operating conditions for equipment (temperature, ventilation, protection from dust and moisture). — compliance with safety requirements and working with measuring instruments. - Calibration and intercalibration control of data received from various stations; - validating and verifying data: quality control algorithms, identifying outliers and unreliable values; - Use of specialized software for data processing and archiving. - monitoring and documenting data changes, maintaining calibration logs and QA/QC procedures; <p>The training program should include at least 30% theory and 70% practice, including demonstrations of real equipment and software modules.</p> <p>Training materials (presentations, instructions, methodological guides) are provided in printed and/or electronic form to each participant.</p>		
6	<p>Training shall be conducted by an authorized specialist/instructor. The authorized instructor shall have a valid certificate issued by the equipment manufacturer, software developer, or accredited training center confirming his or her qualification to conduct training. A</p>		

	<p>copy of the certificate shall be included in the Supplier's proposal.</p> <p>Training shall be delivered by an authorized and qualified trainer who meets the following minimum requirements:</p> <ul style="list-style-type: none"> • Higher education in environmental engineering, instrumentation, electrical engineering, information technology, or a related technical field; • At least 5 years of proven professional experience in installation, commissioning, operation, maintenance, and calibration of automatic air quality monitoring stations and related software systems; • Practical experience in conducting technical training for both IT specialists and technical/engineering personnel; • Proven experience in data validation, QA/QC procedures, calibration and intercalibration control of monitoring stations; • Valid certification issued by the equipment manufacturer, software developer, or an accredited training center authorizing the trainer to conduct such training (a copy of the certificate shall be included in the Supplier's proposal); • Knowledge of relevant international air quality monitoring standards and safety requirements for working with measuring instruments; • Proficiency in Russian (language of training). <p>If the trainer is not Russian-speaking, the Supplier shall provide a qualified interpreter at its own expense.</p> <p>Upon request, the Supplier shall submit documentary evidence confirming the trainer's qualifications and professional experience.</p>		
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5.10 Acceptance tests

#	Activities
1	<p>Before the system is put into operation, all necessary tests must be performed, including a temporary acceptance test (TAT) and final project acceptance tests. The TAT is performed after the installation and integration of the automatic station and its components, including all devices, and includes testing the reliability and fault-free operation of the system for at least 2 weeks. During this period, the system must function smoothly without critical failures, demonstrating stability and reliability. Final acceptance tests include verification of the complete integration of all system components, assessment of compliance with technical documentation, availability of spare parts, completeness of staff training, and completeness of accompanying documentation.</p> <p>The supplier is required to prepare a detailed Test Plan, including objectives, general requirements, description of the elements to be tested, participating organizations, stages and schedules for conducting tests, technical support requirements, safety issues, test methods and procedures, as well as the procedure for collecting and analyzing data. All identified defects are classified into categories:</p>
	<ul style="list-style-type: none"> • Category A — serious defects that prevent the normal operation of the system and require immediate elimination, with possible suspension of testing; • Category B — moderate defects that do not significantly affect performance and do not

	<p>constitute grounds for terminating testing;</p> <ul style="list-style-type: none">• Category C — minor defects related to appearance or insignificant errors;• Category D — errors in the test procedure that do not affect the assessment of the system;• Category E — controversial defects, which are decided by an independent expert in case of disagreement between the parties. <p>Testing continues in the presence of defects of categories B, C, D, and E, and if defects of category A are identified, the parties jointly decide on further actions and possible retesting. All test results are recorded in official documentation and certified.</p>
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5.11 Warranty service

1. The technical characteristics and quality of the equipment supplied must comply with the technical specifications.
2. The warranty period for each piece of equipment is at least 12 months from the date of commissioning.
3. In the event of a malfunction or defect discovered during operation, the supplier is obliged to restore the equipment to working order (by repairing or replacing faulty components, spare parts, or, if necessary, the entire analyzer) within a period not exceeding 30 (thirty) calendar days from the date of receipt of written notification from the customer. Depending on the complexity, additional time may be required, which shall be agreed with the customer.
4. During the warranty period, simultaneously with the performance of work, the supplier is obliged to provide Kyrgyzhydromet with a detailed report including:
 - a description of the malfunction or identified problem;
 - a list of replaced parts or components;
 - technical specifications of the spare parts used;
 - confirmation that the repaired equipment complies with established standards and is fully operational;
 - confirmation that the equipment is ready for further operation.
5. If the defect cannot be repaired on site and it is necessary to involve a representative of the manufacturer or component manufacturer, an agreement is concluded between the customer and the supplier, which defines the responsibilities of the parties. The Supplier is fully responsible for all stages of defect repair, including diagnostics, transportation, replacement of parts, testing, and related expenses. Such expenses include: disassembly of equipment, delivery to customs, preparation of declarations, payment of duties, storage, transportation, insurance, temporary importation into the recipient's territory, delivery within the country, return transportation and insurance, cargo clearance, station installation, and all other related expenses. No action taken by the supplier as part of warranty service shall entail additional obligations, work, or expenses for the customer. In addition to the work performed, the supplier is obliged to provide a report from the manufacturer of the damaged equipment or its authorized representative, containing: a description of the work performed, the type of damage, the replaced parts, their characteristics, and confirmation of the repaired equipment's compliance with established standards.
6. At the Employer's request, the Supplier is obliged to provide additional documentation or information on the technical parameters of the delivered equipment within a reasonable time.
7. After delivery of the station, the Supplier is obliged to conduct joint testing with the customer to confirm the correct operation and data transfer of both the entire station and its individual components. Testing shall be carried out in accordance with the software, settings, and operating instructions specified in the technical specifications. In case of non-compliance or defects, the customer has the right to refuse to accept the equipment.
8. No later than 30 (thirty) calendar days before the end of the warranty period, the supplier is obliged to conduct retesting together with the customer to confirm the proper operation of the equipment. If defects are found, the supplier's warranty obligations remain in force until the defects are completely eliminated.
9. The Supplier shall transfer the service documentation (in Russian) prepared by the equipment manufacturer together with the delivery of the equipment.
10. During the warranty period, the supplier shall perform all necessary work at the stations, in accordance with their location.

5.11.1 Technical maintenance of AAQMS

The Supplier shall provide scheduled and corrective maintenance of the equipment for the three (3) years since the Operational Acceptance. Maintenance must ensure the full operability of all installed devices, gas analyzers, sampling lines, data transmission systems, and auxiliary modules of automatic air quality monitoring stations.

1. Together with the tender offer, the Supplier shall submit a maintenance plan and work schedule for the equipment installed at the automatic station (in particular, gas analyzers and measuring devices).
2. The plan must be prepared based on the user manual and cover the entire maintenance period.
3. In accordance with the plan, operations will be performed, including safe start-up/shutdown procedures, filter replacement, calibration, and other necessary actions on gas analyzers and station equipment.
4. Maintenance includes metrological verification and/or calibration of measuring instruments, control of accuracy, correctness, and stability of measurements, as well as documentary confirmation of the results with certificates and calibration or verification reports.
5. Throughout the entire maintenance period, the Supplier is obliged to ensure the availability of the necessary spare parts, consumables, filters, gas mixtures, and service kits for the maintenance of the installed equipment.
6. Reporting: during maintenance, the Supplier must provide a report on the technical work performed in accordance with the approved schedule at the end of each quarter.
7. The report shall contain complete information on the work performed, spare parts replaced, consumables used (if applicable), calibration, and other actions.
8. The engineer servicing the automatic air quality monitoring stations must be certified by the manufacturer of the installed equipment (gas analyzers) and/or be certified by an authorized company of the manufacturer during the maintenance period.
9. If a defect is detected between scheduled maintenance, the Supplier is obliged to immediately proceed with its elimination after receiving notification from the Customer.
10. If the problem cannot be fixed within the specified time frame, the Supplier shall notify the Customer in writing, explaining the reasons for the delay and indicating the estimated time frame for fixing the problem.
11. Upon completion of service work at the automatic station, the Supplier shall ensure that the interior of the automatic stations is clean and tidy.
12. All service work at the facility must be carried out by the Supplier in the presence of a representative of the Customer.
13. In the absence of a representative of the Customer during the performance of the work, the Supplier shall, at the request of the Customer, provide a photo report on the work performed.

B. TECHNICAL SPECIFICATIONS FOR AIR QUALITY MONITORING STATIONS OF ATMOSPHERIC AIR QUALITY

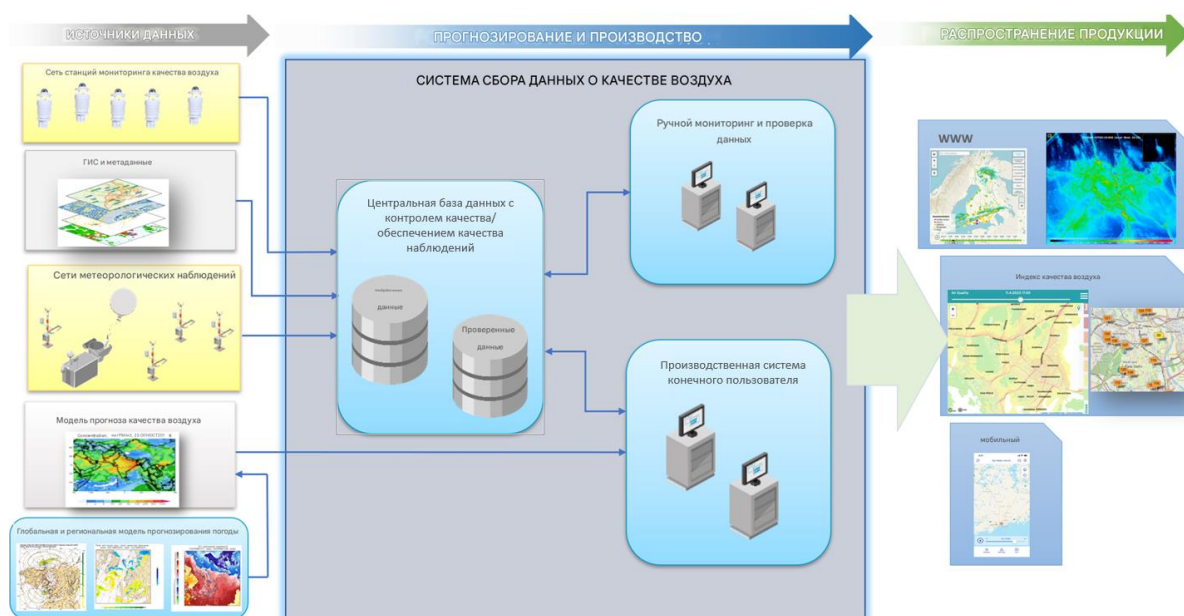
1. Description of the automatic atmospheric air quality monitoring system (AAQMS)

The air quality monitoring network in Kyrgyzstan will consist of 11 new (and one existing, which will be added as part of the new AAQMS) air quality monitoring stations, including automatic analyzers of suspended particles with a diameter of less than 2.5 (PM_{2.5}) and 10 (PM₁₀) micrometers, nitrogen oxide (NO), nitrogen dioxide (NO₂), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃) and black carbon (BC), samplers for PM₁₀ and PM_{2.5}, compliant with local and international EN (European standards) or US EPA (US Environmental Protection Agency) reference air quality monitoring methods or equivalent methods.

The system is equipped with automatic meteorological observation devices at each of the 11 air quality monitoring stations. The AAQMS system includes a data collection system and a central database for validated (test-confirmed) and unvalidated air quality monitoring data, as well as metadata from air quality monitoring stations and monitoring equipment (analyzers) that provide automatic data transfer and communication between air quality monitoring stations and meteorological stations and the central database, allowing operators/users to access monitoring data for processing, validation, editing, and reporting.

The new data collection system and central database will be seamlessly integrated into the existing IT infrastructure of Kyrgyzhydromet, which requires cooperation with the IT department of Kyrgyzhydromet in developing the system architecture of the data collection system and central database.

The AAQMS system architecture includes the ability to distribute automatic air quality monitoring data in the form of concentrations or air quality indices in real time online on the Kyrgyzhydromet website and in a mobile phone application, as well as the ability to download historical verified data from the central database via websites.



Internet source: example of an automatic atmospheric air quality monitoring system (AAQMS)

2. Technical specifications for an automatic atmospheric air monitoring station

2.1. Requirements for the pavilion with installed systems

2.1.1. AAQMS pavilion

Parameters	Technical requirements
Purpose	<p>The pavilion is designed to house the equipment of an automatic atmospheric air quality monitoring station, protecting the instruments from external influences and maintaining stable climatic conditions inside the room.</p> <p>Autonomous monolithic enclosure with IP56 protection rating (partial protection against dust and solid objects larger than 1 mm entering the enclosure and protection against dynamic water jets).</p>
Overall dimensions (+/- 10%)	<p>Internal length: not less than 4000 mm;</p> <p>Internal width: not less than 2800 mm;</p> <p>Internal height: not less than 2600 mm.</p>
Pavilion design	<p>1. Structural elements of the pavilion</p> <ul style="list-style-type: none"> • Frame: <ul style="list-style-type: none"> ○ Rigid metal complex bent profile 185x50x3 mm (base and upper strapping) ○ Corner posts — 170x150x3 mm corner profile ○ All joints between similar metals (steel-steel, aluminum-aluminum) are protected from corrosion with a connecting compound. • Floor: <ul style="list-style-type: none"> ○ Floor joists — steel channel bar 100 ○ Base — 20 mm cement-bonded particle board ○ Covering – vinyl, 2 mm, resistant to acids and alkalis, waterproof, easy to clean ○ Color – to be approved by Kyrgyzgidrom. • Ceiling: <ul style="list-style-type: none"> ○ Painted metal • Interior wall cladding: <ul style="list-style-type: none"> ○ Inner side of sandwich panels – aluminum with polymer coating ○ Additional cladding is provided • Exterior finish: <ul style="list-style-type: none"> ○ 1000 mm sandwich panels: metal/basalt or metal with polymer coating ○ Colorographic application ○ Built-in staircase on the side of the pavilion for access to the roof. • Fire resistance: <ul style="list-style-type: none"> ○ Fire resistance rating of materials – III according to building codes. <p>2. Functional areas of the building</p> <ul style="list-style-type: none"> • The body is divided into parts according to the Supplier's drawing • The following must be provided: <ul style="list-style-type: none"> ○ Area for storing UPS and calibration gas mixtures: <ul style="list-style-type: none"> ▪ approximate size: 1500 x 1200 x 2500 mm (subject to change) ▪ with an external door with a lock ▪ Internal sensor lighting ○ Area for gas cylinders:

	<ul style="list-style-type: none"> ▪ mounting brackets on 2 levels, at least 6 cylinders. <p>3. Ventilation and electrical</p> <ul style="list-style-type: none"> • Ventilation: <ul style="list-style-type: none"> ○ Exhaust fan (single-phase, 230 V \pm10%, 50 Hz \pm3%) ○ Diameter — 300 mm ○ With protective grilles • Lighting: <ul style="list-style-type: none"> ○ Internal lighting — touch-sensitive <p>4. Lifting and transportation</p> <ul style="list-style-type: none"> • Fastening: <ul style="list-style-type: none"> ○ Eye bolts in accordance with GOST 4751-73 or a similar international standard are provided in the corners. <p>5. Stability and protection</p> <ul style="list-style-type: none"> • Housing protection: <ul style="list-style-type: none"> ○ Resistant to intense solar radiation ○ Protection against falling objects (hail, branches, etc.) • Installation: <ul style="list-style-type: none"> ○ Installation on foundation ○ Mast installation: ○ Height – 10 m above ground level
Foundation	<p>1. Execution</p> <ul style="list-style-type: none"> • Supplier: <ul style="list-style-type: none"> ○ Develops the foundation design ○ Builds the foundation in accordance with the building codes and regulations in force in the Kyrgyz Republic ○ Takes into account the size and configuration of the site provided by Kyrgyzhydromet <p>2. Type and design</p> <ul style="list-style-type: none"> • The foundation must be a monolithic strip foundation <p>3. Functional requirements</p> <ul style="list-style-type: none"> • Ensures stability and reliable fixation of the pavilion • Provides protection of the pavilion frame from corrosion and mold • Provides natural ventilation of the pavilion floor (air circulation)
Entrance door	<p><i>Door construction</i></p> <ul style="list-style-type: none"> • Metal, • insulated, • with a sealing gasket around the perimeter <p><i>Door location</i></p> <ul style="list-style-type: none"> • on the long front side of the pavilion <p><i>Door hinges</i></p> <ul style="list-style-type: none"> • cylindrical with bearing or support ball <p><i>Door lock</i></p> <ul style="list-style-type: none"> • mortise • double-beard lever mechanism, without latch <p><i>Number of bolts</i></p> <ul style="list-style-type: none"> • at least 4

	<p><i>Bolt projection</i></p> <ul style="list-style-type: none"> • at least 26 mm <p><i>Number of keys</i></p> <ul style="list-style-type: none"> • at least 5 • Lock mounting type • face plate • Door handles <p><i>Bolt</i></p> <ul style="list-style-type: none"> • provided, not combined with the lock <p><i>Canopy</i></p> <ul style="list-style-type: none"> • Metal, above the doorway <p><i>Steps in front of the door</i></p> <ul style="list-style-type: none"> • metal, • number depending on the height of the pavilion above the foundation 	
Roof	<p><i>Pavilion roof construction</i></p> <ul style="list-style-type: none"> • Flat, without a slope <p><i>Pavilion roof material</i></p> <ul style="list-style-type: none"> • Steel sheet • Roof sheet thickness - ≥ 2 mm • Roof structure element connection method • Welding • Roof safety railing • Present, removable <p><i>Parameters:</i></p> <ul style="list-style-type: none"> • Height of roof safety barrier - ≥ 1.1 m • Number of roof guardrail sections - ≥ 4 pcs • Method of attaching the roof guardrail Bolts • Opening in the roof guardrail • Width sufficient for access to the roof • Overlap of the opening in the protective barrier • Steel chain with fastener • Corner protective cover for the "roof-wall" corner in the opening of the protective barrier • Made of stainless steel. <p><i>Lightning protection system:</i></p> <ul style="list-style-type: none"> • Lightning protection device <p><i>Access to the roof:</i></p> <ul style="list-style-type: none"> • Ladder - built-in (stationary), providing safe access to the pavilion roof for equipment maintenance. 	
Cable entries on the roof and bottom	Cable entries on the roof	Separate: for power supply (via overhead line) and for cables from weather sensors
	Cable entry in the pavilion floor	Presence - for cable laid in the ground
	Cable entry design	Flanged with sealing gasket

	Cable entry material	Metal pipe
	Distance from the end of the flange mounting to the roof	Not less than 100 mm
	Inner diameter of cable entry for power supply	Not less than 50 mm
	Eye bolt for attaching the lowering cable	Presence in the upper part of the cable entry for power supply
	Internal diameter of cable entry for weather sensors	Not less than 50 mm
	Shape of cable entries	Prevents precipitation from entering
	Power cable lowering mast	Presence
	Reinforcement of lowering mast	Spacers are mandatory
	Lowering mast fastening	The design allows installation at any roof angle
	Load-bearing capacity	At least 300 kg
	Internal lighting	LED, with diffusing optical system for medium/low precision visual work
	Power outlets	Available
	Number of sockets	According to the number of consumers + at least 2 in reserve
Power supply system	<ol style="list-style-type: none"> 1. The system must provide power to all consumers of the automatic station. 2. Air conditioners, heaters, and exhaust fans are powered from the input network without stabilization. 3. Electrical equipment shall be installed in accordance with the safety requirements set forth in the Electrical Installation Code, GOST 23274-84, and other regulatory documents of the Kyrgyz Republic. 4. The entire system must be designed in accordance with fire and electrical safety standards. 5. Cables (power supply, signaling, etc.) shall be laid in cable ducts or baseboards with the possibility of repair and replacement. 6. The power supply system includes: <ul style="list-style-type: none"> - An electrical panel with automatic circuit breakers grouped by load type; - A residual current device (RCD); - Voltage control relay; - Class 1 accuracy electricity meter; - Terminal device for connecting cables with a cross-section of up to 16 mm²; - Grounding device. 7. Each 19-inch rack must be equipped with a power outlet block with the following characteristics: 	

	<ul style="list-style-type: none"> - Purpose: distribution of power supply between active equipment in the rack; - Nominal voltage: 220 V; - Total load current: ≥ 16 A; - Number of connectable consumers: ≥ 8; - Presence of its own switch. <p>8. he panel must be equipped with separate 16 A automatic circuit breaker for instrument racks.</p> <p>9. The locations of the power outlets for the racks shall be agreed with the Customer.</p> <p>10. The voltage control relay must cut off the power supply when the voltage exceeds the permissible limits and ensure a delay in switching on when the normal level is restored. Operating modes: on, automatic. Adjustment range of upper threshold values: $\geq 240 \div 290$ V. Adjustment range of lower threshold values: $\geq 100 \div 210$ V. Reclosing delay adjustment range: $\geq 10 \div 360$ s.</p>
Security and fire alarm system	<p>The system must have the following functions:</p> <ol style="list-style-type: none"> 1. Control of the opening of the entrance door; 2. Monitoring of temperature rise inside the pavilion using a maximum differential heat detector; 3. Smoke detection; 4. Transmission of alarm messages and information via a GSM communication channel to a dedicated telephone number; 5. Ability to control its own operating modes using Touch-memory keys or contactless Proximity cards; 6. Maintains operability during power supply failures; 7. Function of transmitting information about the presence of fire to the life support system (LSS); 8. Function for transmitting information about the opening of the entrance door.
Requirements for fire extinguishing devices	<ul style="list-style-type: none"> • Type: Automatic device based on a gas system (without the use of water or foam); • Purpose: To extinguish fires without damaging electronic equipment; • Features: Fast response, safe for personnel.
Requirements for the appearance and design of the automatic monitoring station	<ol style="list-style-type: none"> 1. Application of color graphics to the walls of the pavilion. 2. The development of the pavilion design includes the following stages: <ul style="list-style-type: none"> • Obtaining information from the customer about the goals and objectives of the design; • Development of a color graphic concept in different styles (taking into account composition, materials, cultural and industry characteristics); • Agreeing on the concept with the customer. 3. Development of the design project: <ul style="list-style-type: none"> • Based on the approved concept; • Taking into account the structural features of the pavilion (ventilation grilles, doors, windows); • Submitted to the customer for approval in electronic form. 4. Development of a design layout: <ul style="list-style-type: none"> • The supplier develops the layout and sends it to the customer; • Makes corrections based on the Customer's comments; • The result is an approved layout. 5. Preparation of the layout for printing: <ul style="list-style-type: none"> • Preparation of files for printing (tiff and jpeg formats); • Transfer to the Customer on electronic media (CD or USB flash drive).

	<p>6. Technical requirements for color graphics application:</p> <ul style="list-style-type: none"> • Film: self-adhesive, for outdoor advertising; • Temperature range: -40 to +80 °C; • Thickness: $\geq 75 \mu\text{m}$; width: $\geq 1.2 \text{ m}$. <p>7. Laminating coating:</p> <ul style="list-style-type: none"> • Matte transparent film for outdoor advertising; • Temperature range: -40 to +80 °C; • Thickness: $\geq 75 \mu\text{m}$. <p>8. Image quality:</p> <ul style="list-style-type: none"> • Resolution: $\geq 720 \text{ DPI}$; • Resistance to weathering and washing: mandatory. <p>9. Application installation:</p> <ul style="list-style-type: none"> • The sheets are glued to the outer cladding without folds or bubbles; • Corners are protected with 7–10 cm aluminum corner pieces; • Joints and edges — with 1–3 cm aluminum overlays (fastened with stainless steel screws); • Door edges — 1–1.5 cm wide overlays; • Defective sheets shall be replaced at the Supplier's expense. <p>10. The following must be included with the delivery of the automatic station:</p> <ul style="list-style-type: none"> • A set of operating documentation; • Spare parts and accessories for commissioning; • Software on electronic media; • Installation and commissioning at the installation site.
<p>Interior and set of auxiliary equipment and accessories</p>	<p>1. Furniture</p> <ul style="list-style-type: none"> • Material: water-resistant laminated board (LDSP or moisture-resistant MDF) • Durability: moisture resistant, easy to clean <ul style="list-style-type: none"> ○ Cabinet • Dimensions: as per drawing (Appendix 1) • Purpose: storage of documents, tools, spare parts, etc. • Material: same as furniture (waterproof board) <ul style="list-style-type: none"> ○ Work table • Dimensions: 1400 (W) x 900 (D) x 750 (H) mm • Frame: metal (MS), with powder anti-corrosion coating • Tabletop: thickness 19 mm, with pull-out drawers • Strength: suitable for placing analytical equipment <ul style="list-style-type: none"> ○ Chair • Quantity: 2 • Type: swivel • Features: ergonomic, height adjustable, on casters <p>2. Removal of exhaust gases</p> <ul style="list-style-type: none"> • System: common exhaust pipe • Ventilation: forced, prevents contaminants from entering the pavilion <p>3. Ladder</p> <ul style="list-style-type: none"> • Type: 3-step with non-slip rubber-plastic coating on the steps. • Purpose: for performing a wide range of work at height. <p>4. Thermohygrometer</p> <ul style="list-style-type: none"> • Temperature: from -10 to +60°C, accuracy $\pm 0.4^\circ\text{C}$, resolution 0.1°C

- Humidity: 0–100% RH (without condensation); accuracy $\pm 2... \pm 3\%$ RH; resolution 0.1%
- Pressure: 300–1200 hPa; accuracy ± 3 hPa; resolution 0.1 hPa

5. Stickers

- Type: no smoking
- Material: vinyl, moisture resistant
- Placement: entrance, inside the pavilion

6. Vacuum cleaner

- Brand: any well-known brand (e.g., Bosch, Karcher, Philips)
- Power: at least 100 W
- Type: compact, dry cleaning

7. Bucket

- Material: plastic
- Capacity: at least 10 liters
- Features: comfortable handle, resistant to acidic and alkaline environments

8. Mop

- Type: with wringer
- Material: plastic and metal
- Purpose: cleaning indoor areas

9. First aid kit

- Contents:
 - antiseptics: iodine, green paint, peroxide
 - tourniquet, bandages (sterile, elastic)
 - plasters (antiseptic and adhesive)
 - gloves and masks
- Purpose: first aid in emergencies

10. Dielectric mat

- Thickness: ≥ 6 mm
- Width: ≥ 500 mm
- Length: ≥ 3000 mm
- Purpose: protection of personnel when working with electrical equipment

11. Mud mat

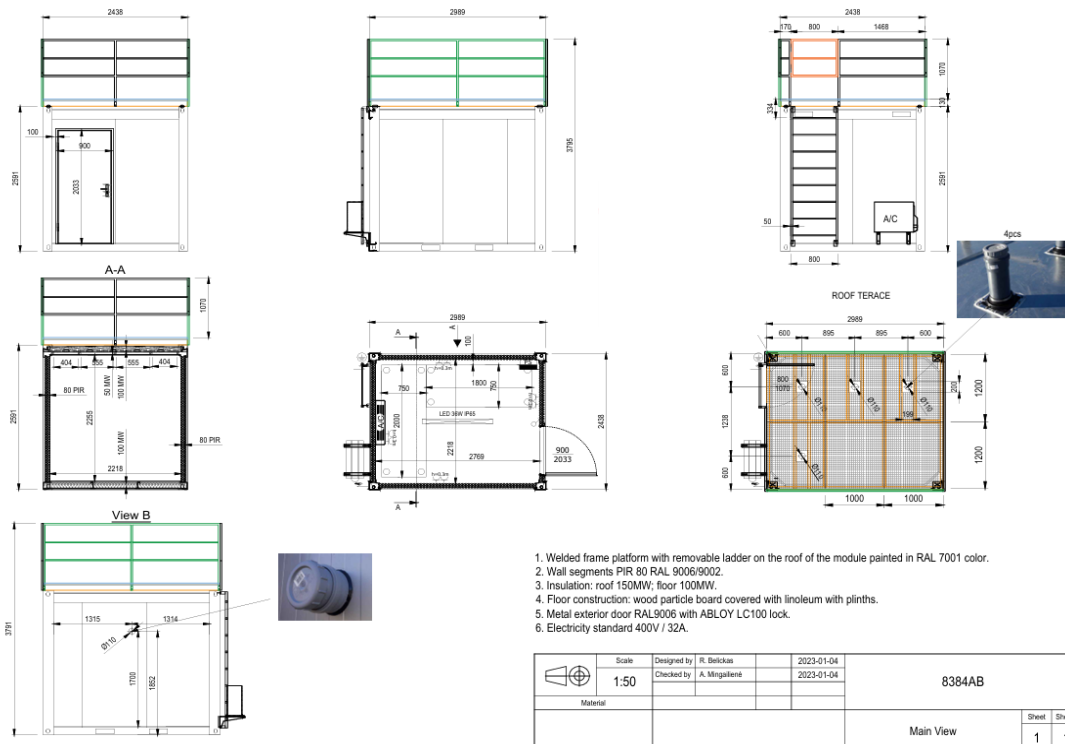
- Thickness: ≥ 3 mm
- Width: ≥ 500 mm
- Length: ≥ 1000 mm
- Purpose: to trap dirt and moisture at the entrance to the pavilion

12. Snow shovel

- Bucket material: plastic
- Handle: wood
- Purpose: cleaning the area around the pavilion in winter

13. Clothes hanger

- Type: wall-mounted, metal
- Number of hooks: at least 4
- Purpose: for employees' outerwear.



1. Welded frame platform with removable ladder on the module roof, painted in RAL 7001.
2. Wall segments PIR 80 RAL 9006/9002.
3. Insulation: roof 150 MW; floor 100 MW.

Internet source: example of a pavilion design for air quality monitoring.

2.2. Life support system requirements

- a) The life support system (LSS) is designed to maintain the operating temperature inside the automatic station pavilion within user-specified limits for all consumer power-on options and across the entire range of external temperatures, emergency power shutdown due to overheating or fire alarm activation, as well as for forced ventilation of the interior of the pavilion.
- b) The operating temperature is maintained in automatic mode by alternately switching on the air conditioner (cooling) and electric convector (heating) in accordance with the specified temperature values. It should be possible to set the temperature hysteresis and time delay between switching off the air conditioners and switching on the heaters (and vice versa).
- c) The temperature inside the pavilion is controlled by the average value of the temperature sensor.
- d) The automatic station must be equipped with two air conditioners that operate alternately: one is in operation, the other is on standby (rest mode). Switching between air conditioners is performed automatically at four-hour intervals using a built-in timer. Each unit is equipped with a separate voltage stabilizer. The temperature inside the station must be maintained at 25 °C even during the peak summer months.
- e) The automatic station must be equipped with a heating system, a switchable SZO, and a standby heater that is permanently connected to the power supply. The power of the heaters is selected based on the operating temperature inside the station and the maximum power consumption limit of the station.
- f) When an automatic station is switched on automatically after a long period of inactivity (e.g., after prolonged power supply interruptions), power should only be supplied to the measuring equipment after the operating temperature inside the station has been reached.
- g) In manual mode, power is supplied to air conditioners and heaters continuously. Switching to manual mode must be done manually. The temperature inside the station in manual mode is determined by the built-in temperature control devices of air conditioners and heaters.
- h) It must be possible to connect heaters and air conditioners directly to the station's power supply. For this purpose, two power outlets are installed for each of the air conditioners and heaters, one of which is powered from the station's power supply, and the other is switched by the fire alarm system.
- i) Emergency power shutdown must be performed independently of the SZO operating mode, upon command from the fire alarm system or from a separate temperature sensor.
- j) Restoration of normal station operation after an emergency shutdown must be performed manually by an operator who is physically present at the automatic station.
- k) Forced ventilation is provided by an exhaust fan with automatically opening flaps. The fan is switched on and off when the set internal temperatures of the automatic station are reached, regardless of the fire alarm system operating mode.

The main characteristics are given in the table below:

Parameters	Value
Operating modes	On, automatic
Temperature threshold adjustment range	$\geq 10 \div 30^{\circ}\text{C}$
Threshold value setting accuracy	$\leq 1^{\circ}\text{C}$
Air exchange	$\geq 300 \text{ m}^3 / \text{hour}$

2.3. Air conditioning and ventilation

The air conditioner must maintain an internal temperature of 15-25°C (tolerance $\pm 2^\circ\text{C}$) at a typical equipment load of 3.5 kW and an ambient temperature of up to 50°C. Automatic restart after power restoration is provided.

Name	Requirements
Air conditioner	<ol style="list-style-type: none">1. Temperature adjustment range: from -20°C to $+50^\circ\text{C}$.2. Temperature setting adjustment step: $\leq 1^\circ\text{C}$3. Type: – Split system with separate outdoor and indoor units4. Indoor unit mounting: – Wall-mounted5. Remote control (RC): – Available6. Cooling capacity: – $\geq 5\text{ kW}$7. Energy efficiency class: – A+++.8. Auto restart after power failure: – Yes9. Fan speed control: – Available10. Number of fan speeds: – ≥ 511. Power control method: – Inverter control12. Compatibility with new refrigerants: – Supports R-454B or R-32 refrigerants, which comply with 2025 environmental standards13. Additional features: – Presence detection: Automatic adjustment of airflow depending on the location of people in the room to improve comfort and energy efficiency – Smart control: Can be controlled via mobile apps to monitor and adjust air conditioner settings remotely.14. The set includes:<ul style="list-style-type: none">Air conditionerRemote controlTechnical documentationWarranty card15. Operating mode: – Indoor units operate alternately at 4-hour intervals, with automatic switching. – The temperature inside the station is maintained at 25°C during peak summer months.

2.4. Heating system

Purpose: to heat the rooms of the automatic air quality monitoring station with a convector in order to ensure stable temperature conditions necessary for the correct operation of analytical equipment in conditions of low outdoor temperatures.

Reason for use: In general, convectors are considered safer than oil heaters. Convectors do not usually heat up to as high a temperature as oil heaters and are less likely to cause burns if accidentally touched. In addition, convectors do not contain oil, which eliminates the risk of leakage and fire.

The principle of natural air convection: cold air comes into contact with an electric heating element, heats up, becomes lighter, and exits through the front grille, ensuring even heat distribution.

Key features:

- Intelligent control unit
- Ergonomic design
- European quality
- High-precision electronic thermostat (up to 0.1°C)
- Energy saving
- Silent heating
- Multiple operating modes
- Protection against voltage surges
- Tilt protection
- Versatile installation
- Heating element indicator
- Electrical and fire safety (protection class II)
- Dust and moisture protection class IP24.

Electric convectors are a technically and economically sound solution for stationary and modular air monitoring stations for the following reasons:

- Fast and uniform heating of the interior volume of the room;
- Compactness and ease of installation, especially in confined spaces;
- Ability to operate autonomously with a thermostat and timer;
- No fans, which eliminates vibration and interference with the operation of highly sensitive analyzers;
- Energy efficiency, provided that the power is calculated correctly.

Operating conditions

- Temperature range inside the station: +5...+25 °C;
- Outside temperature: down to -40 °C;
- The use of electric convectors is permitted in combination with additional heating of individual elements (sampling probes, weather sensors, etc.) using heating cables or heating cabinets.

Safety

- Electric convectors are installed in a stationary configuration (wall or floor mounting);
- All connection work is carried out in accordance with the Electrical Installation Code and the requirements of the manufacturer's operating documentation;
- The surfaces of the equipment must not impede air circulation and must not come into contact with flammable materials.

The main requirements are listed in the table below:

Name	Requirements
Heater	<ol style="list-style-type: none">1. Lower limit of the temperature setting range: $\leq 5^{\circ}\text{C}$;2. Upper limit of the temperature setting range: $\geq 40^{\circ}\text{C}$;3. Temperature setting adjustment step: $\leq 1^{\circ}\text{C}$;4. Design: Oil-filled, with closed coil;5. Heating power regulator: Present;6. Switch-on temperature controller: Yes;7. Operating mode: – Indoor units operate alternately at 4-hour intervals, with automatic switching. – The temperature inside the station is maintained at 25°C during peak summer months.

2.5. Technical requirements for the uninterruptible power supply (UPS) system

The UPS must support the operation of the air quality monitoring station (there is no need to keep the heating and cooling systems in working order in the event of a power failure). Heating and cooling are the largest consumers of electricity, and in the event of a 30-minute power outage, the failure of cooling or heating should not be a major problem), the operation of all equipment/analyzers at the station for 30 minutes in the event of a power outage.

The main task of the UPS is not to maintain power for a long period of time, but to ensure a controlled shutdown of all equipment at the station so that it can automatically restart after the power is restored. The UPS also protects sensitive analyzers from possible damage during uncontrolled shutdowns, restarts, and power surges. If the UPS is required to maintain the power supply necessary for the station to operate for one or more hours, the UPS system becomes very large and expensive, which is an unnecessary investment considering the significance of losing a few hours of monitoring data in individual cases. The most important function of a UPS is to protect sensitive equipment from damage during an uncontrolled power outage, not to keep the station running for several hours during a power outage.

The Supplier must design and offer a UPS capable of providing power to the station's equipment and analyzers for the required time (30 minutes or more).

The main parameters and requirements are listed in the table below:

No.	Parameters	Requirements
1	Purpose	To ensure uninterrupted power supply to automatic station equipment (controller, recorder, modem/router, workstation, sensors, etc.) in the event of power outages.
2	UPS type	Line-interactive or online double conversion — preferably with automatic switching capability.
3	Power	In accordance with the estimated total power consumption of the equipment with a reserve of at least 20%.
4	Autonomous operation time	At least 30 minutes at a load of 60–70% of the rated load.
5	Output signal shape	Pure sine wave when operating from battery power.
6	Input voltage	Input voltage range: no less than 160–290 V.
7	Output voltage	Stabilized voltage 220–240 V with a deviation of no more than $\pm 10\%$.
8	Number of output sockets	At least 4, Schuko or IEC C13 standard.
9	Control and monitoring interface	USB and/or RS-232 support, with the ability to connect to a workstation for status monitoring and parameter configuration. SNMP (built-in or external adapter) is desirable.
10	Battery type	Replaceable sealed batteries, preferably with hot-swap capability.
11	Additional features	Automatic load shutdown in case of critical discharge, protection against short circuits, overloads, and voltage surges.

12	Operating temperature range	From 0°C to +40°C. Can be placed in an unheated room provided that it is adequately protected.
13	Climatic design	According to GOST or IEC – not lower than IP20 (when installed indoors) or IP54 (when installed outdoors in a cabinet).
14	Installation	Can be installed in a 19" rack or as a desktop/floor-standing unit. When installed in a cabinet, compatibility with the form factor and depth of the cabinet.

2.6. Storage of gas cylinders

At least three cylinders with calibration gases (10-liter cylinders). It is recommended to store gases inside the measuring cabin to prevent large temperature fluctuations.

2.7 Tool kit

The tool kit is designed for maintenance, repair, and service of the station.

	The tool kit consists of:
	<ul style="list-style-type: none">-Electric multimeter;-Drill and set of drill bits;-Screwdrivers (Phillips, slotted, and Torx) of various sizes;-Side cutters (small and large);-Pliers with narrow jaws;-Scissors/cutter for Teflon hose;- Adjustable wrenches of various sizes;-Open-end/box wrenches (in millimeters and inches);-Set of hex keys (in mm and inches);- Set of Torx wrenches;- Set of socket wrenches (sockets);- Spirit level;- Tape measure;- Insulating tape and Teflon tape.

2.8. Telephone lines / mobile communication lines

A full Internet connection must be provided at each air quality monitoring station. The supplier is required to describe in detail the possible connection options, including wireless and, if necessary, wired solutions, specify the equipment used for each option, and provide their cost.

The Supplier must connect to the Internet, including submitting applications to the relevant telecommunications companies, obtaining approvals, and executing the necessary contracts, if required. Supplier's responsibilities: The Supplier must provide justification for the choice of connection method for each station (technical and economic parameters, coverage area, signal stability, etc.). The Supplier shall provide a complete list of the required equipment (modems, antennas, routers, etc.) and its cost. If necessary, the Supplier shall lay the cable infrastructure (internal and external), including power supply for the equipment and fastenings. The Supplier shall ensure the testing, configuration, and commissioning of the communication systems. All costs associated with providing connectivity, including equipment procurement, initial connection fees, and necessary work, shall be included in the project estimate and indicated in separate lines.

2.9. Container and device status sensors

Container and device status sensors are smart sensors designed to monitor the following information:

- Data loss failure alert signal;
- Enabling maintenance mode;
- System date/time change;
- Watchdog timer activity;
- Power restart/power on;
- UPS operating on battery power and battery discharge;

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- Door open;
 - Low voltage on telephone line/mobile line;
 - Low ambient gas consumption for each sampling unit;
 - Auxiliary power on;
 - Overvoltage;
 - Power supply network disconnected;
 - Temperature inside the container;
 - Humidity inside the container;
 - Additional pressure and flow testing unit.

2.10. Software for container status sensors and devices

Software: Centralized software (monitoring system) must be developed or supplied that will:

- receive and archive signals from analyzers at all 11 stations;
- display the status of each station in real time;
- generate emergency alerts and reports;
- provide access rights differentiation by user level (operator, administrator, engineer);
- integrate with the central database of the air quality monitoring system.

Technical requirements for software

- Web interface or thin client;
- Event log storage for at least 1 year;
- Support for integration via REST API or OPC-UA (by agreement);
- Ability to connect via VPN or other secure communication channel;
- Interface in Russian and English;
- SNMP/Modbus support (if the sensors have the appropriate protocols).

Supplier's responsibility

The Supplier is responsible for selecting, supplying, and configuring all necessary analyzers; installing and testing software on the central server (or in a cloud solution, as agreed); configuration of information transmission channels from each station; training of personnel in the use of the condition monitoring system, as well as for the provision of complete technical documentation and operating instructions.

Coordination and integration

All issues related to software architecture, data transfer formats and frequency, processing and measurement algorithms, as well as requirements for integration with other systems, must be agreed upon and approved by the Customer prior to delivery.

All necessary costs for the performance of work must be included in the Supplier's project proposal. If additional costs are identified during the implementation of the subproject, the Supplier is obliged to provide justification for such work and agree on them with the Customer before the start of work.

2.10. Sampling system

The gas sampling system in the manifold must meet at least the following requirements:

- The sampling point (inlet) shall protrude vertically through the roof of the housing to a height of 1.5 m above the roof, ensuring free air flow from all sides at 360°.
 - Protection of the inlet from rainwater, insects, or large solid particles.
 - Prevention of condensation inside the sampling inlet. Condensation may occur in case of high ambient temperature and/or humidity. The sampling pipe may be moderately heated to avoid condensation.
-

- Ensure that the roof penetration is well sealed using fittings that are easy to replace.
- Sampling lines should be as short as possible to minimize the time the sample spends in the sampling system — less than 5 seconds from the entry point to the analyzer inlet.
- The sampling device and sampling line should be made of corrosion-resistant and chemically inert material, at least with respect to all measured air pollutants, such as polytetrafluoroethylene (PTFE), borosilicate glass, or stainless steel.
- Easy access for cleaning and maintenance, possibility of manual cleaning of the sampling line, possibility of disassembly and maintenance every 6 months.
- Connection (tube) from the manifold to the monitors with a maximum length of 2 m and made of PTFE or other chemically inert material.
- Connection of at least 10 monitors, the size of the sockets must correspond to the monitor inputs.
- Control and regulation of sample flow, including installation of a flow alarm system.

A particulate filter must be placed in the sampling line before the analyzer inlet to retain all particles that may affect the analyzer's performance.

- Filter material: PTFE.
- Filter housing material: chemically inert (e.g., PTFE, borosilicate glass, or stainless steel).
- Filter pore size: 5 μm .

The sampling pump for the collector for sampling ambient air through the collector shall meet at least the following requirements:

- The inlet of the pump or fan is located at the end of the sampling manifold;
- The pump or fan provides a volume flow rate of 3-6 m³/h, and a flow alarm system is installed;
- The effect of pressure drops caused by the sampling pump in the collector on the measured concentration is less than 1%.

2.11. Sampling inlet for particulate matter analyzer

A separate sampling port in the roof of the housing is used to feed the sampling tube from the automatic particulate matter (PM) analyzer to the TSP, PM10, or PM2.5 inlet installed outside on the roof.

2.12. Technical specifications for gaseous pollutant analyzers

2.12.1. Analyzer No. 1 - NO / NO₂ / NO_x in atmospheric air

No.	Measurement	NO / NO ₂ / NO _x in atmospheric air
1	Principle, standard	Chemiluminescence (EN 14211, EC or 40 CFR Part 50, Appendix F, U.S. EPA)
2	Certification	Complies with EN 15267 TUV or US EPA 40 CFR Part 53, or U.S. EPA (Approval RFNA-0809-186)
3	Concentration units	mg/m ³ , µg/m ³ , ng/m ³ , ppm, ppb, ppt
4	Display	Digital, multi-character display with simultaneous indication of all parameters, as well as alarm/error signaling.
5	Ranges	Standard: 0–0.1/0.2/0.5/1.0 ppm; Optional: 0 to 20 ppm within a 20x range.
6	Minimum detectable limit	0.5 ppb
7	Noise level	≤ 0.2 ppb
8	Repeatability	±1.0% of full scale
9	Linearity	±1.0% of full scale
10	Zero drift	± 1 ppb over 7 days.
11	Range drift	± 1.5% over 7 days at the lower range
12	Response time	Within 70 seconds at the lowest range.
13	Analyzed gas consumption	0.8 L/min.
14	Calibration	Zero gas: pure synthetic air or zero air generator. Verification gas: certified NO ₂ gas mixture (often diluted NO + O ₃ → NO ₂ or direct cylinder with NO ₂). Use gas dilution calibration systems (with devices compliant with EN ISO 6145 or 14595) if dynamic dilution is required.
15	Output signals or analog output	2 analog outputs 0 - 1 V, 0 - 10 V, 0 - 20 mA or 4 - 20 mA
16	Digital output	RS 232 / USB / TCP/IP / Ethernet port, Status relay (fault, zero, spread), Independent analog outputs 0–1 V for NO, NO _x , and NO ₂ , Optional selectable output voltage, analog voltage output with programmable range, at least one 4–20 mA current output, power indication.

17	Consumables and spare parts	Recommended requirements: 3 years of continuous operation along with a list of necessary components (elements). Lithium battery, Deodorizer unit, 0.3 micron air filter, Capillary tube, O-ring, UV lamp liner, Converter catalyst tube material, Pump membrane and valve, Membrane filters, Pump, Silica gel desiccant granules, Scrubber, Solenoid valve, Converter catalyst tube, filled, Filter seal, UV lamp for ozone generator.
18	Completeness	Internal built-in pump and external pump
19	Compensation	Pressure and temperature
20	Alarm messages	Flow rate, calibration, converter temperature, built-in battery
21	Power	100–240 V AC, 50/60 Hz
22	Housing	19” enclosure with telescopic rails and brackets
23	Accessories	At least 3 meters of Teflon sampling tube and necessary connecting elements. Various types of bolts, nuts, cable ties, and other fasteners.

2.12.2. Analyzer No. 2 - Sulfur dioxide (SO₂ and H₂S) in atmospheric air

No	Measurement	Sulfur dioxide (SO ₂ and H ₂ S) in atmospheric air
1	Principle, standard	Ultraviolet fluorescence method with catalytic oxidation of H ₂ S to SO ₂ , compliant with U.S. EPA 40 CFR Part 50, Appendix A.
2	Certification	In accordance with EN 15267 or US EPA 40 CFR Part 53, EQSA-0809-188
3	Measurement	Sulfur dioxide and hydrogen sulfide (H ₂ S measured after oxidation to SO ₂ in an external furnace) in the atmosphere.
4	Unit of measurement	mg/m ³ ; µg/m ³ , ppm, ppb, ng/m ³ , ppb, and ppt
5	Lower detection limit	SO ₂ : 0.5 ppb- 0.0005 ppm H ₂ S: 0.5 ppb -0.0005 ppm
6	Ranges	SO ₂ : 0-20 ppm H ₂ S: 0-2 ppm (SO ₂ 500ppb) 0 - 2 ppm (SO ₂ < 500 ppb) Min.: 0-5 ppb full scale, max.: 0-2,000 ppb and adjustable for other ranges;

7	Display	Digital, multi-character display with simultaneous indication of all parameters, as well as alarm/error signaling.
8	Noise	0.15 ppb or 1% of reading
9	Repeatability	±1.0% of full scale
10	Linearity	±1.0% of full scale
11	Zero drift	<threshold sensitivity per day in the lower range <threshold sensitivity per week on the lower range
12	Range drift	<threshold sensitivity per day on the lower range <threshold sensitivity per week on the lower range
13	Analyzed gas flow rate	0.7 l/min
14	Response time	Within 120 seconds at the lowest range
15	Language	English, Russian (a Russian-language menu must be provided)
16	Output signals or analog output	3 analog outputs: 0 - 1 V, 0 - 10 V, 0 - 20 mA or 4 - 20 mA
17	Digital output	Multiple RS 232 ports <i>USB/TCP/IP/Ethernet</i> port
18	Power supply	220-240 V, 50-60 Hz
19	Compensation	Temperature and pressure
20	Completeness	Provide a built-in external pump, internal pump
21	Alarm messages	Flow rate, calibration, converter temperature, built-in battery
22	Housing	19" housing with telescopic rails and brackets
23	Data storage	Data storage capacity for at least three months
24	Functional control	The analyzer shall provide automatic and manual calibration (zero and span) with remote control capability. The frequency of automatic calibration shall be software-configurable.
25	Consumables and spare parts	Recommended requirements: 3 years of continuous operation together with a list of parts. Lithium battery, 0.3 micron air filter, O-ring, xenon lamp, pump diaphragm and valve, diaphragm filters, pump, gas scrubber, hydrocarbon filter.
26	Accessories	At least 3 meters of Teflon sampling tube and necessary connection elements. Various types of bolts, nuts, cable ties, and other fasteners.

2.12.3. Analyzer No. 3 - Carbon monoxide (CO) in atmospheric air

No	Measurement	Carbon monoxide (CO) in atmospheric air
1	Principle, standard	Non-dispersive infrared (NDIR) spectrophotometry with cross-flow modulation, compliant with EN 14626 and U.S. EPA 40 CFR Part 50, Appendix C.
2	Certification	The analyzer shall comply with EN 14626 or be certified under US EPA 40 CFR Part 53 (e.g., U.S. EPA Approval RFCA-0509-174) or equivalent international standards.
3	Measurement	Measurement of CO concentration in ambient air
4	Unit of measurement	mg/m ³ , µg/m ³ , ng/m ³ , ppm, ppb, or ppt
5	Display	Digital, multi-character display with simultaneous indication of all parameters, as well as alarm/error signaling.
6	Ranges	At least four ranges Automatic range 0-200 ppm. Standard: 0-5/10/20/50 ppm; Optional: 0 to 100 ppm within a 10-fold range.
7	Minimum detectable limit	0,03 ppm +/- 0,01 ppm
8	Zero noise level	0.05 ppm /30 seconds
9	Repeatability	±1.0% of full scale
10	Linearity	±1.0% of full scale
11	Zero drift	<0.2 ppm/7 days or more
12	Range drift	±1.0% of full scale/7 days or more
13	Calibration	Calibration gas cylinder (CO) - capacity 15 l. For calibration, the device must be supplied with a highly polished aluminum cylinder filled with calibration gas that complies with ISO/IEC 17025 and/or GOST ISO/IEC 17025 standards: 40 ppm. It must also have a gas valve for zero and calibration gas. See also sections 3.1.6 and 3.1.10 Dilution unit for CO calibration gas, controlled via RS232, controlled by MFC zero air flow 0-5 L/min, controlled by MFC calibration gas flow 0-50 mL/min, CO gas cylinder approx. 80 ppm in synthetic air (total pressure: 150 bar, stability period: minimum 12 months, accuracy: ± 2 % maximum), pressure reducer.

14	Analyzed gas flow rate	1.5 l/min
15	Response time	Within 50 seconds at the lowest range
16	Language	English, Russian (A Russian-language menu must be provided)
17	Output signals or analog output	3 Analog output 0 - 1 V, 0 - 10 V, 0 - 20 mA or 4 - 20 mA
	Digital output	Several RS 232 /USB/TCP/IP/Ethernet ports, status relay (fault, zero, range), optionally selectable voltage, analog voltage output, software-selectable range, at least one 4-20 mA current output and power indication
18	Power supply	220–240 V, 50–60 Hz
19	Compensation	Automatic temperature and pressure compensation
20	Alarm messages	Flow rate, calibration, converter temperature, built-in battery
21	Housing	19" enclosure with telescopic rails and brackets
22	Data storage	Data storage capacity for at least three months
23	Function control	The analyzer shall provide automatic and manual calibration (zero and span) with remote control capability. The frequency of automatic calibration shall be software-configurable
24	Consumables and spare parts	Recommended requirements: 3 years of continuous operation together with a list of parts. Lithium battery, O-ring, membrane and valve for the pump, membrane filters, pump, scrubber, solenoid valve, converter catalyst tube, filled, filter seal, filter.

2.12.4. Analyzer No. 4 - Ground-level ozone (O₃) in atmospheric air

No.	Measurement	Ground-level ozone (O ₃) in atmospheric air
1	Principle, standard	Non-dispersive ultraviolet (UV) absorption for measuring O ₃ in ambient air
2	Application	Measurement of O ₃ in atmospheric air
3	Certification	In accordance with EN 15267, or certified under U.S. EPA 40 CFR Part 53 (e.g., U.S. EPA Approval EQOA-0809-187).
4	Unit of measurement	mg/m ³ , µg/m ³ , ng/m ³ , ppm, ppb, or ppt
5	Display	Digital, multi-character, with simultaneous display of all parameters and alarm signals/errors

6	Range	Standard: 0–10/20/50/100 ppm; Optional: 0 to 100 ppm within a 10-fold range
7	Minimum detection limit	0.5 ppb
8	Repeatability	±1.0% of full scale
9	Linearity	±1.0% of full scale
10	Zero drift	24 hours < 0.3 ppb. 7 days < 0.3 ppb
11	Range drift	7 days < 0.5% of reading or 0.3 < ppb
12	Response time	Within 75 seconds at the lowest range
13	Gas sample consumption	Approximately 0.7 L/min
14	Noise level	1.0 ppb
15	Calibration	Range: O ₃ , Zero: Purified air. For calibration, a highly polished aluminum cylinder filled with calibration gas traceable to ISO/IEC 17025 and/or GOST ISO/IEC 17025: at 40 ppm must be supplied with the device. It must also have a gas valve for zero and test gas.
16	Output signals or analog output	3 Analog output 0 - 1 V, 0 - 10 V, 0 - 20 mA, or 4 - 20 mA
17	Digital output	Multiple RS 232 ports / <i>USB port</i> / <i>TCP/IP</i> / <i>Ethernet</i>
18	Power supply	220-240 V, 50-60 Hz
19	Language	English, Russian (a Russian-language menu must be provided)
20	Alarm messages	Consumption, calibration, converter temperature, built-in battery
21	Housing	19" enclosure with telescopic rails and brackets
22	Compensation	Automatic compensation for energy, temperature, and pressure
23	Data storage	Data storage capacity for at least three months
24	Consumables and spare parts	Recommended requirements: 3 years of continuous operation with a list of parts. Lithium battery, filled tube with catalyst for deozonator, O-ring, mercury lamp, membrane and valve for pump, membrane filters, pump, solenoid valve.
25	Accessories	Teflon sampling tube at least 3 meters long and necessary connecting elements. Various bolts, nuts, cable ties, and other fasteners.

2.13. Technical specifications for automatic particulate matter analyzers (PM₁₀, PM_{2.5}, PM₁, TSP)

2.13.1. Analyzer No. 5 - Automatic particulate matter analyzers (PM₁₀, PM_{2.5}, PM₁, TSP)

No	Parameters	Requirements
1	Standards	EN 16450, US EPA 40 CFR Part 53 (equivalent method), EN 12341 (when using selective heads)
2	Measurement principle	Continuous automatic monitoring; beta ray method with humidity compensation, optionally with optical supplement or optical monitor
3	Measured fractions	PM ₁₀ , PM _{2.5} , PM ₁ , TSP
4	Measurement range	0–1,000 µg/m ³ (PM ₁₀ , TSP); 0–500 µg/m ³ (PM _{2.5} , PM ₁)
5	Resolution	No worse than 1 µg/m ³ or 1% of the measured value
6	Minimum detection limit	Not higher than 5 µg/m ³ on average over 1 hour
7	Averaging time	From 1 minute to 24 hours; 1-hour average required
8	Detector	Beta detector with Geiger-Müller or silicon semiconductor; additionally, optical sensor or optical
9	Sampling system	Head with dynamic heating; nozzles for PM ₁₀ , PM _{2.5} , PM ₁ , TSP
10	Air flow	1–3 m ³ /h, with flow control
11	Filter material	Teflon (PTFE), glass fiber, or quartz fiber, with low ash content
12	Filter tape length	Not less than 30 meters
13	Calibration	Built-in automatic calibration system; external calibrator option
14	Display and interface	LCD/LED display; RS-232/485, USB, Ethernet; Modbus/TCP support; GPRS/3G/4G option
15	Power supply	220 V, 50 Hz; no more than 1 kW
16	Operating conditions	–20 °C to +50 °C; up to 95% RH without condensation
17	Consumables	Kit for 5 years of operation: filter tapes, nozzles, seals, sensors

2.13.2. Sequential automatic sampler for gravimetric measurement of fine particulate matter PM_{2.5}/PM₁₀

The reference method for determining particulate matter in the EU and the US is the gravimetric method (PM_{2.5} and PM₁₀ sampling). The technical characteristics of the sampler must comply with gravimetric mass determination in accordance with EN 12341:2023 or the equivalent US EPA standard [USA 40 CFR Part 53, FEM, Appendix L (PM_{2.5}) & Appendix J (PM₁₀)] (see previous Chapter 3.4.5. *Particulate matter analyzer for PM₁₀ and PM_{2.5}*).

No.	Parameters	Requirements
1	Standard	EN 12341 (reference method), US EPA 40 CFR Part 50 Appendix L (PM _{2.5}) and J (PM ₁₀)
2	Measurement principle	Gravimetric; sequential automatic filter sampling
3	Measured fractions	PM ₁₀ , PM _{2.5}
4	Number of filters	Minimum 16–20 filters (cassettes), sequential replacement possible
5	Filter material	Teflon (PTFE), quartz fiber or glass fiber, with low ash content
6	Filter area	~ 47 mm active surface diameter (standard)
7	Sample volume	time- or volume-controlled LVS (low-volume sampler): up to 72 m ³ /day (1 to 3 m ³ /h)
8	Air flow	Approximately 16.7 l/min (1 m ³ /h); stable, adjustable, with automatic temperature and pressure compensation 16.7–50 l/min
9	Sampling head	For PM _{2.5} or PM ₁₀ , with interchangeable nozzles
10	Operating temperature range	From –30 °C to +50 °C
11	Condition monitoring	Measurement of inlet air temperature and pressure; pressure differential compensation
12	Display and control	LCD display; local menu control; data transfer interface (USB, RS-232, Ethernet) Continuous recording of operating parameters (at least flow rate, pressure drop across the filter, sampling time and sample volume, air temperature in the filter section, filter storage temperature, during operation (sampling and idle mode).

13	Power supply	~220 V, 50 Hz
14	Sampling time	Flexibly programmable: 24 hours (reference), other time intervals can be set
15	Flow calibration	Built-in or external reference flow meter, regular calibration possible
16	Filter protection	Automatic storage of selected filters in cassettes with minimal contamination
17	Flow rate	Depends on the standard: the EN standard specifies certain types of inlet openings and flow rates, while the US standard specifies other types of inlet openings and flow rates.
18	Installation	Suitable for outdoor installation (outdoor cabinet included) or indoor installation (19-inch rack). Sampling head at least 100 cm from the roof (long pipe)

2.13.3. Analyzer No. 6 - Black Carbon (Black Soot) Analyzer

There are currently no standardized reference methods for monitoring black carbon (BC) in the EU and the US. However, there are methods that have been used for scientific purposes for quite some time. Some continuous black carbon analyzers also allow real-time identification of emission sources based on measurement results (which major sources are contributing to the measured black carbon).

No.	Parameters	Requirements
1	Measurement principle	Optical method (reflective and/or transmissive) on a filter. Continuous collection of aerosols on a filter with simultaneous measurement of light absorption at one or more wavelengths
2	Measurement range	From 0 to 100 $\mu\text{g}/\text{m}^3$ (or higher, depending on the model)
3	Unit of measurement	$\mu\text{g}/\text{m}^3$, ng/m^3
4	Resolution	0.01 $\mu\text{g}/\text{m}^3$ or better
5	Air flow	Typically 1–17 L/min (depending on model and mode)
6	Lower detection limit	Lower detection limit (1 hour): <0.005 $\mu\text{g}/\text{m}^3$ Measurement frequency: programmable – 1 second or 1 minute
7	Filter	Quartz or glass fiber
8	Averaging time	From 1 minute to 24 hours; flexibly adjustable
9	Measurement at multiple wavelengths	Yes (for separation of black and brown carbon)

10	Interfaces	USB, Ethernet, RS-232, remote data transfer support
11	Power	220 V, 50 Hz
12	Operating temperature range	-20 °C to +50 °C
13	Data storage	Data storage capacity for at least one month
14	Dimensions	Fits into a standard 19-inch rack
15	Calibration	Automatic or manual calibration option
16	Accessories	All accessories, applicable inlet tubes, etc., necessary for the operation and self-calibration of the device are mandatory.

2.14. Lightning protection system

The lightning protection system at automatic air quality monitoring stations protects equipment and personnel from the dangerous effects of direct and indirect lightning strikes. It usually includes external and internal lightning protection.

External lightning protection (direct lightning strike system)

The purpose is to intercept the lightning discharge before it hits the station structure.

Main elements:

- Lightning rod (lightning conductor) — a metal pin, mast, or cable installed above all elements of the station;
- Conductor — conductors (usually copper or galvanized) connecting the lightning rod to the grounding device;
- Grounding device — a system that diverts lightning current into the ground (e.g., horizontal or vertical grounding rods).

Lightning strikes the lightning rod → the current is directed to the ground via the current conductor → the station equipment is not damaged.

Internal lightning protection (surge protection).

The goal is to prevent damage to sensitive station electronics due to impulse surges caused by thunderstorms.

Main elements:

- Surge protection devices (SPDs) — installed on power inputs and communication lines;
- Shielded cables and isolation transformers — reduce interference and surge transfer;
- Potential equalization system — connects all metal parts of the equipment and conductive elements to the grounding system.

Features for automatic air monitoring stations

- AAQMS stations are installed in open areas (parks, city outskirts) where the risk of a direct strike is higher.
- The station includes meteorological masts, which must either be protected by lightning rods or serve as lightning rods themselves;
- Container modules with equipment have a separate grounding system connected to external lightning protection.

Regulatory framework

The following standards apply in the Kyrgyz Republic:

- GOST R 59789-2021 / IEC 62305 (IEC 62305) — international standard for lightning protection.
- SNiP and PUE (Rules for the Installation of Electrical Installations) — in terms of grounding and surge protection.

3. Meteorological observation system

3.1. Technical requirements

General provisions

The meteorological observation system includes:

- A mast at least 10 m high;
- Wind speed and direction sensors;
- Air temperature and relative humidity sensors;
- An atmospheric pressure sensor;
- A data logger (data recorder).

In case of integration with the data collection system software, all technical solutions and parameters must be agreed with the Employer. The Supplier is obliged to ensure full integration of hardware and software and, if necessary, provide additional resources and solutions for compatibility.

3.1.1. Data logger #1.

No	Parameters	Requirements
1	Brand	Specified by the supplier upon agreement
2	Model	Specified by the supplier upon agreement
3	Type	Device for storing, accumulating, and transmitting measurement data; multitasking operation
4	Memory	At least 2 GB of non-volatile Flash memory
5	Communication ports	At least 1 Ethernet port
6	Interface language	Russian and English. The data logger must have a display. This display must show all direct measurement values and any intermediate results used in the measurement.
7	Analog inputs	At least 8 galvanically isolated
8	Digital inputs	At least 8 separate serial inputs; expansion via external modules; 1 RS485 and/or SDI-12 input (up to 32 sensors)
9	Specification of input requirements	The supplier specifies the required number of inputs when submitting a proposal.
10	Power supply	11–20V
11	Internal clock	With autonomous power supply
12	Analyzer control	Monitoring of all connected analyzers
13	Self-check timer	Watchdog for automatic restart in case of failures
14	Data logger software functions	Support for connecting third-party sensors; ability to create custom procedures for processing measurement results by the buyer
15	Software updates	Free updates during the warranty period, update to the latest version one month before the warranty expires.

16	Programming	Remote programming and configuration
17	Remote access software	Provided by the supplier without licensing restrictions
18	Synchronization and data transfer	When restarting, first synchronize the time, then transfer data
19	Data storage	At least 365 days
20	Processing of analyzer failures	Marking of faulty analyzers with the option to disable the transmission of their data
21	Connection security	Protection against incorrect connector connection
22	Scope of delivery	Cables, connectors, necessary accessories

3.1.2. Mast #2

No	Parameters	Requirements
1	Height	At least 10 m
2	Type	Rod mast with rod lightning conductor
3	Material	Stainless steel
4	Fasteners	No tensioners
5	Wind load	Withstands wind speeds up to 60 m/s
6	Paint	White enamel
7	Installation kit	Complete set of mounting components including foundation fasteners, anchor bolts, lightning rod pin, and sensor mounting brackets
8	Maintenance Accessibility	The mast shall be designed for easy maintenance and servicing. It shall include a hinged (tilting) base mechanism allowing the mast to be safely lowered to ground level for installation, inspection, and sensor maintenance without the use of special lifting equipment.

3.1.3. Sensor #3 - wind speed and direction

No	Parameters	Requirements
1	Type	Ultrasonic
2	Compatibility	With data logger for automatic data transfer
3	Protection	IP65, protection against moisture and condensation
4	Wind speed range	0.5 – 50 m/s
5	Speed sensitivity	0.1 m/s
6	Speed accuracy	±2% at speeds > 5 m/s

7	Speed report resolution	± 0.5 m/s
8	Wind direction range	0–360°, no dead zones
9	Direction accuracy	$\pm 3^\circ$ at speeds > 4 m/s; sensitivity no more than 1°
10	Output signal	Digital output compatible with digital inputs of data logger
11	Cables	UV-stable, rodent-proof, with waterproof entries
12	Heating	Required
13	Installation height	10 m on a mast

3.1.4. Sensor #4 - temperature and relative humidity

No	Parameters	Requirements
1	Compatibility	With data logger
2	Temperature range	-40°C...+60°C
3	Temperature sensitivity	0.1°C
4	Temperature accuracy	$\pm 0.2^\circ\text{C}$
5	Humidity range	0–100% relative humidity
6	Humidity sensitivity	0.5% relative humidity
7	Humidity accuracy	± 2.0
8	Output signal	Digital, compatible with digital inputs of the data logger
9	Protective screen	White, non-metallic, without forced ventilation, UV-resistant
10	Installation height	2 m above the surface
11	Cables	UV-stable, rodent-proof, waterproof IP65 entries
12	Error exclusion	Confirmed absence of self-heating, incorrect resistance compensation, precipitation, and other typical errors

3.1.5. Sensor #5 - atmospheric pressure sensor

Parameters	Requirements
Measurement range	500-1100 hPa
Accuracy	± 0.5 gPa or better
Sensor type	Capacitive
Response time	≤ 1 second

4. Cabinet - 19" standard

Purpose: the cabinet is designed to house all analyzers, calibrators, zero air generators, data loggers, telecommunications, power, and other equipment of an automatic air quality station.

Design: 19" rack cabinet with 42U mounting space, providing sufficient space to accommodate all necessary equipment.

Technical specifications: see table below.

No.	Parameters	Requirements
1	Form factor	19", rack-mountable, height 42U (approximately 2 meters of mounting height).
2	Depth/width/height	Depth not less than 800 mm, width 600 mm, height — 42U (~2000 mm).
3	Degree of protection	IP20 for indoor installation; if outdoor installation is required, IP54 with climate control.
4	Construction	Metal housing (minimum 1.2 mm steel), reinforced doors with locks, removable side panels.
5	Installation	Floor installation with adjustable legs or anchor fastening.
6	Cooling system	Natural ventilation with the option of installing fans and filters.
7	Cable entries	At the top and bottom of the cabinet with cable glands and seals for power and low-voltage cables.
8	Grounding	Mandatory grounding bus and electrical connection of all metal parts.
9	Accessories	Mounting rails, fastener set, cable organizers, brushes for cable entries.
10	Operating temperature range	From -30°C to +50°C (for indoor or outdoor use).
11	Painting and corrosion protection	Powder coating RAL 7035 or equivalent, resistant to UV and moisture.
12	Static load	Not less than 300 kg, taking into account the complete set of equipment and installation.

Additionally

- The cabinet must provide convenient access to the equipment for maintenance.
- For outdoor installation, climate control (heating, ventilation) must be provided.
- All parameters and cabinet layout shall be agreed with the Employer prior to delivery.

**C. TECHNICAL REQUIREMENTS FOR THE ARCHITECTURE OF THE SYSTEM FOR
COLLECTING, PROCESSING, AND VISUALIZING DATA FROM AUTOMATIC AIR QUALITY
MONITORING STATIONS**

(SYSTEM DESIGN, DELIVERY, INSTALLATION, AND COMMISSIONING)

1. Technical requirements for software architecture coordination and interaction procedures

1.1. Software

No	Stage / Module	Components and functions	Technical requirements and interfaces
1	Measurement	Pollutant analyzers, weather sensors	<ul style="list-style-type: none"> • Real-time data collection. • Support for RS-485, Modbus, analog output. • Stable operation at extreme temperatures.
2	Recording	Data logger or built-in PC	<ul style="list-style-type: none"> • Time stamping • Local data storage • Automatic synchronization with the server • Archiving support
3	Data transfer	Communication equipment (modems, routers)	<ul style="list-style-type: none"> • Communication channels: 3G/4G/5G, Ethernet, Wi-Fi. • Protocols: FTP/SFTP, HTTPS, MQTT, REST API. • Encryption (TLS/SSL), VPN
4	Collection and aggregation	Server software	<ul style="list-style-type: none"> -Data reception and aggregation -Synchronization with recorders -Data processing and filtering -Storage of raw and aggregated values
5	Manual data entry interface PNZ	Input form on the server platform	<ul style="list-style-type: none"> - Ability to manually enter data from pollution monitoring stations (PMS) -Verification of entered values - Linking to metadata (location, time, parameters) - Accompanying comments and annotations
6	Integration with the database	Central database (CDB)	<ul style="list-style-type: none"> -PostgreSQL DBMS or similar - Structured storage of data, logs, and metadata -Support for backup and logging
7	Analysis and quality control (QA/QC)	Control tools	<ul style="list-style-type: none"> - Automatic and manual data verification -Marking of unreliable values - Change history - QA/QC mechanisms in accordance with methodological recommendations
8	Analytics and processing	Processing modules	<ul style="list-style-type: none"> -Data extraction and analysis -Calculation of averages, maximums, and exceedances -Assessment of compliance with standards - Combining data with meteorological parameters
9	Reporting and visualization	Reports, summaries, graphs,	<ul style="list-style-type: none"> -Generation of standard and customizable reports - Creation of graphs, trends, histograms -Summaries by time intervals and parameters - Export to PDF, XLSX, CSV

10	Dashboards and maps	Real-time visualization	<ul style="list-style-type: none"> - Interactive GIS maps displaying station data - Dashboards for internal and public use - Display of air quality indices, current levels, history - Multilingual interface support
11	API and integration	Data exchange with external systems	<ul style="list-style-type: none"> -RESTful API, OGC API Features, JSON/XML -Support for data upload and download -Integration with WIS2, other government and international platforms -Documented API (Swagger/OpenAPI)
12	Compatibility and modularity	Integration with various software and devices	<ul style="list-style-type: none"> - Preferably, unified software for automatic stations and manual fuel dispensers - If different systems are used, the supplier must ensure their full integration - Support for metadata and time exchange

Requirements for agreeing on software architecture and interaction procedures:

The architecture and logic of the software, including the structure for collecting, processing, storing, and visualizing data, must be agreed upon with the customer before development (or implementation) begins.

The Supplier is obliged to provide a detailed technical description of the software architecture, including:

- a description of the modules and their functionality;
- data transfer formats and frequency;
- a list of measurable parameters;
- formulas, calculation methods, and aggregation algorithms used (minute, hour, day, etc.);
- the structure of the database and metadata storage logic;
- API interfaces and integration capabilities with external systems.

All key aspects, including:

- set of transmitted data;
- sending schedule;
- communication protocols;
- message format;
- data processing and filtering rules;
- quality control algorithms (QA/QC);
- visual elements (dashboards, maps, reports).

The above items must be documented and approved by the Employer before the system is put into commercial operation.

If, during the implementation process, additional components (including third-party software solutions, gateways, APIs, storage, etc.) need to be modified, adapted, or integrated, all such changes must be agreed upon in advance with the Employer, including an assessment of additional costs, deadlines, and technical conditions.

The Supplier is responsible for the completeness, compatibility, and operability of the proposed solution, including all software and hardware components, and is obliged to ensure their coordinated integration into the Employer's existing infrastructure.

It is recommended that a visual and functional layout (UI/UX) of the software be presented for preliminary approval prior to implementation, especially in the case of a custom solution.

To ensure transparency and open access to air pollution monitoring data, the Supplier shall ensure the integration of **an interactive map** with real-time data display on the official website of Kyrgyzhydromet — www.meteo.kg. The map should display the installed stations, key pollutant indicators, and weather parameters. The display of pollutant concentrations should be accompanied by a color scheme corresponding to the air quality index scale approved by the Ministry of Health of the Kyrgyz Republic. The interface should be available in Russian and Kyrgyz, adapted for mobile devices, and allow filtering data by date, station, and pollutant.

For data exchange between the monitoring system and Kyrgyzhydromet's internal information systems, the Supplier shall develop and implement **an API (application programming interface)**. The API shall allow automatic access to validated monitoring data, provide authorized access for external and internal users, and support standard data transfer formats. The API architecture must be documented and accompanied by integration instructions.

It is also necessary to provide for the development and implementation **of adapters for connection to the Tunduk interdepartmental electronic interaction system (SMEV)**. These adapters should ensure two-way information exchange with government agencies and other interested parties, including the ability to transfer daily or operational air quality data in accordance with the technical requirements of the Tunduk platform. All exchange mechanisms must comply with information security requirements and be tested jointly with the IT department of Kyrgyzhydromet.

1.2. Technical requirements for communication equipment

Purpose: Communication equipment is designed to ensure uninterrupted, secure, and automatic data transmission from the automatic air quality monitoring station to the central storage system (CSS or local server).

Device type: The equipment must be industrial grade and consist of a router or modem with 3G/4G/LTE and Ethernet support. Wi-Fi and/or radio channel support is permitted if required by operating conditions.

Technical requirements: presented in the table below:

No	Parameters	Technical requirements
1	Network interfaces	Minimum 1 × WAN (Ethernet), 1 × LAN (Ethernet), 1 × SIM card. Dual SIM support is desirable.
2	Mobile networks	Support for 3G/4G/LTE standards. Compatibility with local mobile operators.
3	Additional interfaces	Support for VPN (IPSec/OpenVPN), NAT, DHCP, Firewall. Remote administration capability. The modem must provide the ability to establish a secure VPN connection (IPSec) with Fortinet FortiGate firewalls, including support for IKEv1/v2, NAT-T, and static routes.
4	Data transfer protocols	Support for FTP/SFTP, HTTPS, MQTT, REST API, SNMP.
5	Security	Connection encryption (TLS 1.2+), built-in firewall, protection against DDoS and network attacks.
6	Operating modes	Support for automatic reconnection when the connection is lost, auto-start when the power is turned on.
7	Reliability and climatic design	Industrial temperature range: –30°C to +60°C. Resistance to vibration, dust, and humidity (not lower than IP30, preferably IP51+).
8	Installation	Can be installed in a 19" rack or on a DIN rail. Compact dimensions.
9	Power	Voltage: 9–36 V DC or standard 220 V AC via adapter. Power consumption ≤10 W.
10	Antennas	External antennas for signal amplification must be included in the package. Extension cables and mounting hardware must be included if necessary.
11	Support	Technical documentation and firmware must be available in English and/or Russian. Software must be updatable.

Integration and compatibility: communication equipment must be fully compatible with the software, recorders, and servers used. If additional routes, ports, or tunnels need to be configured, the supplier is required to provide preliminary configuration and testing.

Architecture approval: prior to delivery, the supplier must agree with the customer on:

- data transfer architecture;
- communication channels used;
- the data transfer schedule;
- connection recovery mechanisms;
- requirements for an external IP address or VPN connection.

Additional costs: if additional elements are required to ensure communication (signal amplifiers, high-frequency cables, external antennas, VPN gateways, paid communication channels, etc.), the Supplier is obliged to notify the Employer in advance and provide a technical justification and commercial offer.

1.3 PC - Workstation

Purpose: the workstation is designed to collect, initially process, and transmit data from the automatic air quality station to the central server. It also provides local monitoring and control of the station's equipment.

Form factor and installation

- Compact industrial enclosure designed for installation in a 19" rack with a height of no more than 4U.
- Ensures 24/7 operation without interruptions.
- The device must be designed for continuous operation in the microclimate conditions of the rack.

Technical specifications: see table below.

No	Parameters	Requirements
1	Processor	Multi-core modern CPU (no lower than Intel Core i5 or equivalent), with low power consumption.
2	RAM	At least 16 GB DDR5, with the possibility of expansion.
3	Storage	SSD with a capacity of at least 500 GB, preferably with high reliability and speed (NVMe or SATA).
4	Network interfaces	At least 2 Gigabit Ethernet RJ45 ports for connecting to the local network and station equipment. PoE support is possible — desirable.
5	Additional I/O ports	At least 2 RS-232/RS-485 serial ports for connecting devices/recorders. USB ports (at least 4) for peripherals and communication equipment.
6	Operating system	Compatible with Windows 10/11 or Linux (Ubuntu 20.04+), as required by the customer.
7	Reliability	The equipment must support automatic restart, power failure protection, cooling, and operation in a temperature range of +5°C to +40°C.
8	Monitoring and control	Remote control and monitoring of PC and equipment status via SNMP or specialized systems.
9	Protection	Protective mechanisms against power surges, static electricity, and overheating.
10	Power	Operates from an uninterruptible power supply (UPS) that ensures uninterrupted power.
11	Monitor	<ul style="list-style-type: none"> • Screen diagonal — from 21 to 24 inches; • Resolution — at least Full HD (1920×1080); • Matrix type — IPS or equivalent with wide viewing angles and good color reproduction; • Connection — HDMI and/or DisplayPort; • Height- and tilt-adjustable stand — desirable; • Anti-glare coating; • Installation at the workplace or mounting in a rack — as agreed with the customer.
12	Keyboard	<ul style="list-style-type: none"> • Full-size keyboard with numeric keypad.

		<ul style="list-style-type: none"> • Interface — USB or wireless (with the option of connecting via a USB receiver). • Compatible with the operating system used.
13	Mouse	<ul style="list-style-type: none"> • Optical or laser mouse with at least two buttons and a scroll wheel. • Interface — USB or wireless with USB receiver. • Compatibility with the operating system.

Functions and features

- Data collection from connected devices via serial ports and network interfaces.
- Local preprocessing, aggregation, and buffering of data.
- Reliable data transfer to a central server via Ethernet or cellular network (via modems).
- Operation as part of an automatic station 24/7 with minimal maintenance.
- Installation and operation inside a 19" rack with heat dissipation and vibration resistance taken into account.

Coordination and integration

The Supplier is obliged to coordinate all parameters and interfaces of the workstation with the customer, as well as to ensure compatibility with the rest of the station's equipment and the data collection system.

D. CALIBRATION SYSTEM

1. Requirements for the multi-calibration system

Dynamic dilution calibrators/multi-gas calibrators are required for the calibration of gaseous analyzers (NO/NO_x/NO₂, CO, O₃, SO₂, H₂ S) analyzers four times a year (in accordance with the measurement standard for each pollutant, which specifies the calibration frequency to ensure an acceptable level of uncertainty and compliance with air quality measurement data quality objectives).

To ensure data comparability and metrological traceability, all gas analyzers shall be calibrated using the same type of dynamic dilution calibrator and standard gas mixtures.

All calibration gases and calibrators shall be metrologically traceable to national or international standards.

The Supplier is obliged to provide:

- standards for metrological traceability;
- a complete set of documents confirming the traceability of concentrations;
- verification methodology;
- certificates of initial calibration of equipment.

However, given the specific nature of the Kyrgyz Republic, where 11 stations will be located at considerable distances from each other and the journey to some of them can take up to 10 hours, transporting the same calibrator between stations creates a high risk of damage. Similar risks arise when transporting gas cylinders over long distances. In this regard, the need for calibration gases was calculated separately for each station so that the gas cylinders would be located directly on site without the need for regular transportation. At the same time, multi-gas calibrators are planned to be located in nearby cities or regional centers (4 units for 11 stations) to minimize transportation distances, reduce the risk of equipment damage, and ensure timely calibrations.

In this case, the service provider responsible for performing regular calibrations at each station every three months will be responsible for calibrators, gases, and their traceability during warranty and technical maintenance.

The air monitoring equipment calibration system should include an automatic gas dilution calibrator, calibration gas standards, and a high-efficiency clean air generator to calibrate all analyzers in the system. Automatic zero gap verification should be configurable via the data acquisition system software to any specified time of day or night. The calibration system should be installed in a standard 19-inch cabinet.

The dilution calibrator should be capable of mixing source gas from cylinders with calibration gas or from permeation tubes with the clean air generator to produce a wide range of calibration gas concentrations and minimize the number of calibration gas standards required. All calibration gases supplied with the system shall be certified (certificate shall be provided).

The system must also have the capability of gas phase titration (GPT), an ozone generator with a concentration of 6 ppm/liter, and the converter must be 100% efficient in converting NO₂ to NO. The system must also include calibration of the ozone analyzer. The service provider is required to provide a technical design for a "Technical gas supply system for calibrating air quality measurement equipment" approved in accordance with the legislation of the Kyrgyz Republic, as well as standards and documents confirming the metrological traceability of calibrators, gas standards, and the entire

system as a whole, so that verification can be carried out in the future and compliance with national metrological requirements can be ensured.

1.1. Clean air generator

No.	Parameters	Minimum technical requirements
1	Basic requirements	Multi-stage gas separator (scrubber) for cleaning ambient air; the process includes dust extraction, compression, preliminary chemical treatment, and absorption of trace substances
2	Purity of calibration gas	NO/NO ₂ , SO ₂ , H ₂ S, NH ₃ <0.1 ppb; O ₃ <0.5 ppb; CO <100 ppb; BTX <1 ppb
3	Test gas pressure	0.5...2.0 bar (abs.), adjustable
4	Drying	Dew point not higher than –15 °C
5	Air consumption	From 0 to 30 l/min at a pressure >3.5 bar or a maximum of 20 l/min
6	Compressor	Durable, oil-free
7	Pressure control	Built-in
8	Gas purifier parts	Long service life, maintenance interval of at least 6 months
9	Cleaning cartridge	Minimum service life — at least 3 months
10	Power supply	220 V, 50 Hz
11	Dimensions	For installation in a standard 19-inch rack
12	Other requirements	No condensation

1.2. Multi-gas calibrator

No	Parameters	Minimum technical requirements
1	Purpose	Multi-point gas calibration device with automatic dilution system; zero gas supplied by clean air generator; suitable for calibrating NO, SO ₂ , CO, H ₂ S, and ozone. Zero (verification) gas supplied by clean air generator.
2	Principle	Mixing of calibration gas from cylinders with zero air obtained from a clean air generator.
3	Flow control	High-precision mass flow meters (at least 2), supporting precision control
4	NO/NO ₂ /NO _x calibration	Dilution of source gas mixtures to obtain a calibration range (0–70% of the maximum measurable range of the station); support for gas phase titration (GPT), ozone generator for GPT
5	SO ₂ calibration	Similarly, dilution of concentrated mixtures to create the required calibration levels (0–70%), or permeation tube (permeation oven)
6	H ₂ S calibration	Dilution of concentrated mixtures; (0–70%) operation with an auxiliary converter that converts H ₂ S to SO ₂ or permeation tube (permeation furnace)
7	CO calibration	Dilution of concentrated mixtures to form calibration gas (0–70 %)
8	O ₃ calibration	Ozone generation using UV radiation; integrated ozone photometer
9	Concentration generation range	Coverage of all analyzer ranges, 0–100% of expected operating ranges
10	Repeatability	No worse than ±3% of the set concentration
11	Flow calibration	Possibility of external flow verification/calibration
12	Zero gas	Clean air generator used (purity <0.1 ppb NO _x , SO ₂ , H ₂ S, CO; O ₃ <0.5 ppb)
13	Power supply	220 V, 50 Hz
14	Dimensions	For installation in a standard 19-inch rack
15	Interfaces	RS-232/485, Ethernet, remote control capability
16	Additional features	Automatic zero and span check; programmable calibration sequence

1.3 Calibration gases for stations

Analyzer	Required gases/materials	Note / Consumption
NO / NO ₂ / NO _x (No. 1)	<ul style="list-style-type: none"> • NO: 50 ppm in N₂ • NO₂: 40 ppm in synthetic air • Synthetic zero air 	1 cylinder of NO + NO ₂ per station
SO ₂ / H ₂ S (No. 2)	<ul style="list-style-type: none"> • SO₂: 50 ppm • H₂S: 10–20 ppm • Zero air 	1 set of gases per station
CO (No. 3)	<ul style="list-style-type: none"> • CO: 40–80 ppm in synthetic air • Zero air • CO mixture 80 ppm ±2% possible 	1 cylinder
O ₃ (No. 4)	<p>Ozone is generated by the calibrator, but the following is required:</p> <ul style="list-style-type: none"> • Certified synthetic air cylinder • A catalytic deozonator 	Synthetic air cylinder — 1 pc.
PM ₁₀ / PM _{2.5} / PM ₁ / TSP (No. 5)	<ul style="list-style-type: none"> • Reference filters • Set of reference weights • Reference flow meter ISO 17025 	One set per station
Black carbon (No. 6)	<ul style="list-style-type: none"> • Reference filters with known absorption • Reference calibration cards • Filters with standardized optical coefficient • Pure zero air • Reference flow meter 	One set per station

1.3.1 Additional mandatory elements

Element	Requirements / Characteristics
Pressure regulators	<ul style="list-style-type: none"> • Two-stage • Stainless steel • Compatibility with gases: NO, NO₂, SO₂, CO, H₂S
Hoses and fittings	<ul style="list-style-type: none"> • Material: Teflon (PTFE) • Length: ≤ 1.5 m from cylinder to calibrator
Automatic zero and span check system	<ul style="list-style-type: none"> • Automatic execution every 23–25 hours • Controlled via data acquisition system

Employer's responsibilities related to the provision of services

To provide services, Kyrgyzhydromet will ensure:

1. Access for the Supplier's personnel to all work sites (place of work) to carry out the work;
2. A set of measures to ensure the storage and safety of equipment at the work sites during the installation period.
3. Acceptance of delivered goods and their subsequent transfer to the Contractor for delivery to the installation sites.
4. Verification of the name, model, and quantity of the delivered Goods for compliance with the terms of the Contract and the shipping documentation.
5. Send specialists for training in accordance with the approved work schedule.
6. Determine the procedure for acceptance and the composition of acceptance commissions (delivery verification, autonomous and comprehensive acceptance tests) by order of Kyrgyzhydromet.
7. Provide training facilities for the Employer to organize the training process.
8. Obtain technical conditions for the supply of electricity to the ACM installation sites.
9. Submit all necessary letters and other documents when obtaining equipment certificates from state authorities.

Environmental and Social (ES) requirements

[Note to Employer: Notes under option 1 are intended for Projects with Project Concept Notes (PCN) Decision Notes dated after October 1, 2018.]

[OPTION 1]

[The Employer’s team preparing the ES requirements should include a suitably qualified Environmental and Social specialist/s.

In preparing detailed specifications for ES requirements the Borrower should refer to and consider the applicable environmental and social standards in the ESF including the specific requirements set out in the Environmental and Social Commitment Plan (ESCP), ESIA/ESA/ESMP, EHSGs and other GIIP as well as SEA and SH prevention and management obligations.

The ES requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract (and the corresponding Particular Conditions of Contract if any) and other parts of the specifications.

The following is a non-exhaustive list of Sub-Clauses of the Conditions of Contract that make reference to ES matters stated in the Specification.]

GCC	Sub-Clause/Clause	Remarks
9.10	<i>Training of Supplier’s Personnel</i>	<i>Specify, as appropriate, details of any training to relevant Contractor’s Personnel to be provided by the Employer’s Personnel on environmental and social aspects.</i>
20	<i>Design and Engineering</i>	State any: <ul style="list-style-type: none"> • applicable technical standards and requirements including to address: <ul style="list-style-type: none"> • climate change considerations, • universal access, • risks of the public’s potential exposure to operational accidents or natural hazards, including extreme weather events, applicable certification or approval requirements <p><i>[Refer to ESS4 on requirements for design]</i></p>

GCC	Sub-Clause/Clause	Remarks
22.2.4	<i>Rates of wages and conditions of labor</i>	<i>State any applicable requirement in accordance with the labor management procedure.</i>
22.2.6	<i>Facilities for Staff and Labor</i>	<i>Indicate if access to or provision of services that accommodate physical, social and cultural needs of Supplier's Personnel is required.</i>
22.8	<i>Security of the Site</i>	<i>State any requirements for the security arrangements (ESS4 of the ESF states the principles of proportionality, \ GIIIP and applicable Laws.) Include any other requirement set out in the ESCP.</i>
22.9	<i>Protection of the Environment</i>	<i>Specify any values for emissions, surface discharges, effluent and any other pollutants from the Supplier's activities that shall not be exceeded. The Supplier's MSIP/CESMP shall set out the measures the Contractor will take to ensure compliance with these limit values.</i>
22.11	<i>Cultural Heritage Findings</i>	<i>Specify other requirements if any in accordance with the ESF – ESS8</i>

Management and Safety of Hazardous Materials

As applicable, specify requirements for the management and safety of hazardous materials (see ESF - ESS4 para. 17 and 18 and relevant guidance notes).

Resource Efficiency and Pollution Prevention and Management

As applicable specify Resource Efficiency and Pollution Prevention and Management measures (see ESF -ESS3 and relevant guidance notes).

- **Resource efficiency**

The Employer shall specify, as applicable, measures for improving efficient consumption of energy, water and raw materials, as well as other resources.

- **Energy:** *specify any applicable measures to optimize energy usage.*
- **Water:** *specify any applicable measures that avoid or minimize water usage, to minimize significant adverse impacts on communities, other users and the environment. **Raw materials:** When the Facilities have been assessed to involve a potentially significant use of raw materials, specify any applicable measures to support efficient use of raw materials.*

- **Pollution prevention and management** (See also GCC Sub-Clause 22.9 and the table above)
 - **Management of air pollution:** specify any measure to avoid or minimize the air pollution.
 - **Management of hazardous and nonhazardous wastes:** specify any applicable measures to minimize the generation of waste, and reuse, recycle and recover waste in a manner that is safe for human health and the environment including storage, transportation and disposal of hazardous wastes.
 - **Management of chemicals and hazardous materials:** specify any applicable measures to minimize and control the release and use of hazardous materials.

- **Biodiversity Conservation and Sustainable Management of Living Natural Resources**

The Employer shall specify any applicable Biodiversity Conservation and Sustainable Management of Living Natural Resources (see ESF - ESS6 and relevant guidance notes).

- **Road Safety**
 - *State any specific traffic and road safety requirement, as applicable. See also GCC Sub-Clause 22.10. For details, refer to the Guidance Note on Road safety.*

Contractor's Representative and Key Personnel

Contractor's Representative and Key Personnel

Item No.	Position/specialization	Relevant academic qualifications	Minimum years of relevant work experience
1	Project Manager	<i>University degree in the relevant subject</i>	5
2	Metrology engineer	<i>University degree in the relevant subject</i>	5
3	Software Specialist	<i>University degree in the relevant subject</i>	5

Forms and Procedures

Form of Completion Certificate

Date: _____

Loan/Credit N°: _____

RFB N°: _____

To: _____

Dear Ladies and/or Gentlemen,

Pursuant to GCC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated _____, relating to the _____, we hereby notify you that the following part(s) of the Facilities was (were) complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said part(s) of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the Facilities or part thereof: _____
2. Date of Completion: _____

However, you are required to complete the outstanding items listed in the attachment hereto as soon as practicable.

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

Very truly yours,

Title

(Project Manager)

Form of Operational Acceptance Certificate

Date: _____

Loan/Credit N°: _____

RFB N°: _____

To: _____

Dear Ladies and/or Gentlemen,

Pursuant to GCC Sub-Clause 25.3 (Operational Acceptance) of the General Conditions of the Contract entered into between yourselves and the Employer dated _____, relating to the _____, we hereby notify you that the Functional Guarantees of the following part(s) of the Facilities were satisfactorily attained on the date specified below.

1. Description of the Facilities or part thereof: _____
2. Date of Operational Acceptance: _____

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

Very truly yours,

Title

(Project Manager)

Change Order Procedure and Forms

Date: _____

Loan/Credit N°: _____

RFB N°: _____

CONTENTS

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

ANNEXES

- Annex 1 Request for Change Proposal
- Annex 2 Estimate for Change Proposal
- Annex 3 Acceptance of Estimate
- Annex 4 Change Proposal
- Annex 5 Change Order
- Annex 6 Pending Agreement Change Order
- Annex 7 Application for Change Proposal

Change Order Procedure

1. General

This section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with GCC Clause 39 (Change in the Facilities) of the General Conditions.

2. Change Order Log

The Contractor shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Changes authorized or pending, as Annex 8. Entries of the Changes in the Change Order Log shall be made to ensure that the log is up-to-date. The Contractor shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Employer.

3. References for Changes

- (1) Request for Change as referred to in GCC Clause 39 shall be serially numbered CR-X-nnn.
- (2) Estimate for Change Proposal as referred to in GCC Clause 39 shall be serially numbered CN-X-nnn.
- (3) Acceptance of Estimate as referred to in GCC Clause 39 shall be serially numbered CA-X-nnn.
- (4) Change Proposal as referred to in GCC Clause 39 shall be serially numbered CP-X-nnn.
- (5) Change Order as referred to in GCC Clause 39 shall be serially numbered CO-X-nnn.

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

Home Office	CR-H-nnn
Site	CR-S-nnn

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

Annex 1. Request for Change Proposal

(Employer's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: _____

Dear Ladies and/or Gentlemen:

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

1. Title of Change: _____
2. Change Request No. _____
3. Originator of Change: Employer: _____
Contractor (by Application for Change Proposal No. _____¹²):
4. Brief Description of Change: _____
5. Facilities and/or Item No. of equipment related to the requested Change: _____
6. Reference drawings and/or technical documents for the request of Change:

<u>Drawing No./Document No.</u>	<u>Description</u>
---------------------------------	--------------------
7. Detailed conditions or special requirements on the requested Change: _____

8. General Terms and Conditions:

- (a) Please submit your estimate to us showing what effect the requested Change will have on the Contract Price.
- (b) Your estimate shall include your claim for the additional time, if any, for completion of the requested Change.
- (c) If you have any opinion negative to the adoption of the requested Change in connection with the conformability to the other provisions of the Contract or the safety of the Plant or Facilities, please inform us of your opinion in your proposal of revised provisions.
- (d) Any increase or decrease in the work of the Contractor relating to the services of its personnel shall be calculated.
- (e) You shall not proceed with the execution of the work for the requested Change until we have accepted and confirmed the amount and nature in writing.

(Employer’s Name)

(Signature)

(Name of signatory)

(Title of signatory)

Annex 2. Estimate for Change Proposal

(Contractor's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: _____

Dear Ladies and/or Gentlemen:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost of preparing the below-referenced Change Proposal in accordance with GCC Sub-Clause 39.2.1 of the General Conditions. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Sub-Clause 39.2.2, is required before estimating the cost for change work.

1. Title of Change: _____
2. Change Request No./Rev.: _____
3. Brief Description of Change: _____
4. Scheduled Impact of Change: _____
5. Cost for Preparation of Change Proposal: _____¹³

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

¹³ Costs shall be in the currencies of the Contract.

Total Cost (a) + (b) _____

(Contractor’s Name)

(Signature)

(Name of signatory)

(Title of signatory)

Annex 3. Acceptance of Estimate

(Employer's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: _____

Dear Ladies and/or Gentlemen:

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

1. Title of Change: _____
2. Change Request No./Rev.: _____
3. Estimate for Change Proposal No./Rev.: _____
4. Acceptance of Estimate No./Rev.: _____
5. Brief Description of Change: _____
6. Other Terms and Conditions: In the event that we decide not to order the Change accepted, you shall be entitled to compensation for the cost of preparation of Change Proposal described in your Estimate for Change Proposal mentioned in para. 3 above in accordance with GCC Clause 39 of the General Conditions.

(Employer's Name)

(Signature)

(Name and Title of signatory)

(Amount)

- (a) Direct material _____
- (b) Major construction equipment _____
- (c) Direct field labor (Total _____ hrs) _____
- (d) Subcontracts _____
- (e) Indirect material and labor _____
- (f) Site supervision _____
- (g) Head office technical staff salaries

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

- (h) Extraordinary costs (computer, travel, etc.) _____
- (i) Fee for general administration, _____ % of Items _____
- (j) Taxes and customs duties _____

Total lump sum cost of Change Proposal _____

(Sum of items (a) to (j))

Cost to prepare Estimate for Change Proposal _____

(Amount payable if Change is not accepted)

9. Additional time for Completion required due to Change Proposal
10. Effect on the Functional Guarantees
11. Effect on the other terms and conditions of the Contract
12. Validity of this Proposal: within [Number] days after receipt of this Proposal by the Employer

13. Other terms and conditions of this Change Proposal:

- (a) You are requested to notify us of your acceptance, comments or rejection of this detailed Change Proposal within _____ days from your receipt of this Proposal.
- (b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.
- (c) Contractor’s cost for preparation of this Change Proposal:²

(Contractor’s Name)

(Signature)

(Name of signatory)

(Title of signatory)

² Specify where necessary.

Annex 5. Change Order

(Employer's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: _____

Dear Ladies and/or Gentlemen:

We approve the Change Order for the work specified in the Change Proposal (No. _____), and agree to adjust the Contract Price, Time for Completion and/or other conditions of the Contract in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: _____

2. Change Request No./Rev.: _____

3. Change Order No./Rev.: _____

4. Originator of Change: Employer: _____

Contractor: _____

5. Authorized Price:

Ref. No.: _____ Date: _____

Foreign currency portion _____ plus Local currency portion _____

6. Adjustment of Time for Completion

None Increase _____ days Decrease _____ days

7. Other effects, if any

Authorized by: _____

Date: _____

(Employer)

Accepted by: _____

Date: _____

(Contractor)

Annex 6. Pending Agreement Change Order

(Employer's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: [_____

Dear Ladies and/or Gentlemen:

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: _____
2. Employer's Request for Change Proposal No./Rev.: _____ dated: _____
3. Contractor's Change Proposal No./Rev.: _____ dated: _____
4. Brief Description of Change: _____
5. Facilities and/or Item No. of equipment related to the requested Change:

6. Reference Drawings and/or technical documents for the requested Change:

Drawing/Document No.

Description

7. Adjustment of Time for Completion:
8. Other change in the Contract terms:
9. Other terms and conditions:

(Employer's Name)

(Signature)

(Name of signatory)

(Title of signatory)

Annex 7. Application for Change Proposal

(Contractor's Letterhead)

To: _____

Date: _____

Attention: _____

Contract Name: _____

Contract Number: _____

Dear Ladies and/or Gentlemen:

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

1. Title of Change: _____
2. Application for Change Proposal No./Rev.: _____ dated:

3. Brief Description of Change: _____
4. Reasons for Change:
5. Order of Magnitude Estimation (in the currencies of the Contract):
6. Scheduled Impact of Change:
7. Effect on Functional Guarantees, if any:
8. Appendix:

(Contractor's Name)

(Signature)

(Name of signatory)

(Title of signatory)

Drawings

Supplementary Information

PART 3 – Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract

Table of Clauses

A.	Contract and Interpretation	242
	1. Definitions	242
	2. Contract Documents	245
	3. Interpretation	245
	4. Communications	247
	5. Law and Language	247
	6. Fraud and Corruption	247
B.	Subject Matter of Contract	247
	7. Scope of Facilities	248
	8. Time for Commencement and Completion	248
	9. Contractor’s Responsibilities	249
	10. Employer’s Responsibilities	253
C.	Payment	254
	11. Contract Price	254
	12. Terms of Payment	254
	13. Securities	255
	14. Taxes and Duties	256
D.	Intellectual Property	257
	15. License/Use of Technical Information	257
	16. Confidential Information	257
E.	Execution of the Facilities	258
	17. Representatives	258
	18. Work Program	261
	19. Subcontracting	263

20. Design and Engineering	264
21. Procurement	266
22. Installation.....	267
23. Test and Inspection	279
24. Completion of the Facilities.....	281
25. Commissioning and Operational Acceptance	283
F. Guarantees and Liabilities	286
26. Completion Time Guarantee.....	286
27. Defect Liability	287
28. Functional Guarantees	289
29. Patent Indemnity	290
30. Limitation of Liability	291
G. Risk Distribution	291
31. Transfer of Ownership	291
32. Care of Facilities.....	292
33. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification	293
34. Insurance	294
35. Unforeseen Conditions	296
36. Change in Laws and Regulations	298
37. Force Majeure	298
38. War Risks	299
H. Change in Contract Elements	301
39. Change in the Facilities	301
40. Extension of Time for Completion	305
41. Suspension	306
42. Termination.....	307
43. Assignment	313
44. Export Restrictions.....	314
I. Claims, Disputes and Arbitration	314

45. Contractor’s Claims 314
46. Disputes and Arbitration 316
47. Cyber Security..... 319

General Conditions of Contract

A. Contract and Interpretation

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

“**Contract**” means the Contract Agreement entered into between the Employer and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term “the Contract” shall in all such documents be construed accordingly.

“**Contract Documents**” means the documents listed in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments thereto).

“**GCC**” means the General Conditions of Contract hereof.

“**PCC**” means the Particular Conditions of Contract.

“**day**” means calendar day.

“**year**” means 365 days.

“**month**” means calendar month.

“**Party**” means the Employer or the Contractor, as the context requires, and “**Parties**” means both of them.

“**Employer**” means the person **named as such in the PCC** and includes the legal successors or permitted assigns of the Employer.

“**Project Manager**” means the person appointed by the Employer in the manner provided in GCC Sub-Clause 17.1 (Project Manager) hereof and **named as such in the PCC** to perform the duties delegated by the Employer.

“**Contractor**” means the person(s) whose Bid to perform the Contract has been accepted by the Employer and is named as Contractor in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.

“**Contractor’s Representative**” means any person nominated by the Contractor and approved by the Employer in the manner provided in GCC Sub-Clause 17.2 (Contractor’s Representative and Construction Manager) hereof to perform the duties delegated by the Contractor.

“**Construction Manager**” means the person appointed by the Contractor’s Representative in the manner provided in GCC Sub-Clause 17.2.4.

“**Subcontractor,**” including manufacturers, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant, is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.

“Dispute Board” (DB) means the person or persons named as such in the PCC appointed by agreement between the Employer and the Contractor to make a decision with respect to any dispute or difference between the Employer and the Contractor referred to him or her by the Parties pursuant to GCC Sub-Clause 46.1 (Dispute Board) hereof.

“The Bank” means the financing institution **named in the PCC.**

“Contract Price” means the sum specified in Article 2.1 (Contract Price) of the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.

“Facilities” means the Plant to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor under the Contract.

“Plant” means permanent plant, equipment, machinery, apparatus, materials, articles and things of all kinds to be provided and incorporated in the Facilities by the Contractor under the Contract (including the spare parts to be supplied by the Contractor under GCC Sub-Clause 7.3 hereof), but does not include Contractor’s Equipment.

“Installation Services” means all those services ancillary to the supply of the Plant for the Facilities, to be provided by the Contractor under the Contract, such as transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor’s Equipment and the supply of all construction materials required), installation, testing, precommissioning, commissioning, operations, maintenance, the provision of operations and maintenance manuals, training, etc... as the case may require.

“Contractor’s Equipment” means all facilities, equipment, machinery, tools, apparatus, appliances or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Contractor, but does not include Plant, or other things intended to form or forming part of the Facilities.

“Country of Origin” means the countries and territories eligible under the rules of the Bank as further **elaborated in the PCC.**

“Site” means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site.

“Effective Date” means the date of fulfillment of all conditions stated in Article 3 (Effective Date) of the Contract Agreement, from which the Time for Completion shall be counted.

“Time for Completion” means the time within which Completion of the Facilities as a whole (or of a part of the Facilities where a separate Time for Completion of such part has been prescribed) is to be attained, as referred to in GCC Clause 8 and in accordance with the relevant provisions of the Contract.

“Completion” means that the Facilities (or a specific part thereof where specific parts are specified in the Contract) have been completed operationally and structurally and put in a tight and clean condition, that all work in respect of Precommissioning of the Facilities or such specific part thereof has been completed, and that the Facilities or specific part thereof are ready for Commissioning as provided in GCC Clause 24 (Completion) hereof.

“Precommissioning” means the testing, checking and other requirements specified in the Employer’s Requirements that are to be carried out by the Contractor in preparation for Commissioning as provided in GCC Clause 24 (Completion) hereof.

“Commissioning” means operation of the Facilities or any part thereof by the Contractor following Completion, which operation is to be carried out by the Contractor as provided in GCC Sub-Clause 25.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s).

“Guarantee Test(s)” means the test(s) specified in the Employer’s Requirements to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees specified in the Appendix to the Contract Agreement titled Functional Guarantees, in accordance with the provisions of GCC Sub-Clause 25.2 (Guarantee Test) hereof.

“Operational Acceptance” means the acceptance by the Employer of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor’s fulfillment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of GCC Clause 28 (Functional Guarantees) hereof and shall include deemed acceptance in accordance with GCC Clause 25 (Commissioning and Operational Acceptance) hereof.

“Defect Liability Period” means the period of validity of the warranties given by the Contractor commencing at Completion of the Facilities or a part thereof, during which the Contractor is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in GCC Clause 27 (Defect Liability) hereof.

“ES” means Environmental and Social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)).

“Sexual Exploitation and Abuse” “(SEA)” means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

“Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s Personnel or Employer’s Personnel.

“Contractor’s Personnel” means all personnel whom the Contractor utilizes in the execution of the Contract, including the staff, labor and other employees of the Contractor and each Subcontractor; and any other personnel assisting the Contractor in the execution of the Contract; and

“Employer’s Personnel” means all staff, labor and other employees of the Project Manager and of the Employer engaged in fulfilling the Employer’s obligations under the Contract; and any other personnel identified as Employer’s Personnel, by a notice from the Employer to the Contractor.

- 2. Contract Documents** 2.1 Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.
- 3. Interpretation** 3.1 In the Contract, except where the context requires otherwise:
- (a) words indicating one gender include all genders;
 - (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
 - (c) provisions including the word “agree,” “agreed,” or “agreement” require the agreement to be recorded in writing;
 - (d) the word “tender” is synonymous with “Bid,” “tenderer,” with “Bidder,” and “tender documents” with “Bidding Document,” and
 - (e) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
- The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.
- 3.2 Incoterms
- Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of Parties thereunder shall be as prescribed by *Incoterms*.

Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1^{er}, 75008 Paris, France.

3.3 Entire Agreement

Subject to GCC Sub-Clause 16.4 hereof, the Contract constitutes the entire agreement between the Employer and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations and agreements (whether written or oral) of Parties with respect thereto made prior to the date of Contract.

3.4 Amendment

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

3.5 Independent Contractor

The Contractor shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture or other joint relationship between the Parties hereto. Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives or Subcontractors and the Employer.

3.6 Non-Waiver

3.6.1 Subject to GCC Sub-Clause 3.6.2 below, no relaxation, forbearance, delay or indulgence by either Party in enforcing any of the terms and conditions of the Contract or the granting of time by either Party to the other shall prejudice, affect or restrict the rights of that Party under the Contract, nor shall any waiver by either Party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.6.2 Any waiver of a Party's rights, powers or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the Party granting such waiver, and must specify the right and the extent to which it is being waived.

3.7 Severability

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

3.8 Country of Origin

“Origin” means the place where the plant and component parts thereof are mined, grown, produced or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially different in its basic characteristics or in purpose or utility from its components.

4. **Communications**

4.1 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

- (a) in writing and delivered against receipt; and
- (b) delivered, sent or transmitted to the address for the recipient’s communications as stated in the Contract Agreement.

When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Project Manager, a copy shall be sent to the Project Manager or the other Party, as the case may be.

5. **Law and Language**

5.1 The Contract shall be governed by and interpreted in accordance with laws of the country **specified in the PCC**.

5.2 The ruling language of the Contract shall be that **stated in the PCC**.

5.3 The language for communications shall be the ruling language unless otherwise **stated in the PCC**.

6. **Fraud and Corruption**

6.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Appendix B to the GCC.

6.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Subject Matter of Contract

7. Scope of Facilities

- 7.1 Unless otherwise expressly limited in the Employer's Requirements, the Contractor's obligations cover the provision of all Plant and the performance of all Installation Services required for the design, and the manufacture (including procurement, quality assurance, construction, installation, associated civil works, Precommissioning and delivery) of the Plant, and the installation, completion and commissioning of the Facilities in accordance with the plans, procedures, specifications, drawings, codes and any other documents as specified in the Section, Employer's Requirements. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labor, materials, equipment, spare parts (as specified in GCC Sub-Clause 7.3 below) and accessories; Contractor's Equipment; construction utilities and supplies; temporary materials, structures and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works and services that will be provided or performed by the Employer, as set forth in the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer.
- 7.2 The Contractor shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Completion of the Facilities as if such work and/or items and materials were expressly mentioned in the Contract.
- 7.3 In addition to the supply of Mandatory Spare Parts included in the Contract, the Contractor agrees to supply spare parts required for the operation and maintenance of the Facilities for the period **specified in the PCC** and the provisions, if any, **specified in the PCC**. However, the identity, specifications and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the Employer and the Contractor, and the price of such spare parts shall be that given in Price Schedule No. 6, which shall be added to the Contract Price. The price of such spare parts shall include the purchase price therefor and other costs and expenses (including the Contractor's fees) relating to the supply of spare parts.

8. Time for Commencement and Completion

- 8.1 The Contractor shall commence work on the Facilities within the period **specified in the PCC** and without prejudice to GCC Sub-Clauses 9.9 and 26.2 hereof, the Contractor shall thereafter proceed with the Facilities in accordance with the time schedule specified in the Appendix to the Contract Agreement titled Time Schedule.
- 8.2 The Contractor shall attain Completion of the Facilities or of a part where a separate time for Completion of such part is specified in the Contract, within the time **stated in the PCC** or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.

9. Contractor's Responsibilities

- 9.1 The Contractor shall design, manufacture including associated purchases and/or subcontracting, install and complete the Facilities in accordance with the Contract. When completed, the Facilities should be fit for the purposes for which they are intended as defined in the Contract.
- 9.2 The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities including any data as to boring tests provided by the Employer, and on the basis of information that the Contractor could have obtained from a visual inspection of the Site if access thereto was available and of other data readily available to it relating to the Facilities as of the date twenty-eight (28) days prior to Bid submission. The Contractor acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Facilities.
- 9.3 The Contractor shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's Personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals and/or licenses that are not the responsibility of the Employer under GCC Sub-Clause 10.3 hereof and that are necessary for the performance of the Contract.
- 9.4 The Contractor shall comply with all laws in force in the country where the Facilities are to be implemented. The laws will include all local, state, national or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC Sub-Clause 10.1 hereof.
- 9.5 Any Plant and Installation Services that will be incorporated in or be required for the Facilities and other supplies shall have their origin as specified under GCC Clause 1 (Country of Origin). Any subcontractors retained by the Contractor shall be from a country as specified in GCC Clause 1 (Country of Origin).
- 9.6 If the Contractor is a joint venture, or association (JV) of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfillment of the provisions of the Contract, and shall designate one of such persons to act as a leader with authority to bind the JV. The composition or the constitution of the JV shall not be altered without the prior consent of the Employer.

9.7 Pursuant to paragraph 2.2 e. of Appendix B to the General Conditions the Contractor shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 6.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

9.8 The Contractor shall conform to the sustainable procurement contractual provisions, if and as specified in the PCC.

9.9 Contractor's Environmental and Social Management Plan (C-ESMP)

The Contractor shall not carry out mobilization to Site unless the Project Manager gives approval, an approval that shall not be unreasonably delayed, to the measures the Contractor proposes to address environmental and social risks and impacts including the code of conduct, in accordance with GCC Sub-Clause 22.4.

The Contractor shall submit, to the Project Manager for Review, any additional Management Strategies and Implementation Plans as are necessary to manage the ES risks and impacts of the Facilities. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP).

The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Facilities. The updated C-ESMP shall be submitted to the Project Manager for its approval.

9.10 Training of Contractor's Personnel

The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and health and safety training referred to in GCC Sub-Clause 22.2.7.

As stated in the Employer's Requirements or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's personnel and/or other personnel assigned by the Employer.

9.11 Stakeholder engagements

The Contractor shall provide relevant contract-related information, as the Employer and/or Project Manager may reasonably request to conduct

contract stakeholder engagement. “Stakeholder” refers to individuals or groups who:

- (a) are affected or likely to be affected by the Contract; and
- (b) may have an interest in the Contract.

The Contractor may also directly participate in contract stakeholder engagements, as the Employer and/or Project Manager may reasonably request.

9.12 Forced Labor

The Contractor, including its Subcontractors, shall not employ or engage forced labour. Forced labour consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

The Contractor shall also take measures to require its suppliers (other than Subcontractors) not to employ or engage forced labour including trafficked persons. If forced labour/trafficking cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

9.13 Child Labor

The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child’s education, or to be harmful to the child’s health or physical, mental, spiritual, moral, or social development.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Engineer’s consent. The Contractor shall be subject to regular monitoring by the

Project Manager that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

The Contractor shall also take measures to require its suppliers (other than Subcontractors) not to employ or engage child labor. If child labor cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

9.14 Serious Safety Issues

The Contractor, including its Subcontractors, shall comply with all applicable safety obligations. The Contractor shall also take measures to require its suppliers (other than Subcontractors) to adopt procedures and mitigation measures adequate to address safety issues related to their personnel. If serious safety issues are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

9.15 Obtaining natural resource materials

The Contractor shall obtain natural resource materials from suppliers that can demonstrate, through compliance with the applicable verification and/ or certification requirements, that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats such as unsustainably harvested wood products, gravel or sand extraction from riverbeds or beaches.

If a supplier cannot continue to demonstrate that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to

demonstrate that they are not significantly adversely impacting the habitats.

9.16 Site Signage

The Contractor shall not post and shall ensure that its Subcontractors/suppliers/manufacturers and Contractors' Personnel shall not post, any signage on the Site, or in any other place where the Works will be carried out, except such signage as is required under the Contract, including by the Laws of the Country, or has been approved by the Employer. For the purposes of this sub-clause, signage shall include, inter alia, flags, billboards, advertising materials and any other similar item separately posted on the Site.

10. Employer's Responsibilities

- 10.1 All information and/or data to be supplied by the Employer as described in the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer, shall be deemed to be accurate, except when the Employer expressly states otherwise.
- 10.2 The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.
- 10.3 The Employer shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which (a) such authorities or undertakings require the Employer to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer).
- 10.4 If requested by the Contractor, the Employer shall use its best endeavors to assist the Contractor in obtaining in a timely and expeditious manner all permits, approvals and/or licenses necessary for the execution of the Contract from all local, state or national government authorities or public service undertakings that such authorities or undertakings require the Contractor or Subcontractors or the personnel of the Contractor or Subcontractors, as the case may be, to obtain.
- 10.5 Unless otherwise specified in the Contract or agreed upon by the Employer and the Contractor, the Employer shall provide sufficient, properly qualified operating and maintenance personnel; shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts,

other materials and facilities; and shall perform all work and services of whatsoever nature, including those required by the Contractor to properly carry out Precommissioning, Commissioning and Guarantee Tests, all in accordance with the provisions of the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer, at or before the time specified in the program furnished by the Contractor under GCC Sub-Clause 18.2 hereof and in the manner thereupon specified or as otherwise agreed upon by the Employer and the Contractor.

- 10.6 The Employer shall be responsible for the continued operation of the Facilities after Completion, in accordance with GCC Sub-Clause 24.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC Sub-Clause 25.2.
- 10.7 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Employer, save those to be incurred by the Contractor with respect to the performance of Guarantee Tests, in accordance with GCC Sub-Clause 25.2.
- 10.8 In the event that the Employer shall be in breach of any of his obligations under this Clause, the additional cost incurred by the Contractor in consequence thereof shall be determined by the Project Manager and added to the Contract Price.

C. Payment

11. Contract Price

- 11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.
- 11.2 Unless an adjustment clause is **provided for in the PCC**, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the Facilities or as otherwise provided in the Contract.
- 11.3 Subject to GCC Sub-Clauses 9.2, 10.1 and 35 hereof, the Contractor shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

12. Terms of Payment

- 12.1 The Contract Price shall be paid as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement and in the Appendix to the Contract Agreement titled Terms and Procedures of Payment, which also outlines the procedures to be followed in making application for and processing payments.
- 12.2 No payment made by the Employer herein shall be deemed to constitute acceptance by the Employer of the Facilities or any part(s) thereof.

- 12.3 In the event that the Employer fails to make any payment by its respective due date or within the period set forth in the Contract, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the rate(s) shown in the Appendix to the Contract Agreement titled Terms and Procedures of Payment, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 12.4 The currency or currencies in which payments are made to the Contractor under this Contract shall be specified in the Appendix to the Contract Agreement titled Terms and Procedures of Payment, subject to the general principle that payments will be made in the currency or currencies in which the Contract Price has been stated in the Contractor's Bid.
- 12.5 **As specified in the PCC**, if the Contractor fails to perform its cyber security obligations under the Contract, an assessed amount, as determined by the Project Manager, may be withheld until the obligation has been performed.

13. Securities

13.1 Issuance of Securities

The Contractor shall provide the securities specified below in favor of the Employer at the times, and in the amount, manner and form specified below.

13.2 Advance Payment Security

13.2.1 The Contractor shall, within twenty-eight (28) days of the notification of contract award, provide a security in an amount equal to the advance payment calculated in accordance with the Appendix to the Contract Agreement titled Terms and Procedures of Payment, and in the same currency or currencies.

13.2.2 The security shall be in the form provided in the Bidding documents or in another form acceptable to the Employer. The amount of the security shall be reduced in proportion to the value of the Facilities executed by and paid to the Contractor from time to time, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. The security shall be returned to the Contractor immediately after its expiration.

13.3 Performance Security

13.3.1 The Contractor shall, within twenty-eight (28) days of the notification of contract award, provide a security for the due performance of the Contract in the amount **specified in the PCC**.

13.3.2 The Performance Security shall be denominated in the currency or currencies of the Contract, or in a freely convertible currency acceptable to the Employer, and shall be in the form provided in Section X, Contract Forms, corresponding to the type of bank

guarantee stipulated by the Employer in the PCC, or in another form acceptable to the Employer.

13.3.3 Unless otherwise specified in the PCC, the security shall be reduced by half on the date of the Operational Acceptance. The Security shall become null and void, or shall be reduced pro rata to the Contract Price of a part of the Facilities for which a separate Time for Completion is provided, five hundred and forty (540) days after Completion of the Facilities or three hundred and sixty five (365) days after Operational Acceptance of the Facilities, whichever occurs first; provided, however, that if the Defects Liability Period has been extended on any part of the Facilities pursuant to GCC Sub-Clause 27.8 hereof, the Contractor shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Contractor immediately after its expiration, provided, however, that if the Contractor, pursuant to GCC Sub-Clause 27.10, is liable for an extended defect liability obligation, the Performance Security shall be extended for the period specified in the PCC pursuant to GCC Sub-Clause 27.10 and up to the amount specified in the PCC.

13.3.4 The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract. The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.

- 14. Taxes and Duties**
- 14.1 Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the country where the Site is located.
- 14.2 Notwithstanding GCC Sub-Clause 14.1 above, the Employer shall bear and promptly pay
- (a) all customs and import duties for the Plant specified in Price Schedule No. 1; and
 - (b) other domestic taxes such as, sales tax and value added tax (VAT) on the Plant specified in Price Schedules No. 1 and No. 2 and that is to be incorporated into the Facilities, and on the finished goods, imposed by the law of the country where the Site is located.
- 14.3 If any tax exemptions, reductions, allowances or privileges may be available to the Contractor in the country where the Site is located, the

Employer shall use its best endeavors to enable the Contractor to benefit from any such tax savings to the maximum allowable extent.

- 14.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies and charges prevailing at the date twenty-eight (28) days prior to the date of Bid submission in the country where the Site is located (hereinafter called “Tax” in this GCC Sub-Clause 14.4). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Contractor, Subcontractors or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction therefrom, as the case may be, in accordance with GCC Clause 36 hereof.

D. Intellectual Property

15. License/Use of Technical Information

- 15.1 For the operation and maintenance of the Plant, the Contractor hereby grants a non-exclusive and non-transferable license (without the right to sub-license) to the Employer under the patents, utility models or other industrial property rights owned by the Contractor or by a third Party from whom the Contractor has received the right to grant licenses thereunder, and shall also grant to the Employer a non-exclusive and non-transferable right (without the right to sub-license) to use the know-how and other technical information disclosed to the Employer under the Contract. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, know-how or other intellectual property right from the Contractor or any third Party to the Employer.
- 15.2 The copyright in all drawings, documents and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the Employer directly or through the Contractor by any third Party, including suppliers of materials, the copyright in such materials shall remain vested in such third Party.

16. Confidential Information

- 16.1 The Employer and the Contractor shall keep confidential and shall not, without the written consent of the other Party hereto, divulge to any third Party any documents, data or other information furnished directly or indirectly by the other Party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and

other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this GCC Clause 16.

- 16.2 The Employer shall not use such documents, data and other information received from the Contractor for any purpose other than the operation and maintenance of the Facilities. Similarly, the Contractor shall not use such documents, data and other information received from the Employer for any purpose other than the design, procurement of Plant, construction or such other work and services as are required for the performance of the Contract.
- 16.3 The obligation of a Party under GCC Sub-Clauses 16.1 and 16.2 above, however, shall not apply to that information which
- (a) now or hereafter enters the public domain through no fault of that Party
 - (b) can be proven to have been possessed by that Party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other Party hereto
 - (c) otherwise lawfully becomes available to that Party from a third Party that has no obligation of confidentiality
 - (d) is being provided to the Bank.
- 16.4 The above provisions of this GCC Clause 16 shall not in any way modify any undertaking of confidentiality given by either of the Parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.
- 16.5 The provisions of this GCC Clause 16 shall survive termination, for whatever reason, of the Contract.

E. Execution of the Facilities

17. Representatives

17.1 Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the Employer shall appoint and notify the Contractor in writing of the name of the Project Manager. The Employer may from time to time appoint some other person as the Project Manager in place of the person previously so appointed, and shall give a notice of the name of such other person to the Contractor without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the Facilities. Such appointment shall only take effect upon receipt of such notice by the Contractor. The Project Manager shall represent and act for the Employer at all times during the performance of the Contract. All

notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Project Manager, except as herein otherwise provided.

All notices, instructions, information and other communications given by the Contractor to the Employer under the Contract shall be given to the Project Manager, except as herein otherwise provided.

17.2 Contractor's Representative & Construction Manager

17.2.1 If the Contractor's Representative is not named in the Contract, then within fourteen (14) days of the Effective Date, the Contractor shall appoint the Contractor's Representative and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within fourteen (14) days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within fourteen (14) days giving the reason therefor, then the Contractor shall appoint a replacement within fourteen (14) days of such objection, and the foregoing provisions of this GCC Sub-Clause 17.2.1 shall apply thereto.

17.2.2 The Contractor's Representative shall represent and act for the Contractor at all times during the performance of the Contract and shall give to the Project Manager all the Contractor's notices, instructions, information and all other communications under the Contract.

All notices, instructions, information and all other communications given by the Employer or the Project Manager to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided.

The Contractor shall not revoke the appointment of the Contractor's Representative without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in GCC Sub-Clause 17.2.1.

17.2.3 The Contractor's Representative may, subject to the approval of the Employer which shall not be unreasonably withheld, at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Contractor's Representative, and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or

revocation shall take effect unless and until a copy thereof has been delivered to the Employer and the Project Manager.

Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC Sub-Clause 17.2.3 shall be deemed to be an act or exercise by the Contractor's Representative.

17.2.4 From the commencement of installation of the Facilities at the Site until Completion, the Contractor's Representative shall appoint a suitable person as the Construction Manager. The Construction Manager shall supervise all work done at the Site by the Contractor and shall be present at the Site throughout normal working hours except when on leave, sick or absent for reasons connected with the proper performance of the Contract. Whenever the Construction Manager is absent from the Site, a suitable person shall be appointed to act as the Construction Manager's deputy.

17.2.5 The Project Manager may require the Contractor to remove (or cause to be removed) the Contractor's Representative or any other person employed by the Contractor in the execution of the Contract, who:

- (a) persists in any misconduct or lack of care;
- (b) carries out duties incompetently or negligently;
- (c) fails to comply with any provision of the Contract;
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
- (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Contract;
- (f) has been recruited from the Employer's Personnel in breach of GCC Sub-Clause 22.2.2;
- (g) undertakes behaviour which breaches the Code of Conduct (ES), as applicable;

If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience.

Notwithstanding any requirement from the Project Manager to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Contract is being executed, any Contractor's

Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above..

- 17.2.6 If any representative or person employed by the Contractor is removed in accordance with GCC Sub-Clause 17.2.5, the Contractor shall, where required, promptly appoint a suitable replacement with equivalent skills and experience.

18. Work Program

18.1 Contractor's Organization

The Contractor shall supply to the Employer and the Project Manager a chart showing the proposed organization to be established by the Contractor for carrying out work on the Facilities within twenty-one (21) days of the Effective Date. The chart shall include the identities of the key personnel and the curricula vitae of such key personnel to be employed shall be supplied together with the chart. The Contractor shall promptly inform the Employer and the Project Manager in writing of any revision or alteration of such an organization chart.

18.2 Program of Performance

Within twenty-eight (28) days after the Effective Date, the Contractor shall submit to the Project Manager a detailed program of performance of the Contract, made in a form acceptable to the Project Manager and showing the sequence in which it proposes to design, manufacture, transport, assemble, install and precommission the Facilities, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the program and to achieve Completion, Commissioning and Acceptance of the Facilities in accordance with the Contract. The program so submitted by the Contractor shall accord with the Time Schedule included in the Appendix to the Contract Agreement titled Time Schedule, and any other dates and periods specified in the Contract. The Contractor shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the Times for Completion specified in the PCC pursuant to Sub-Clause 8.2 and any extension granted in accordance with GCC Clause 40, and shall submit all such revisions to the Project Manager.

18.3 Progress Report

The Contractor shall monitor progress of all the activities specified in the program referred to in GCC Sub-Clause 18.2 above, and supply a progress report to the Project Manager every month.

The progress report shall be in a form acceptable to the Project Manager and shall indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken.

Unless otherwise stated in the Employer's Requirements, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix C.

If stated in the PCC, progress report shall include status of compliance to cyber security risks management, and any foreseeable cyber security risk and mitigation.

In addition to the progress reports, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; any cyber security incidents **as specified in the PCC**; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Facilities which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager.

The Contractor shall require its Subcontractors and suppliers to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.

18.4 Progress of Performance

If at any time the Contractor's actual progress falls behind the program referred to in GCC Sub-Clause 18.2, or it becomes apparent that it will so fall behind, the Contractor shall, at the request of the Employer or the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under GCC Sub-Clause 8.2, any extension thereof entitled under GCC Sub-Clause 40.1, or any extended period as may otherwise be agreed upon between the Employer and the Contractor.

18.5 Procedures

The Contract shall be executed in accordance with the Contract Documents including the procedures given in the Forms and Procedures of the Employer's Requirements.

The Contractor may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.

19. Subcontracting

- 19.1 The Appendix to the Contract Agreement titled List of Major Items of Plant and Installation Services and List of Approved Subcontractors, specifies major items of supply or services and a list of approved Subcontractors against each item, including manufacturers. Insofar as no Subcontractors are listed against any such item, the Contractor shall prepare a list of Subcontractors for such item for inclusion in such list. The Contractor may from time to time propose any addition to or deletion from any such list. The Contractor shall submit any such list or any modification thereto to the Employer for its approval in sufficient time so as not to impede the progress of work on the Facilities. Submission by the Contractor, for addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix D- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration. Approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties or responsibilities under the Contract.
- 19.2 The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC Sub-Clause 19.1.
- 19.3 For items or parts of the Facilities not specified in the Appendix to the Contract Agreement titled List of Major Items of Plant and Installation Services and List of Approved Subcontractors, the Contractor may employ such Subcontractors as it may select, at its discretion.
- 19.4 Each sub-contract shall include provisions which would entitle the Employer to require the sub-contract to be assigned to the Employer under GCC 19.5 (if and when applicable), or in event of termination by the Employer under GCC 42.2.
- 19.5 If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Liability Period and the Project Manager, prior to that date, instructs the Contractor to assign the benefits of such obligations to the Employer, then the Contractor shall do so.
- 19.6 The Contractor shall ensure that its Subcontractors execute the Facilities in accordance with the Contract, including complying with the relevant ES requirements and the obligations set out in GCC Sub-Clause 22.4.

20. Design and Engineering**20.1 Specifications and Drawings**

- 20.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice.

The Contractor shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer.

- 20.1.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.

20.2 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of Bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied subject to approval by the Employer and shall be treated in accordance with GCC Clause 39.

20.3 Approval/Review of Technical Documents by Project Manager

- 20.3.1 The Contractor shall prepare or cause its Subcontractors to prepare, and furnish to the Project Manager the documents listed in the Appendix to the Contract Agreement titled List of Documents for Approval or Review, for its approval or review as specified and in accordance with the requirements of GCC Sub-Clause 18.2 (Program of Performance).

Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.

GCC Sub-Clauses 20.3.2 through 20.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

- 20.3.2 Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Sub-Clause 20.3.1, the Project Manager shall either return one copy thereof to the Contractor with its

approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefor and the modifications that the Project Manager proposes.

If the Project Manager fails to take such action within the said fourteen (14) days, then the said document shall be deemed to have been approved by the Project Manager.

- 20.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with the Contract or that it is contrary to good engineering practice.
- 20.3.4 If the Project Manager disapproves the document, the Contractor shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Sub-Clause 20.3.2. If the Project Manager approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved.
- 20.3.5 If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the Parties within a reasonable period, then such dispute or difference may be referred to a Dispute Board for determination in accordance with GCC Sub-Clause 46.1 hereof. If such dispute or difference is referred to a Dispute Board, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Contractor shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Dispute Board upholds the Contractor's view on the dispute and if the Employer has not given notice under GCC Sub-Clause 46.3 hereof, then the Contractor shall be reimbursed by the Employer for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Dispute Board shall decide, and the Time for Completion shall be extended accordingly.
- 20.3.6 The Project Manager's approval, with or without modification of the document furnished by the Contractor, shall not relieve the Contractor of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager.
- 20.3.7 The Contractor shall not depart from any approved document unless the Contractor has first submitted to the Project Manager an amended document and obtained the Project Manager's

approval thereof, pursuant to the provisions of this GCC Sub-Clause 20.3.

If the Project Manager requests any change in any already approved document and/or in any document based thereon, the provisions of GCC Clause 39 shall apply to such request.

21. Procurement

21.1 Plant

Subject to GCC Sub-Clause 14.2, the Contractor shall procure and transport all Plant in an expeditious and orderly manner to the Site.

21.2 Employer-Supplied Plant

If the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer, provides that the Employer shall furnish any specific items to the Contractor, the following provisions shall apply:

21.2.1 The Employer shall, at its own risk and expense, transport each item to the place on or near the Site as agreed upon by the Parties and make such item available to the Contractor at the time specified in the program furnished by the Contractor, pursuant to GCC Sub-Clause 18.2, unless otherwise mutually agreed.

21.2.2 Upon receipt of such item, the Contractor shall inspect the same visually and notify the Project Manager of any detected shortage, defect or default. The Employer shall immediately remedy any shortage, defect or default, or the Contractor shall, if practicable and possible, at the request of the Employer, remedy such shortage, defect or default at the Employer's cost and expense. After inspection, such item shall fall under the care, custody and control of the Contractor. The provision of this GCC Sub-Clause 21.2.2 shall apply to any item supplied to remedy any such shortage or default or to substitute for any defective item, or shall apply to defective items that have been repaired.

21.2.3 The foregoing responsibilities of the Contractor and its obligations of care, custody and control shall not relieve the Employer of liability for any undetected shortage, defect or default, nor place the Contractor under any liability for any such shortage, defect or default whether under GCC Clause 27 or under any other provision of Contract.

21.3 Transportation

21.3.1 The Contractor shall at its own risk and expense transport all the materials and the Contractor's Equipment to the Site by the mode of transport that the Contractor judges most suitable under all the circumstances.

- 21.3.2 Unless otherwise provided in the Contract, the Contractor shall be entitled to select any safe mode of transport operated by any person to carry the materials and the Contractor's Equipment.
- 21.3.3 Upon dispatch of each shipment of materials and the Contractor's Equipment, the Contractor shall notify the Employer by telex, cable, facsimile or electronic means, of the description of the materials and of the Contractor's Equipment, the point and means of dispatch, and the estimated time and point of arrival in the country where the Site is located, if applicable, and at the Site. The Contractor shall furnish the Employer with relevant shipping documents to be agreed upon between the Parties.
- 21.3.4 The Contractor shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the materials and the Contractor's Equipment to the Site. The Employer shall use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining such approvals, if requested by the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any claim for damage to roads, bridges or any other traffic facilities that may be caused by the transport of the materials and the Contractor's Equipment to the Site.

21.4 Customs Clearance

The Contractor shall, at its own expense, handle all imported materials and Contractor's Equipment at the point(s) of import and shall handle any formalities for customs clearance, subject to the Employer's obligations under GCC Sub-Clause 14.2, provided that if applicable laws or regulations require any application or act to be made by or in the name of the Employer, the Employer shall take all necessary steps to comply with such laws or regulations. In the event of delays in customs clearance that are not the fault of the Contractor, the Contractor shall be entitled to an extension in the Time for Completion, pursuant to GCC Clause 40.

22. Installation

22.1 Setting Out/Supervision

- 22.1.1 **Bench Mark:** The Contractor shall be responsible for the true and proper setting-out of the Facilities in relation to bench marks, reference marks and lines provided to it in writing by or on behalf of the Employer.

If, at any time during the progress of installation of the Facilities, any error shall appear in the position, level or alignment of the Facilities, the Contractor shall forthwith notify the Project Manager of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Project Manager. If such error is based on incorrect data

provided in writing by or on behalf of the Employer, the expense of rectifying the same shall be borne by the Employer.

22.1.2 Contractor's Supervision: The Contractor shall give or provide all necessary superintendence during the installation of the Facilities, and the Construction Manager or its deputy shall be constantly on the Site to provide full-time superintendence of the installation. The Contractor shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand.

22.2 Labor:

22.2.1 Engagement of Staff and Labor

Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, housing, feeding and transport.

The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labor that has the necessary skills.

The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national or government permission required for bringing in the Contractor's Personnel.

The Contractor shall at its own expense provide the means of repatriation to all of its Contractor's Personnel employed for the execution of the Contract at the Site or other places where the Installation Services are carried out to the place where they were recruited or to their domicile. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.

The Contractor shall provide Contractor's Personnel employed for the execution of the Contract at the Site or other places where the Installation Services are carried out, relevant information and

documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labor laws applicable to the Contractor's Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Employer's Requirements. The Contractor's Personnel shall be informed when any material changes to their terms or conditions of employment occur.

22.2.2 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.

22.2.3 Labor Laws

The Contractor shall comply with all the relevant labor laws applicable to the Contractor's Personnel, including laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst its employees and the labor of its Subcontractors.

The Contractor shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor.

22.2.4 Rates of Wages and Conditions of Labor

The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

The Contractor shall inform the Contractor's Personnel about:

- (a) any deduction to their payment and the conditions of such deductions in accordance with the applicable laws or as stated in the Employer's Requirements; and
- (b) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and

any benefits as are subject to tax under the laws of the Country for the time being in force.

The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws.

Where required by applicable Laws or as stated in the Employer's Requirements, the Contractor and its Subcontractors shall provide their personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor and its Subcontractors shall have paid their personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment.

22.2.5 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the PCC, unless:

- (a) otherwise stated in the Contract,
- (b) the Project Manager gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Facilities, in which case the Contractor shall immediately advise the Project Manager.

If and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Project Manager's consent thereto, the Project Manager shall not unreasonably withhold such consent.

This Sub-Clause shall not apply to any work which is customarily carried out by rotary or double-shifts.

22.2.6 Facilities for Staff and Labor

Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel employed for the execution of the Contract at the Site or other places where the Installation Services are carried out. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.

If stated in the Employer's Requirements, the Contractor shall give access to or provide services that accommodate the physical, social and cultural needs of the Contractor's Personnel. The

Contractor shall also provide similar facilities for the Employer's Personnel as stated in the Employer's Requirements.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Facilities.

22.2.7 Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel employed for the execution of Installation Services at the Site (or other places in the country where the Site is located).

Subject to GCC Sub-Clause 9.9, the Contractor shall submit to the Project Manager for its approval a health and safety manual which sets out all the health and safety requirements under the Contract.

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws.

The Contractor shall:

- (a) comply with all applicable health and safety regulations and laws;
- (b) comply with all applicable health and safety obligations specified in the Contract;
- (c) develop and implement procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;
- (d) provide health and safety training of the Contractor's Personnel as appropriate and maintain training records;
- (e) actively engage the Contractor's Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to such personnel, and provision of personal protective equipment without expense to the personnel;
- (f) put in place workplace processes for the Contractor's Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health; Contractor's Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has

been taken. Such personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;

- (g) in collaboration with local health authorities, ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel;
- (h) appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority;
- (i) put in place measures to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases;
- (j) put in place measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the Installation Services, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labor;
- (k) have in place procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
- (l) collaborate, as applicable, with the Employer's Personnel, any other contractors employed by the Employer, and/or personnel of any legally constituted public authorities and private utility companies that are employed in carrying out, on or near the site, of any work not included in the Contract, in applying the health and safety requirements. This is without prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and

- (m) put in place a system for regular review of health and safety performance and the working environment.

22.2.8 Funeral Arrangements

In the event of the death of any of the Contractor's Personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial, unless otherwise specified in the PCC.

22.2.9 Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor's Personnel, including the number of each class of Contractor's personnel on the Site and the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis in a form approved by the Project Manager and shall be available for inspection by the Project Manager until the Contractor has completed all work.

22.2.10 Supply of Foodstuffs

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Employer's Requirements at reasonable prices for the Contractor's personnel for the purposes of or in connection with the Contract.

22.2.11 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's personnel.

22.2.12 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

22.2.13 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the laws of the Country, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal by Contractor's Personnel.

22.2.14 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

22.2.15 Workers' Organizations

In countries where the relevant labor laws recognize workers' rights to form and to join workers' organizations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labor laws substantially restrict workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and collective bargaining or alternative mechanisms. Workers' organizations are expected to fairly represent the workers in the workforce.

22.2.16 Non-Discrimination and Equal Opportunity

The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with GCC Sub-Clause 9.13).

22.2.17 Contractor's Personnel Grievance Mechanism

The Contractor shall have a grievance mechanism for the Contractor's Personnel, and where relevant the workers' organizations stated in subclause 22.2.15, to raise workplace concerns. The grievance mechanism shall be proportionate to

the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.

The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.

The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.

22.3 Contractor's Equipment

22.3.1 All Contractor's Equipment brought by the Contractor onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Contractor shall not remove the same from the Site without the Project Manager's consent that such Contractor's Equipment is no longer required for the execution of the Contract.

22.3.2 Unless otherwise specified in the Contract, upon completion of the Facilities, the Contractor shall remove from the Site all Equipment brought by the Contractor onto the Site and any surplus materials remaining thereon.

22.3.3 The Employer will, if requested, use its best endeavors to assist the Contractor in obtaining any local, state or national government permission required by the Contractor for the export of the Contractor's Equipment imported by the Contractor for use in the execution of the Contract that is no longer required for the execution of the Contract.

22.4 Site Regulations

The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Project Manager with a copy to the Employer, proposed Site

regulations for the Project Manager's approval, which approval shall not be unreasonably withheld.

Such Site regulations shall include, but shall not be limited to, Code of Conduct for environmental and social aspects submitted as part of the Bid and agreed to by the Employer, , security arrangements in accordance with GCC Sub-Clause 22.8, safety of the Facilities, gate control, sanitation, medical care, and fire prevention.

The Contractor shall take all necessary measures to ensure that each Contractor's Personnel, employed for the execution of the Contract at the Site or other places where the Installation Services are carried out, is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors.

These measures include providing instructions and documentation that can be understood by the Contractor's Personnel and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.

The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Installation Services will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community.

The Contractor's Management Strategy and Implementation Plans shall include appropriate processes for the Contractor to verify compliance with these obligations.

22.5 Opportunities for Other Contractors

22.5.1 The Contractor shall, upon written request from the Employer or the Project Manager, give all reasonable opportunities for carrying out the work to any other contractors employed by the Employer on or near the Site.

22.5.2 If the Contractor, upon written request from the Employer or the Project Manager, makes available to other contractors any roads or ways the maintenance for which the Contractor is responsible, permits the use by such other contractors of the Contractor's Equipment, or provides any other service of whatsoever nature for such other contractors, the Employer shall fully compensate the Contractor for any loss or damage caused or occasioned by such other contractors in respect of any such use or service, and shall pay to the Contractor reasonable remuneration for the use of such equipment or the provision of such services.

22.5.3 The Contractor shall also so arrange to perform its work as to minimize, to the extent possible, interference with the work of other contractors. The Project Manager shall determine the resolution of any difference or conflict that may arise between the Contractor and other contractors and the workers of the Employer in regard to their work.

22.5.4 The Contractor shall notify the Project Manager promptly of any defects in the other contractors' work that come to its notice, and that could affect the Contractor's work. The Project Manager shall determine the corrective measures, if any, required to rectify the situation after inspection of the Facilities. Decisions made by the Project Manager shall be binding on the Contractor.

22.6 Emergency Work

If, by reason of an emergency arising in connection with and during the execution of the Contract, any protective or remedial work is necessary as a matter of urgency to prevent damage to the Facilities, the Contractor shall immediately carry out such work.

If the Contractor is unable or unwilling to do such work immediately, the Employer may do or cause such work to be done as the Employer may determine is necessary in order to prevent damage to the Facilities. In such event the Employer shall, as soon as practicable after the occurrence of any such emergency, notify the Contractor in writing of such emergency, the work done and the reasons therefor. If the work done or caused to be done by the Employer is work that the Contractor was liable to do at its own expense under the Contract, the reasonable costs incurred by the Employer in connection therewith shall be paid by the Contractor to the Employer. Otherwise, the cost of such remedial work shall be borne by the Employer.

22.7 Site Clearance

22.7.1 Site Clearance in Course of Performance: In the course of carrying out the Contract, the Contractor shall keep the Site reasonably free from all unnecessary obstruction, store or remove any surplus materials, clear away any wreckage, rubbish or temporary works from the Site, and remove any Contractor's Equipment no longer required for execution of the Contract.

22.7.2 Clearance of Site after Completion: After Completion of all parts of the Facilities, the Contractor shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site and Facilities in a clean and safe condition.

22.8 Security of the Site

The Contractor shall be responsible for the security of the Site including providing and maintaining at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Facilities, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

If required in the Employer's Requirements, the Contractor shall submit for the Project Manager's No-objection a security management plan that sets the security arrangements for the Site.

In making security arrangements, the Contractor shall be guided by applicable laws and any other requirements stated in the Employer's Requirements.

The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Employer's Requirements.

The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

22.9 Protection of the Environment

The Contractor shall take all necessary measures to:

- i. protect the environment (both on and off the Site); and
- ii. limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/or activities.

The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Employer's Requirements, nor those prescribed by applicable laws.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Project Manager the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Project Manager.

22.10 Traffic and Road Safety

The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the

use of Contractor's Equipment on public roads or other public infrastructure.

The Contractor shall monitor and use road safety incidents and accidents reports to identify negative safety issues, and establish and implement necessary measures to resolve them.

22.11 Cultural Heritage Findings

All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural, religious interest found on the Site shall be placed under the care and custody of the Employer.

The Contractor shall:

- (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (b) as soon as practicable after discovery of any such finding, give a notice to the Project Manager, to give the Project Manager the opportunity to promptly inspect and/or investigate the finding before it is disturbed and to issue instructions for dealing with it;
- (c) train relevant Contractor's Personnel on the procedures for handling such findings; and
- (d) implement any other action consistent with the requirements of the Employer's Requirements and relevant laws.

If the Contractor suffers delay and/or incurs extra costs from complying with the Project Manager instructions, the Contractor shall be entitled to an extension of time under GCC Sub-Clause 40.1, and the amount of such extra costs shall be added to the Contract Price.

23. Test and Inspection

- 23.1 The Contractor shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Plant and any part of the Facilities as are specified in the Contract.
- 23.2 The Employer and the Project Manager or their designated representatives shall be entitled to attend the aforesaid test and/or inspection, provided that the Employer shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 23.3 Whenever the Contractor is ready to carry out any such test and/or inspection, the Contractor shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Project Manager. The Contractor shall obtain from any relevant third Party or manufacturer any necessary permission or consent to enable the

Employer and the Project Manager or their designated representatives to attend the test and/or inspection.

- 23.4 The Contractor shall provide the Project Manager with a certified report of the results of any such test and/or inspection.

If the Employer or Project Manager or their designated representatives fails to attend the test and/or inspection, or if it is agreed between the Parties that such persons shall not do so, then the Contractor may proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof.

- 23.5 The Project Manager may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impede the progress of work on the Facilities and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected.

- 23.6 If any Plant or any part of the Facilities fails to pass any test and/or inspection, the Contractor shall either rectify or replace such Plant or part of the Facilities and shall repeat the test and/or inspection upon giving a notice under GCC Sub-Clause 23.3.

- 23.7 If any dispute or difference of opinion shall arise between the Parties in connection with or arising out of the test and/or inspection of the Plant or part of the Facilities that cannot be settled between the Parties within a reasonable period of time, it may be referred to an Dispute Board for determination in accordance with GCC Sub-Clause 46.3.

- 23.8 The Contractor shall afford the Employer and the Project Manager, at the Employer's expense, access at any reasonable time to any place where the Plant are being manufactured or the Facilities are being installed, in order to inspect the progress and the manner of manufacture or installation, provided that the Project Manager shall give the Contractor a reasonable prior notice. Without prejudice to GCC Sub-Clause 9.7, as instructed by the Project Manager, the Contractor shall also afford other relevant entities (at the Employer's or their respective entities' expense, as appropriate) access to the Facilities, to inspect progress and the manner of the execution of the Facilities, carry out environmental and social audit, as appropriate, or carry out any other duty as stated in the Employer's Requirements or as instructed by the Project Manager.

- 23.9 The Contractor agrees that neither the execution of a test and/or inspection of Plant or any part of the Facilities, nor the attendance by the Employer or the Project Manager, nor the issue of any test

certificate pursuant to GCC Sub-Clause 23.4, shall release the Contractor from any other responsibilities under the Contract.

23.10 No part of the Facilities or foundations shall be covered up on the Site without the Contractor carrying out any test and/or inspection required under the Contract. The Contractor shall give a reasonable notice to the Project Manager whenever any such parts of the Facilities or foundations are ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract.

23.11 The Contractor shall uncover any part of the Facilities or foundations, or shall make openings in or through the same as the Project Manager may from time to time require at the Site, and shall reinstate and make good such part or parts.

If any parts of the Facilities or foundations have been covered up at the Site after compliance with the requirement of GCC Sub-Clause 23.10 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Employer, and the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been delayed or impeded in the performance of any of its obligations under the Contract.

24. Completion of the Facilities

24.1 As soon as the Facilities or any part thereof has, in the opinion of the Contractor, been completed operationally and structurally and put in a tight and clean condition as specified in the Employer's Requirements, excluding minor items not materially affecting the operation or safety of the Facilities, the Contractor shall so notify the Employer in writing.

24.2 Within seven (7) days after receipt of the notice from the Contractor under GCC Sub-Clause 24.1, the Employer shall supply the operating and maintenance personnel specified in the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer for Precommissioning of the Facilities or any part thereof.

Pursuant to the Appendix to the Contract Agreement titled Scope of Works and Supply by the Employer, the Employer shall also provide, within the said seven (7) day period, the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Precommissioning of the Facilities or any part thereof.

24.3 As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the Employer and the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters have been provided by the Employer in accordance with GCC Sub-Clause 24.2, the Contractor shall commence Precommissioning of the Facilities or the relevant part thereof in preparation for Commissioning, subject to GCC Sub-Clause 25.5.

24.4 As soon as all works in respect of Precommissioning are completed and, in the opinion of the Contractor, the Facilities or any part thereof is ready for Commissioning, the Contractor shall so notify the Project Manager in writing.

24.5 The Project Manager shall, within fourteen (14) days after receipt of the Contractor's notice under GCC Sub-Clause 24.4, either issue a Completion Certificate in the form specified in the Employer's Requirements (Forms and Procedures), stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's notice under GCC Sub-Clause 24.4, or notify the Contractor in writing of any defects and/or deficiencies.

If the Project Manager notifies the Contractor of any defects and/or deficiencies, the Contractor shall then correct such defects and/or deficiencies, and shall repeat the procedure described in GCC Sub-Clause 24.4.

If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within seven (7) days after receipt of the Contractor's repeated notice, issue a Completion Certificate stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's repeated notice.

If the Project Manager is not so satisfied, then it shall notify the Contractor in writing of any defects and/or deficiencies within seven (7) days after receipt of the Contractor's repeated notice, and the above procedure shall be repeated.

24.6 If the Project Manager fails to issue the Completion Certificate and fails to inform the Contractor of any defects and/or deficiencies within fourteen (14) days after receipt of the Contractor's notice under GCC Sub-Clause 24.4 or within seven (7) days after receipt of the Contractor's repeated notice under GCC Sub-Clause 24.5, or if the Employer makes use of the Facilities or part thereof, then the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Contractor's notice or repeated notice, or as of the Employer's use of the Facilities, as the case may be.

24.7 As soon as possible after Completion, the Contractor shall complete all outstanding minor items so that the Facilities are fully in accordance with the requirements of the Contract, failing which the Employer will undertake such completion and deduct the costs thereof from any monies owing to the Contractor.

24.8 Upon Completion, the Employer shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof.

25. Commissioning and Operational Acceptance

25.1 Commissioning

- 25.1.1 Commissioning of the Facilities or any part thereof shall be commenced by the Contractor immediately after issue of the Completion Certificate by the Project Manager, pursuant to GCC Sub-Clause 24.5, or immediately after the date of the deemed Completion, under GCC Sub-Clause 24.6.
- 25.1.2 The Employer shall supply the operating and maintenance personnel and all raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Commissioning.
- 25.1.3 In accordance with the requirements of the Contract, the Contractor's and Project Manager's advisory personnel shall attend the Commissioning, including the Guarantee Test, and shall advise and assist the Employer.

25.2 Guarantee Test

- 25.2.1 Subject to GCC Sub-Clause 25.5, the Guarantee Test and repeats thereof shall be conducted by the Contractor during Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the Appendix to the Contract Agreement titled Functional Guarantees. The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the Guarantee Test and any repeats thereof.
- 25.2.2 If for reasons not attributable to the Contractor, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of Completion **specified in the PCC** or any other period agreed upon by the Employer and the Contractor, the Contractor shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, and GCC Sub-Clauses 28.2 and 28.3 shall not apply.

25.3 Operational Acceptance

- 25.3.1 Subject to GCC Sub-Clause 25.4 below, Operational Acceptance shall occur in respect of the Facilities or any part thereof when
- (a) the Guarantee Test has been successfully completed and the Functional Guarantees are met; or
 - (b) the Guarantee Test has not been successfully completed or has not been carried out for reasons not attributable to the Contractor within the period from the date of Completion specified in the PCC pursuant to GCC Sub-

Clause 25.2.2 above or any other period agreed upon by the Employer and the Contractor; or

- (c) the Contractor has paid the liquidated damages specified in GCC Sub-Clause 28.3 hereof; and
- (d) any minor items mentioned in GCC Sub-Clause 24.7 hereof relevant to the Facilities or that part thereof have been completed.

25.3.2 At any time after any of the events set out in GCC Sub-Clause 25.3.1 have occurred, the Contractor may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate in the form provided in the Employer's Requirements (Forms and Procedures) in respect of the Facilities or the part thereof specified in such notice as of the date of such notice.

25.3.3 The Project Manager shall, after consultation with the Employer, and within seven (7) days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.

25.3.4 If within seven (7) days after receipt of the Contractor's notice, the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Contractor in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the Facilities or the relevant part thereof shall be deemed to have been accepted as of the date of the Contractor's said notice.

25.4 Partial Acceptance

25.4.1 If the Contract specifies that Completion and Commissioning shall be carried out in respect of parts of the Facilities, the provisions relating to Completion and Commissioning including the Guarantee Test shall apply to each such part of the Facilities individually, and the Operational Acceptance Certificate shall be issued accordingly for each such part of the Facilities.

25.4.2 If a part of the Facilities comprises facilities such as buildings, for which no Commissioning or Guarantee Test is required, then the Project Manager shall issue the Operational Acceptance Certificate for such facility when it attains Completion, provided that the Contractor shall thereafter complete any outstanding minor items that are listed in the Operational Acceptance Certificate.

25.5 Delayed Precommissioning and/or Guarantee Test

25.5.1 In the event that the Contractor is unable to proceed with the Precommissioning of the Facilities pursuant to Sub-Clause 24.3, or with the Guarantee Test pursuant to Sub-Clause 25.2, for

reasons attributable to the Employer either on account of non availability of other facilities under the responsibilities of other contractor(s), or for reasons beyond the Contractor's control, the provisions leading to "deemed" completion of activities such as Completion, pursuant to GCC Sub-Clause 24.6, and Operational Acceptance, pursuant to GCC Sub-Clause 25.3.4, and Contractor's obligations regarding Defect Liability Period, pursuant to GCC Sub-Clause 27.2, Functional Guarantee, pursuant to GCC Clause 28, and Care of Facilities, pursuant to GCC Clause 32, and GCC Clause 41.1, Suspension, shall not apply. In this case, the following provisions shall apply.

25.5.2 When the Contractor is notified by the Project Manager that he will be unable to proceed with the activities and obligations pursuant to above Sub-Clause 25.5.1, the Contractor shall be entitled to the following:

- (a) the Time of Completion shall be extended for the period of suspension without imposition of liquidated damages pursuant to GCC Sub-Clause 26.2;
- (b) payments due to the Contractor in accordance with the provision specified in the Appendix to the Contract Agreement titled Terms and Procedures of Payment, which would not have been payable in normal circumstances due to non-completion of the subject activities, shall be released to the Contractor against submission of a security in the form of a bank guarantee of equivalent amount acceptable to the Employer, and which shall become null and void when the Contractor will have complied with its obligations regarding those payments, subject to the provision of Sub-Clause 25.5.3 below;
- (c) the expenses towards the above security and extension of other securities under the contract, of which validity needs to be extended, shall be reimbursed to the Contractor by the Employer;
- (d) the additional charges towards the care of the Facilities pursuant to GCC Sub-Clause 32.1 shall be reimbursed to the Contractor by the Employer for the period between the notification mentioned above and the notification mentioned in Sub-Clause 25.5.4 below. The provision of GCC Sub-Clause 33.2 shall apply to the Facilities during the same period.

25.5.3 In the event that the period of suspension under above Sub-Clause 25.5.1 actually exceeds one hundred eighty (180) days,

the Employer and Contractor shall mutually agree to any additional compensation payable to the Contractor.

- 25.5.4 When the Contractor is notified by the Project Manager that the Plant is ready for Precommissioning, the Contractor shall proceed without delay in performing Precommissioning in accordance with Clause 24.

F. Guarantees and Liabilities

- 26. Completion Time Guarantee**
- 26.1 The Contractor guarantees that it shall attain Completion of the Facilities (or a part for which a separate time for completion is specified) within the Time for Completion specified in the PCC pursuant to GCC Sub-Clause 8.2, or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.
- 26.2 If the Contractor fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under GCC Clause 40, the Contractor shall pay to the Employer liquidated damages in the amount **specified in the PCC** as a percentage rate of the Contract Price or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed the amount **specified as “Maximum” in the PCC** as a percentage rate of the Contract Price. Once the “Maximum” is reached, the Employer may consider termination of the Contract, pursuant to GCC Sub-Clause 42.2.2.
- Such payment shall completely satisfy the Contractor’s obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under GCC Clause 40. The Contractor shall have no further liability whatsoever to the Employer in respect thereof.
- However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Contractor under the Contract.
- Save for liquidated damages payable under this GCC Sub-Clause 26.2, the failure by the Contractor to attain any milestone or other act, matter or thing by any date specified in the Appendix to the Contract Agreement titled Time Schedule, and/or other program of work prepared pursuant to GCC Sub-Clause 18.2 shall not render the Contractor liable for any loss or damage thereby suffered by the Employer.
- 26.3 If the Contractor attains Completion of the Facilities or any part thereof before the Time for Completion or any extension thereof under GCC Clause 40, the Employer shall pay to the Contractor a bonus in the amount **specified in the PCC**. The aggregate amount

of such bonus shall in no event exceed the amount **specified as “Maximum” in the PCC.**

27. Defect Liability

27.1 The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant supplied and of the work executed.

27.2 The Defect Liability Period shall be five hundred and forty (540) days from the date of Completion of the Facilities (or any part thereof) or one year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the PCC pursuant to GCC Sub-Clause 27.10.

If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good as the Contractor shall determine at its discretion, such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- (a) improper operation or maintenance of the Facilities by the Employer;
- (b) operation of the Facilities outside specifications provided in the Contract; or
- (c) normal wear and tear.

27.3 The Contractor’s obligations under this GCC Clause 27 shall not apply to:

- (a) any materials that are supplied by the Employer under GCC Sub-Clause 21.2, are normally consumed in operation, or have a normal life shorter than the Defect Liability Period stated herein;
- (b) any designs, specifications or other data designed, supplied or specified by or on behalf of the Employer or any matters for which the Contractor has disclaimed responsibility herein; or
- (c) any other materials supplied or any other work executed by or on behalf of the Employer, except for the work executed by the Employer under GCC Sub-Clause 27.7.

27.4 The Employer shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall

afford all reasonable opportunity for the Contractor to inspect any such defect.

- 27.5 The Employer shall afford the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations under this GCC Clause 27.

The Contractor may, with the consent of the Employer, remove from the Site any Plant or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

- 27.6 If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.

If such part fails the tests, the Contractor shall carry out further repair, replacement or making good, as the case may be, until that part of the Facilities passes such tests. The tests shall be agreed upon by the Employer and the Contractor.

- 27.7 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the Employer may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the Employer from any monies due the Contractor or claimed under the Performance Security.

- 27.8 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.

- 27.9 Except as provided in GCC Clauses 27 and 33, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facilities or any part thereof, the Plant, design or engineering or work executed that appear after Completion of the Facilities or any part thereof, except where such defects are the result of the gross negligence, fraud, or criminal or willful action of the Contractor.

27.10 In addition, any such component of the Facilities, and during the period of time as may be **specified in the PCC**, shall be subject to an extended defect liability period. Such obligation of the Contractor shall be in addition to the defect liability period specified under GCC Sub-Clause 27.2.

28. Functional Guarantees

28.1 The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the Appendix to the Contract Agreement titled Functional Guarantees, subject to and upon the conditions therein specified.

28.2 If, for reasons attributable to the Contractor, the minimum level of the Functional Guarantees specified in the Appendix to the Contract Agreement titled Functional Guarantees, are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications and/or additions to the Plant or any part thereof as may be necessary to meet at least the minimum level of such Guarantees. The Contractor shall notify the Employer upon completion of the necessary changes, modifications and/or additions, and shall request the Employer to repeat the Guarantee Test until the minimum level of the Guarantees has been met. If the Contractor eventually fails to meet the minimum level of Functional Guarantees, the Employer may consider termination of the Contract, pursuant to GCC Sub-Clause 42.2.2.

28.3 If, for reasons attributable to the Contractor, the Functional Guarantees specified in the Appendix to the Contract Agreement titled Functional Guarantees, are not attained either in whole or in part, but the minimum level of the Functional Guarantees specified in the said Appendix to the Contract Agreement is met, the Contractor shall, at the Contractor's option, either

- (a) make such changes, modifications and/or additions to the Facilities or any part thereof that are necessary to attain the Functional Guarantees at its cost and expense, and shall request the Employer to repeat the Guarantee Test or
- (b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions in the Appendix to the Contract Agreement titled Functional Guarantees.

28.4 The payment of liquidated damages under GCC Sub-Clause 28.3, up to the limitation of liability specified in the Appendix to the Contract Agreement titled Functional Guarantees, shall completely satisfy the Contractor's guarantees under GCC Sub-Clause 28.3, and the Contractor shall have no further liability whatsoever to the Employer in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Project Manager shall issue the Operational

Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.

- 29. Patent Indemnity** 29.1 The Contractor shall, subject to the Employer's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Facilities by the Contractor or the use of the Facilities in the country where the Site is located; and (b) the sale of the products produced by the Facilities in any country.

Such indemnity shall not cover any use of the Facilities or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the Facilities or any part thereof, or any products produced thereby in association or combination with any other equipment, Plant or materials not supplied by the Contractor, pursuant to the Contract Agreement.

- 29.2 If any proceedings are brought or any claim is made against the Employer arising out of the matters referred to in GCC Sub-Clause 29.1, the Employer shall promptly give the Contractor a notice thereof, and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Contractor fails to notify the Employer within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.

- 29.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Contractor may suffer as a

result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Employer.

30. Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) neither Party shall be liable to the other Party, 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, which may be suffered by the other Party in connection with the Contract, other than specifically provided as any obligation of the Party in the Contract, and
 - (b) the aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed the amount resulting from the application of the multiplier specified in the PCC, to the Contract Price or, if a multiplier is not so specified, the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.

G. Risk Distribution

31. Transfer of Ownership

- 31.1 Ownership of the Plant (including spare parts) to be imported into the country where the Site is located shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Plant from the country of origin to that country.
- 31.2 Ownership of the Plant (including spare parts) procured in the country where the Site is located shall be transferred to the Employer when the Plant are brought on to the Site.
- 31.3 Ownership of the Contractor's Equipment used by the Contractor and its Subcontractors in connection with the Contract shall remain with the Contractor or its Subcontractors.
- 31.4 Ownership of any Plant in excess of the requirements for the Facilities shall revert to the Contractor upon Completion of the Facilities or at such earlier time when the Employer and the Contractor agree that the Plant in question are no longer required for the Facilities.
- 31.5 Notwithstanding the transfer of ownership of the Plant, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor pursuant to

GCC Clause 32 (Care of Facilities) hereof until Completion of the Facilities or the part thereof in which such Plant are incorporated.

32. Care of Facilities

- 32.1 The Contractor shall be responsible for the care and custody of the Facilities or any part thereof until the date of Completion of the Facilities pursuant to GCC Clause 24 or, where the Contract provides for Completion of the Facilities in parts, until the date of Completion of the relevant part, and shall make good at its own cost any loss or damage that may occur to the Facilities or the relevant part thereof from any cause whatsoever during such period. The Contractor shall also be responsible for any loss or damage to the Facilities caused by the Contractor or its Subcontractors in the course of any work carried out, pursuant to GCC Clause 27. Notwithstanding the foregoing, the Contractor shall not be liable for any loss or damage to the Facilities or that part thereof caused by reason of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Sub-Clauses 32.2 and 38.1.
- 32.2 If any loss or damage occurs to the Facilities or any part thereof or to the Contractor's temporary facilities by reason of
- (a) insofar as they relate to the country where the Site is located, nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance, including War Risks and Political Risks, taken out under GCC Clause 34 hereof; or
 - (b) any use or occupation by the Employer or any third Party other than a Subcontractor, authorized by the Employer of any part of the Facilities; or
 - (c) any use of or reliance upon any design, data or specification provided or designated by or on behalf of the Employer, or any such matter for which the Contractor has disclaimed responsibility herein,

the Employer shall pay to the Contractor all sums payable in respect of the Facilities executed, notwithstanding that the same be lost, destroyed or damaged, and will pay to the Contractor the replacement value of all temporary facilities and all parts thereof lost, destroyed or damaged. If the Employer requests the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Contractor shall make good the same at the cost of the Employer in accordance with GCC Clause 39. If the Employer does not request the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Employer shall either request a

change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facilities, the Employer shall terminate the Contract pursuant to GCC Sub-Clause 42.1 hereof.

32.3 The Contractor shall be liable for any loss of or damage to any Contractor's Equipment, or any other property of the Contractor used or intended to be used for purposes of the Facilities, except (i) as mentioned in GCC Sub-Clause 32.2 with respect to the Contractor's temporary facilities, and (ii) where such loss or damage arises by reason of any of the matters specified in GCC Sub-Clauses 32.2 (b) and (c) and 38.1.

32.4 With respect to any loss or damage caused to the Facilities or any part thereof or to the Contractor's Equipment by reason of any of the matters specified in GCC Sub-Clause 38.1, the provisions of GCC Sub-Clause 38.3 shall apply.

**33. Loss of or
Damage to
Property;
Accident or
Injury to
Workers;
Indemnification**

33.1 Subject to GCC Sub-Clause 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Facilities whether accepted or not, arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Employer, its contractors, employees, officers or agents.

33.2 If any proceedings are brought or any claim is made against the Employer that might subject the Contractor to liability under GCC Sub-Clause 33.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Contractor fails to notify the Employer within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such proceedings or claim,

and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.

- 33.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers and Subcontractors from any liability for loss of or damage to property of the Employer, other than the Facilities not yet taken over, that is caused by fire, explosion or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 34, provided that such fire, explosion or other perils were not caused by any act or failure of the Contractor.
- 33.4 The Party entitled to the benefit of an indemnity under this GCC Clause 33 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the Party fails to take such measures, the other Party's liabilities shall be correspondingly reduced.

34. Insurance

- 34.1 To the extent specified in the Appendix to the Contract Agreement titled Insurance Requirements, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval.

(a) Cargo Insurance During Transport

Covering loss or damage occurring while in transit from the Contractor's or Subcontractor's works or stores until arrival at the Site, to the Plant (including spare parts therefor) and to the Contractor's Equipment.

(b) Installation All Risks Insurance

Covering physical loss or damage to the Facilities at the Site, occurring prior to Completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the Defect Liability Period while the Contractor is on the Site for the purpose of performing its obligations during the Defect Liability Period.

(c) Third Party Liability Insurance

Covering bodily injury or death suffered by third Parties including the Employer's personnel, and loss of or damage to property occurring in connection with the supply and installation of the Facilities.

(d) Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors, whether or not owned by them, in connection with the execution of the Contract.

(e) Workers' Compensation

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

(f) Employer's Liability

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

(g) Other Insurances

Such other insurances as may be specifically agreed upon by the Parties hereto as listed in the Appendix to the Contract Agreement titled Insurance Requirements.

34.2 The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 34.1, except for the Third Party Liability, Workers' Compensation and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 34.1 except for the Cargo Insurance During Transport, Workers' Compensation and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

34.3 The Contractor shall, in accordance with the provisions of the Appendix to the Contract Agreement titled Insurance Requirements, deliver to the Employer certificates of insurance or copies of the insurance policies as evidence that the required policies are in full force and effect. The certificates shall provide that no less than twenty-one (21) days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy.

34.4 The Contractor shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Contractor.

34.5 The Employer shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in the Appendix to the Contract Agreement titled Insurance Requirements, in the sums and with the deductibles and other conditions specified in the said Appendix. The Contractor and the Contractor's Subcontractors shall be named as co-insureds under all such policies. All insurers' rights of subrogation against such co-insureds for losses or claims arising out of the performance of the

Contract shall be waived under such policies. The Employer shall deliver to the Contractor satisfactory evidence that the required insurances are in full force and effect. The policies shall provide that not less than twenty-one (21) days' notice shall be given to the Contractor by all insurers prior to any cancellation or material modification of the policies. If so requested by the Contractor, the Employer shall provide copies of the policies taken out by the Employer under this GCC Sub-Clause 34.5.

- 34.6 If the Contractor fails to take out and/or maintain in effect the insurances referred to in GCC Sub-Clause 34.1, the Employer may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Contractor under the Contract any premium that the Employer shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor. If the Employer fails to take out and/or maintain in effect the insurances referred to in GCC 34.5, the Contractor may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Employer under the Contract any premium that the Contractor shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Employer. If the Contractor fails to or is unable to take out and maintain in effect any such insurances, the Contractor shall nevertheless have no liability or responsibility towards the Employer, and the Contractor shall have full recourse against the Employer for any and all liabilities of the Employer herein.
- 34.7 Unless otherwise provided in the Contract, the Contractor shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 34, and all monies payable by any insurers shall be paid to the Contractor. The Employer shall give to the Contractor all such reasonable assistance as may be required by the Contractor. With respect to insurance claims in which the Employer's interest is involved, the Contractor shall not give any release or make any compromise with the insurer without the prior written consent of the Employer. With respect to insurance claims in which the Contractor's interest is involved, the Employer shall not give any release or make any compromise with the insurer without the prior written consent of the Contractor.

**35. Unforeseen
Conditions**

- 35.1 If, during the execution of the Contract, the Contractor shall encounter on the Site any physical conditions other than climatic conditions, or artificial obstructions that could not have been reasonably foreseen prior to the date of the Contract Agreement by an experienced contractor on the basis of reasonable examination of the data relating to the Facilities including any data as to boring tests, provided by the Employer, and on the basis of information that it could have obtained from a visual inspection of the Site if access thereto was available, or other data readily available to it relating to the Facilities, and if the

Contractor determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Contractor shall promptly, and before performing additional work or using additional Plant or Contractor's Equipment, notify the Project Manager in writing of

- (a) the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen;
- (b) the additional work and/or Plant and/or Contractor's Equipment required, including the steps which the Contractor will or proposes to take to overcome such conditions or obstructions;
- (c) the extent of the anticipated delay; and
- (d) the additional cost and expense that the Contractor is likely to incur.

On receiving any notice from the Contractor under this GCC Sub-Clause 35.1, the Project Manager shall promptly consult with the Employer and Contractor and decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Project Manager shall instruct the Contractor, with a copy to the Employer, of the actions to be taken.

- 35.2 Any reasonable additional cost and expense incurred by the Contractor in following the instructions from the Project Manager to overcome such physical conditions or artificial obstructions referred to in GCC Sub-Clause 35.1 shall be paid by the Employer to the Contractor as an addition to the Contract Price.

If the Contractor is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GCC Sub-Clause 35.1, the Time for Completion shall be extended in accordance with GCC Clause 40.

- 36. Change in Laws and Regulations**
- 36.1 If, after the date twenty-eight (28) days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with the PCC pursuant to GCC Sub-Clause 11.2.
- 37. Force Majeure**
- 37.1 “Force Majeure” shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the Party affected, and shall include, without limitation, the following:
- (a) war, hostilities or warlike operations whether a state of war be declared or not, invasion, act of foreign enemy and civil war
 - (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts
 - (c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority
 - (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague
 - (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster
 - (f) shortage of labor, materials or utilities where caused by circumstances that are themselves Force Majeure.
- 37.2 If either Party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event

and the circumstances thereof within fourteen (14) days after the occurrence of such event.

37.3 The Party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such Party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GCC Clause 40.

37.4 The Party or Parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either Party's right to terminate the Contract under GCC Sub-Clauses 37.6 and 38.5.

37.5 No delay or nonperformance by either Party hereto caused by the occurrence of any event of Force Majeure shall

- (a) constitute a default or breach of the Contract, or
- (b) give rise to any claim for damages or additional cost or expense occasioned thereby, subject to GCC Sub-Clauses 32.2, 38.3 and 38.4

if and to the extent that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

37.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the Parties will attempt to develop a mutually satisfactory solution, failing which either Party may terminate the Contract by giving a notice to the other, but without prejudice to either Party's right to terminate the Contract under GCC Sub-Clause 38.5.

37.7 In the event of termination pursuant to GCC Sub-Clause 37.6, the rights and obligations of the Employer and the Contractor shall be as specified in GCC Sub-Clauses 42.1.2 and 42.1.3.

37.8 Notwithstanding GCC Sub-Clause 37.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.

38. War Risks

38.1 "War Risks" shall mean any event specified in paragraphs (a) and (b) of GCC Sub-Clause 37.1 and any explosion or impact of any mine, bomb, shell, grenade or other projectile, missile, munitions or explosive of war, occurring or existing in or near the country (or countries) where the Site is located.

38.2 Notwithstanding anything contained in the Contract, the Contractor shall have no liability whatsoever for or with respect to

- (a) destruction of or damage to Facilities, Plant, or any part thereof;
- (b) destruction of or damage to property of the Employer or any third Party; or
- (c) injury or loss of life

if such destruction, damage, injury or loss of life is caused by any War Risks, and the Employer shall indemnify and hold the Contractor harmless from and against any and all claims, liabilities, actions, lawsuits, damages, costs, charges or expenses arising in consequence of or in connection with the same.

38.3 If the Facilities or any Plant or Contractor's Equipment or any other property of the Contractor used or intended to be used for the purposes of the Facilities shall sustain destruction or damage by reason of any War Risks, the Employer shall pay the Contractor for

- (a) any part of the Facilities or the Plant so destroyed or damaged to the extent not already paid for by the Employer
and so far as may be required by the Employer, and as may be necessary for completion of the Facilities
- (b) replacing or making good any Contractor's Equipment or other property of the Contractor so destroyed or damaged
- (c) replacing or making good any such destruction or damage to the Facilities or the Plant or any part thereof .

If the Employer does not require the Contractor to replace or make good any such destruction or damage to the Facilities, the Employer shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby destroyed or damaged or, where the loss, destruction or damage affects a substantial part of the Facilities, shall terminate the Contract, pursuant to GCC Sub-Clause 42.1.

If the Employer requires the Contractor to replace or make good on any such destruction or damage to the Facilities, the Time for Completion shall be extended in accordance with GCC 40.

38.4 Notwithstanding anything contained in the Contract, the Employer shall pay the Contractor for any increased costs or incidentals to the execution of the Contract that are in any way attributable to, consequent on, resulting from, or in any way connected with any War Risks, provided that the Contractor shall as soon as practicable notify the Employer in writing of any such increased cost.

38.5 If during the performance of the Contract any War Risks shall occur that financially or otherwise materially affect the execution of the

Contract by the Contractor, the Contractor shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its Subcontractors' personnel engaged in the work on the Facilities, provided, however, that if the execution of the work on the Facilities becomes impossible or is substantially prevented for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of any War Risks, the Parties will attempt to develop a mutually satisfactory solution, failing which either Party may terminate the Contract by giving a notice to the other.

- 38.6 In the event of termination pursuant to GCC Sub-Clauses 38.3 or 38.5, the rights and obligations of the Employer and the Contractor shall be specified in GCC Sub-Clauses 42.1.2 and 42.1.3.

H. Change in Contract Elements

39. Change in the Facilities

39.1 Introducing a Change

39.1.1 Subject to GCC Sub-Clauses 39.2.5 and 39.2.7, the Employer shall have the right to propose, and subsequently require, that the Project Manager order the Contractor from time to time during the performance of the Contract to make any change, modification, addition or deletion to, in or from the Facilities hereinafter called "Change", provided that such Change falls within the general scope of the Facilities and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Facilities and the technical compatibility of the Change envisaged with the nature of the Facilities as specified in the Contract.

39.1.2 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

- (a) the proposed change(s), and a description of the difference to the existing contract requirements;
- (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Employer may incur in implementing the value engineering proposal; and
- (c) a description of any effect(s) of the change on performance/functionality.

The Employer may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the delivery period; or
 - (b) reduces the Contract Price or the life cycle costs to the Employer; or
 - (c) improves the quality, efficiency, safety or sustainability of the Facilities; or
 - (d) yields any other benefits to the Employer,
- without compromising the necessary functions of the Facilities.

If the value engineering proposal is approved by the Employer and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the percentage specified in the PCC of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39.1.3 Notwithstanding GCC Sub-Clauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Contractor in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Sub-Clauses 39.2 and 39.3, and further details and forms are provided in the Employer's Requirements (Forms and Procedures).

39.2 Changes Originating from Employer

39.2.1 If the Employer proposes a Change pursuant to GCC Sub-Clause 39.1.1, it shall send to the Contractor a "Request for Change Proposal," requiring the Contractor to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:

- (a) brief description of the Change
- (b) effect on the Time for Completion
- (c) estimated cost of the Change
- (d) effect on Functional Guarantees (if any)
- (e) effect on the Facilities
- (f) effect on any other provisions of the Contract: and

(g) any additional documents as **specified in the PCC**.

39.2.2 Prior to preparing and submitting the “Change Proposal,” the Contractor shall submit to the Project Manager an “Estimate for Change Proposal,” which shall be an estimate of the cost of preparing and submitting the Change Proposal.

Upon receipt of the Contractor’s Estimate for Change Proposal, the Employer shall do one of the following:

- (a) accept the Contractor’s estimate with instructions to the Contractor to proceed with the preparation of the Change Proposal
- (b) advise the Contractor of any part of its Estimate for Change Proposal that is unacceptable and request the Contractor to review its estimate
- (c) advise the Contractor that the Employer does not intend to proceed with the Change.

39.2.3 Upon receipt of the Employer’s instruction to proceed under GCC Sub-Clause 39.2.2 (a), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Sub-Clause 39.2.1.

39.2.4 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If such rates and prices are inequitable, the Parties thereto shall agree on specific rates for the valuation of the Change.

39.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Contractor under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than fifteen percent (15%), the Contractor may give a written notice of objection thereto prior to furnishing the Change Proposal as aforesaid. If the Employer accepts the Contractor’s objection, the Employer shall withdraw the proposed Change and shall notify the Contractor in writing thereof.

The Contractor’s failure to so object shall neither affect its right to object to any subsequent requested Changes or Change Orders herein, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Contractor represents.

39.2.6 Upon receipt of the Change Proposal, the Employer and the Contractor shall mutually agree upon all matters therein contained. Within fourteen (14) days after such agreement, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order.

If the Employer is unable to reach a decision within fourteen (14) days, it shall notify the Contractor with details of when the Contractor can expect a decision.

If the Employer decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Contractor accordingly. Under such circumstances, the Contractor shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Contractor in its Estimate for Change Proposal submitted in accordance with GCC Sub-Clause 39.2.2.

39.2.7 If the Employer and the Contractor cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a “Pending Agreement Change Order.”

Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The Parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.

If the Parties cannot reach agreement within sixty (60) days from the date of issue of the Pending Agreement Change Order, then the matter may be referred to the Dispute Board in accordance with the provisions of GCC Sub-Clause 46.1.

39.3 Changes Originating from Contractor

39.3.1 If the Contractor proposes a Change pursuant to GCC Sub-Clause 39.1.2, the Contractor shall submit to the Project Manager a written “Application for Change Proposal,” giving reasons for the proposed Change and including the information specified in GCC Sub-Clause 39.1.2.

Upon receipt of the Application for Change Proposal, the Parties shall follow the procedures outlined in GCC Sub-Clauses 39.2.6 and 39.2.7. However, the Contractor shall not be entitled to recover the costs of preparing the Application for Change Proposal.

40. Extension of Time for Completion

- 40.1 The Time(s) for Completion specified in the PCC pursuant to GCC Sub-Clause 8.2 shall be extended if the Contractor is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:
- (a) any Change in the Facilities as provided in GCC Clause 39
 - (b) any occurrence of Force Majeure as provided in GCC Clause 37, unforeseen conditions as provided in GCC Clause 35, or other occurrence of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Sub-Clause 32.2
 - (c) any suspension order given by the Employer under GCC Clause 41 hereof or reduction in the rate of progress pursuant to GCC Sub-Clause 41.2 or
 - (d) any changes in laws and regulations as provided in GCC Clause 36 or
 - (e) any default or breach of the Contract by the Employer, Appendix to the Contract Agreement titled ,or any activity, act or omission of the Employer, or the Project Manager, or any other contractors employed by the Employer, or
 - (f) any delay on the part of a Subcontractor, provided such delay is due to a cause for which the Contractor himself would have been entitled to an extension of time under this sub-clause, or
 - (g) delays attributable to the Employer or caused by customs, or
 - (h) any other matter specifically mentioned in the Contract
- by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Contractor.
- 40.2 Except where otherwise specifically provided in the Contract, the Contractor shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to a Dispute Board, pursuant to GCC Sub-Clause 46.1.
- 40.3 The Contractor shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.
- 40.4 In all cases where the Contractor has given a notice of a claim for an extension of time under GCC 40.2, the Contractor shall consult with

the Project Manager in order to determine the steps (if any) which can be taken to overcome or minimize the actual or anticipated delay. The Contractor shall there after comply with all reasonable instructions which the Project Manager shall give in order to minimize such delay. If compliance with such instructions shall cause the Contractor to incur extra costs and the Contractor is entitled to an extension of time under GCC 40.1, the amount of such extra costs shall be added to the Contract Price.

41. Suspension

41.1 The Employer may request the Project Manager, by notice to the Contractor, to order the Contractor to suspend performance of any or all of its obligations under the Contract. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons therefor. The Contractor shall thereupon suspend performance of such obligation, except those obligations necessary for the care or preservation of the Facilities, until ordered in writing to resume such performance by the Project Manager.

If, by virtue of a suspension order given by the Project Manager, other than by reason of the Contractor's default or breach of the Contract, the Contractor's performance of any of its obligations is suspended for an aggregate period of more than ninety (90) days, then at any time thereafter and provided that at that time such performance is still suspended, the Contractor may give a notice to the Project Manager requiring that the Employer shall, within twenty-eight (28) days of receipt of the notice, order the resumption of such performance or request and subsequently order a change in accordance with GCC Clause 39, excluding the performance of the suspended obligations from the Contract.

If the Employer fails to do so within such period, the Contractor may, by a further notice to the Project Manager, elect to treat the suspension, where it affects a part only of the Facilities, as a deletion of such part in accordance with GCC Clause 39 or, where it affects the whole of the Facilities, as termination of the Contract under GCC Sub-Clause 42.1.

41.2 If

(a) the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the Appendix to the Contract Agreement titled Terms and Procedures of Payment, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC Sub-Clause 12.3, requires approval of such invoice or supporting documents, or specifies

the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, or fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice or

- (b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas in accordance with GCC Sub-Clause 10.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities,

then the Contractor may by fourteen (14) days' notice to the Employer suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.

- 41.3 If the Contractor's performance of its obligations is suspended or the rate of progress is reduced pursuant to this GCC Clause 41, then the Time for Completion shall be extended in accordance with GCC Sub-Clause 40.1, and any and all additional costs or expenses incurred by the Contractor as a result of such suspension or reduction shall be paid by the Employer to the Contractor in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Contractor's default or breach of the Contract.
- 41.4 During the period of suspension, the Contractor shall not remove from the Site any Plant, any part of the Facilities or any Contractor's Equipment, without the prior written consent of the Employer.

42. Termination

42.1 Termination for Employer's Convenience

- 42.1.1 The Employer may at any time terminate the Contract for any reason by giving the Contractor a notice of termination that refers to this GCC Sub-Clause 42.1.
- 42.1.2 Upon receipt of the notice of termination under GCC Sub-Clause 42.1.1, the Contractor shall either immediately or upon the date specified in the notice of termination
 - (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition

- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) (ii) below
- (c) remove all Contractor's Equipment from the Site, repatriate the Contractor's Personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition, and
- (d) subject to the payment specified in GCC Sub-Clause 42.1.3,
 - (i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
 - (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and
 - (iii) deliver to the Employer all non-proprietary drawings, specifications and other documents prepared by the Contractor or its Subcontractors as at the date of termination in connection with the Facilities.

42.1.3 In the event of termination of the Contract under GCC Sub-Clause 42.1.1, the Employer shall pay to the Contractor the following amounts:

- (a) the Contract Price, properly attributable to the parts of the Facilities executed by the Contractor as of the date of termination
- (b) the costs reasonably incurred by the Contractor in the removal of the Contractor's Equipment from the Site and in the repatriation of the Contractor's Personnel
- (c) any amounts to be paid by the Contractor to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges
- (d) costs incurred by the Contractor in protecting the Facilities and leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Sub-Clause 42.1.2
- (e) the cost of satisfying all other obligations, commitments and claims that the Contractor may in good faith have undertaken with third Parties in connection with the

Contract and that are not covered by paragraphs (a) through (d) above.

42.2 Termination for Contractor's Default

42.2.1 The Employer, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefor to the Contractor, referring to this GCC Sub-Clause 42.2:

- (a) if the Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Contractor is a corporation, a resolution is passed or order is made for its winding up, other than a voluntary liquidation for the purposes of amalgamation or reconstruction, a receiver is appointed over any part of its undertaking or assets, or if the Contractor takes or suffers any other analogous action in consequence of debt
- (b) if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 43.
- (c) if the Contractor, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragraph 2.2 a. of Appendix B to the GCC, in competing for or in executing the Contract.

42.2.2 If the Contractor

- (a) has abandoned or repudiated the Contract
- (b) has without valid reason failed to commence work on the Facilities promptly or has suspended, other than pursuant to GCC Sub-Clause 41.2, the progress of Contract performance for more than twenty-eight (28) days after receiving a written instruction from the Employer to proceed
- (c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause
- (d) refuses or is unable to provide sufficient materials, services or labor to execute and complete the Facilities in the manner specified in the program furnished under GCC Sub-Clause 18.2 at rates of progress that give reasonable assurance to the Employer that the Contractor can attain Completion of the Facilities by the Time for Completion as extended,

then the Employer may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Employer may terminate the Contract forthwith by giving a notice of termination to the Contractor that refers to this GCC Sub-Clause 42.2.

- 42.2.3 Upon receipt of the notice of termination under GCC Sub-Clauses 42.2.1 or 42.2.2, the Contractor shall, either immediately or upon such date as is specified in the notice of termination,
- (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
 - (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) below
 - (c) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
 - (d) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors
 - (e) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.
- 42.2.4 The Employer may enter upon the Site, expel the Contractor, and complete the Facilities itself or by employing any third Party. The Employer may, to the exclusion of any right of the Contractor over the same, take over and use with the payment of a fair rental rate to the Contractor, with all the maintenance costs to the account of the Employer and with an indemnification by the Employer for all liability including damage or injury to persons arising out of the Employer's use of such equipment, any Contractor's Equipment owned by the Contractor and on the Site in connection with the Facilities for such reasonable period as the Employer considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the Employer thinks appropriate, the Employer shall give notice to the Contractor that such Contractor's Equipment will be returned to the Contractor at or near the Site and shall return such Contractor's Equipment to the Contractor in accordance with such notice. The Contractor shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

42.2.5 Subject to GCC Sub-Clause 42.2.6, the Contractor shall be entitled to be paid the Contract Price attributable to the Facilities executed as of the date of termination, the value of any unused or partially used Plant on the Site, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Sub-Clause 42.2.3. Any sums due the Employer from the Contractor accruing prior to the date of termination shall be deducted from the amount to be paid to the Contractor under this Contract.

42.2.6 If the Employer completes the Facilities, the cost of completing the Facilities by the Employer shall be determined.

If the sum that the Contractor is entitled to be paid, pursuant to GCC Sub-Clause 42.2.5, plus the reasonable costs incurred by the Employer in completing the Facilities, exceeds the Contract Price, the Contractor shall be liable for such excess.

If such excess is greater than the sums due the Contractor under GCC Sub-Clause 42.2.5, the Contractor shall pay the balance to the Employer, and if such excess is less than the sums due the Contractor under GCC Sub-Clause 42.2.5, the Employer shall pay the balance to the Contractor.

The Employer and the Contractor shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

42.3 Termination by the Contractor

42.3.1 If

- (a) the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the Appendix to the Contract Agreement titled Terms and Procedures of Payment, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC Sub-Clause 12.3,

requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice, or

- (b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities,

then the Contractor may give a notice to the Employer thereof, and if the Employer has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Contractor is still unable to carry out any of its obligations under the Contract for any reason attributable to the Employer within twenty-eight (28) days of the said notice, the Contractor may by a further notice to the Employer referring to this GCC Sub-Clause 42.3.1, forthwith terminate the Contract.

42.3.2 The Contractor may terminate the Contract forthwith by giving a notice to the Employer to that effect, referring to this GCC Sub-Clause 42.3.2, if the Employer becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Employer takes or suffers any other analogous action in consequence of debt.

42.3.3 If the Contract is terminated under GCC Sub-Clauses 42.3.1 or 42.3.2, then the Contractor shall immediately

- (a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) (ii)

- (c) remove all Contractor's Equipment from the Site and repatriate the Contractor's Personnel from the Site, and
- (d) subject to the payment specified in GCC Sub-Clause 42.3.4,
 - (i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
 - (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors, and
 - (iii) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.

42.3.4 If the Contract is terminated under GCC Sub-Clauses 42.3.1 or 42.3.2, the Employer shall pay to the Contractor all payments specified in GCC Sub-Clause 42.1.3, and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Contractor arising out of, in connection with or in consequence of such termination.

42.3.5 Termination by the Contractor pursuant to this GCC Sub-Clause 42.3 is without prejudice to any other rights or remedies of the Contractor that may be exercised in lieu of or in addition to rights conferred by GCC Sub-Clause 42.3.

42.4 In this GCC Clause 42, the expression "Facilities executed" shall include all work executed, Installation Services provided, and all Plant acquired, or subject to a legally binding obligation to purchase, by the Contractor and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.

42.5 In this GCC Clause 42, in calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to the Appendix to the Contract Agreement titled Terms and Procedures of Payment.

43. Assignment

43.1 Neither the Employer nor the Contractor shall, without the express prior written consent of the other Party, which consent shall not be unreasonably withheld, assign to any third Party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Contractor shall be entitled to assign either

absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

44. Export Restrictions

- 44.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Employer, to the country of the Employer or to the use of the Plant and Installation Services to be supplied which arise from trade regulations from a country supplying those Plant and Installation Services, and which substantially impede the Contractor from meeting its obligations under the Contract, shall release the Contractor from the obligation to provide deliveries or services, always provided, however, that the Contractor can demonstrate to the satisfaction of the Employer and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the Plant and Installation Services under the terms of the Contract. Termination of the Contract on this basis shall be for the Employer's convenience pursuant to Sub-Clause 42.1.

I. Claims, Disputes and Arbitration

45. Contractor's Claims

- 45.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall submit a notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Employer's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Project Manager shall agree with the Contractor or estimate: (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with GCC Clause 40, and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

In the event that the Contractor and the Employer cannot agree on any matter relating to a claim, either Party may refer the matter to the Dispute Board pursuant to GCC 46 hereof.

46. Disputes and Arbitration

46.1 Appointment of the Dispute Board

Disputes shall be referred to a DB for decision in accordance with GCC Sub-Clause 46.3. The Parties shall appoint a DB by the date stated in the PCC.

The DB shall comprise, as stated in the PCC, either one or three suitably qualified persons (“the members”), each of whom shall meet the criteria set forth in Sub-Clause 3 of Appendix A- General Conditions of Dispute Board Agreement. If the number is not so stated and the Parties do not agree otherwise, the DB shall comprise three persons, one of whom shall serve as chairman.

If the Contract is with a foreign Contractor, the DB members shall not have the same nationality as the Employer or the Contractor.

If the Parties have not jointly appointed the DB 21 days before the date stated in the PCC and the DB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

However, if a list of potential members is included in the PCC, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DB.

The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Board Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The DB shall be deemed to be constituted on the date the Parties and the sole member or the three members (as the case may be) of the DB have all signed a DB agreement.

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the DB consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment of the member or such expert (as the case may be). Each Party shall be responsible for paying one-half of this remuneration.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DB (including each member) shall expire when the Operational Acceptance Certificate has been issued in accordance with GCC Sub-Clause 25.3.

46.2 Failure to Agree on the Composition of the Dispute Board

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of GCC Sub-Clause 46.1,
- (b) either Party fails to nominate a member (for approval by the other Party) of a DB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official **named in the PCC** shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

46.3 Obtaining Dispute Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with the performance of the Contract, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Project Manager, either Party may refer the dispute in writing to the DB for its decision, with copies to the other Party and the Project Manager. Such reference shall state that it is given under this Sub-Clause.

For a DB of three persons, the DB shall be deemed to have received such reference on the date when it is received by the chairman of the DB.

Both Parties shall promptly make available to the DB all such additional information, further access to the Site, and appropriate facilities, as the DB may require for the purposes of making a decision on such dispute. The DB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the DB and approved by both Parties, the DB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue with the performance of the Facilities in accordance with the Contract.

If either Party is dissatisfied with the DB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction and intention to commence arbitration. If the DB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction and intention to commence arbitration.

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in GCC Sub-Clauses 46.6 and 46.7, neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause.

If the DB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DB's decision, then the decision shall become final and binding upon both Parties.

46.4 Amicable Settlement

Where notice of dissatisfaction has been given under GCC Sub-Clause 46.3 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction and intention to commence arbitration was given, even if no attempt at amicable settlement has been made.

46.5 Arbitration

Unless **indicated otherwise in the PCC**, any dispute not settled amicably and in respect of which the DB's decision (if any) has not become final and binding shall be finally settled by arbitration. Unless otherwise agreed by both Parties, arbitration shall be conducted as follows:

- (a) For contracts with foreign contractors:

unless otherwise specified in the PCC; the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce; by one or three arbitrators appointed in accordance with these Rules. The place of arbitration shall be the neutral location **stated in the PCC**; and the arbitration shall be conducted in the ruling language **stated in the PCC**;

and

- (b) For contracts with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer's Country.

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, and any decision of the DB, relevant to the dispute. Nothing shall disqualify the Project Manager from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Facilities. The obligations of the Parties, the Project Manager and the DB shall not be altered by reason of any arbitration being conducted during the progress of the execution of the Facilities.

46.6 Failure to Comply with Dispute Board's Decision

In the event that a Party fails to comply with a DB decision which has become final and binding, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under GCC Sub-Clause 46.5. GCC Sub-Clauses 46.3 and 46.4 shall not apply to this reference.

46.7 Expiry of Dispute Board's Appointment

If a dispute arises between the Parties in connection with the performance of the Contract, and there is no DB in place, whether by reason of the expiry of the DB's appointment or otherwise:

- (a) GCC Sub-Clauses 46.3 and 46.4 shall not apply, and
 (b) the dispute may be referred directly to arbitration under GCC Sub-Clause 46.5

47. Cyber Security

- 47.1 Pursuant to the PCC, the Contractor including its Subcontractors/ suppliers/ manufacturers shall take all technical and organizational

measures necessary to protect the information technology systems and data used in connection with the Contract. Without limiting the foregoing, the Contractor, including its Subcontractors/ suppliers/ manufacturers, shall use all reasonable efforts to establish, maintain, implement and comply with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or data used in connection with the Contract.

APPENDIX A

General Conditions of Dispute Board Agreement

1. Definitions

Each “Dispute Board Agreement” is a tripartite agreement by and between:

the “Employer”;

the “Contractor”; and

the “Member” who is defined in the Dispute Board Agreement as being:

- (i) the sole member of the “DB” and, where this is the case, all references to the “Other Members” do not apply, or
- (ii) one of the three persons who are jointly called the “DB” (or “dispute board”) and, where this is the case, the other two persons are called the “Other Members”.

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the “Contract” and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

2. General Provisions

Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:

- (a) the Commencement Date defined in the Contract,
- (b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement, or
- (c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days’ notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

3. Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Project Manager. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

- a) When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:has at least a bachelor's degree in relevant disciplines such as law, engineering, construction management or contract management;
- b) has at least ten years of experience in contract administration/management and dispute resolution, out of which at least five years of experience as an arbitrator or adjudicator in construction-related disputes;
- c) has received formal training as an adjudicator from an internationally recognized organization;
- d) has experience and/or is knowledgeable in the type of work which the Contractor is to carry out under the Contract;
- e) has experience in the interpretation of construction and/or engineering contract documents; and
- f) is fluent in the language for communications defined in GCC Sub-Clause 5.3 (or the language as agreed between the Parties and the DB).

4. General Obligations of the Member

The Member shall:

- (a) have no interest financial or otherwise in the Employer, the Contractor or the Project Manager, nor any financial interest in the Contract except for payment under the Dispute Board Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor or the Project Manager, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Board Agreement;
- (c) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer, the Contractor or the Project Manager, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor or the Project Manager, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (e) comply with the annexed procedural rules and with GCC Sub-Clause 46.3;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor or the Project Manager regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Board Agreement;
- (h) ensure his/her availability for all site visits and hearings as are necessary;

- (i) become conversant with the Contract and with the progress of the Facilities (and of any other parts of the project of which the Contract forms part) by studying all documents received which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the DB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any); and
- (k) be available to give advice and opinions, on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

5. General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the DB's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the DB under GCC Sub-Clause 46.3, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6. Payment

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for:
 - (i) being available on 28 days' notice for all site visits and hearings;

- (ii) becoming and remaining conversant with all project developments and maintaining relevant files;
- (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
- (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Facilities.

With effect from the first day of the calendar month following the month in which Taking-Over Certificate is issued for the whole of the Facilities, the retainer fee shall be reduced by one third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

- (b) a daily fee which shall be considered as payment in full for:
 - (i) each day or part of a day up to a maximum of two days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);
 - (ii) each working day on site visits, hearings or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, faxes and telexes: a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the Parties fail to agree on the retainer fee or the daily fee the appointing entity or official named in the PCC shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in accordance with GCC Sub-Clause 12.3.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7. Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Board Agreement by giving 42 days' notice to the Member; or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8. Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 concerning his impartiality or independence in relation to the Employer or the Contractor, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DB which are rendered void or ineffective by the said failure to comply.

9. Disputes

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

Appendix A

DISPUTE BOARD GUIDELINES

1. Unless otherwise agreed by the Employer and the Contractor, the DB shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor and the DB, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.
2. The timing of and agenda for each site visit shall be as agreed jointly by the DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of site visits is to enable the DB to become and remain acquainted with the progress of the execution of the Contract and of any actual or potential problems or claims, and, as far as reasonable, to prevent potential problems or claims from becoming disputes.
3. Site visits shall be attended by the Employer, the Contractor and the Project Manager and shall be coordinated by the Employer in co-operation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the DB shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.
4. The Employer and the Contractor shall furnish to the DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
5. If any dispute is referred to the DB in accordance with GCC Sub-Clause 46.3, the DB shall proceed in accordance with GCC Sub-Clause 46.3 and these Guidelines. Subject to the time allowed to give notice of a decision and other relevant factors, the DB shall:
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
 - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
6. The DB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.
7. Except as otherwise agreed in writing by the Employer and the Contractor, the DB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor and the Project Manager, and to proceed in the absence of any Party who the DB is satisfied

received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

8. The Employer and the Contractor empower the DB, among other things, to:

- (a) establish the procedure to be applied in deciding a dispute,
- (b) decide upon the DB's own jurisdiction, and as to the scope of any dispute referred to it,
- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Guidelines,
- (d) take the initiative in ascertaining the facts and matters required for a decision,
- (e) make use of its own specialist knowledge, if any,
- (f) decide upon the payment of financing charges in accordance with the Contract,
- (g) decide upon any provisional relief such as interim or conservatory measures,
- (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute, and
- (i) appoint, should the DB so consider necessary and the Parties agree, a suitable expert/s (including legal and technical expert(s)) at the cost of the Parties to give advice on a specific matter/s relevant to the dispute.

9. The DB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with GCC Sub-Clause 46.3, or as otherwise agreed by the Employer and the Contractor in writing. If the DB comprises three persons:

- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
- (b) it shall endeavor to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or the Contractor does not agree that they do so, or
 - (ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.

APPENDIX B

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank’s Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.3 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.4 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. “obstructive practice” is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-

- contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX C

Metrics for Progress Reports- Environmental and Social (ES)

[Note to Employer: the following metrics is taken from large Work's Standard Procurement Documents (SPDs). This should be suitably amended to reflect the specifics of the Contract. The Employer shall ensure that the metrics provided are appropriate for Plant and impacts/key issues identified in the environmental and social assessment].

Metrics for regular reporting:

- a. *environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;*
- b. *health and safety incidents, accidents, injuries that require treatment and all fatalities;*
- c. *interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);*
- d. *status of all permits and agreements:*
 - (i) *work permits: number required, number received, actions taken for those not received;*
 - (ii) *status of permits and consents:*
 - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
 - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
 - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
 - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
- e. *health and safety supervision:*
 - (i) *safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;*
 - (ii) *number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);*
- f. *worker accommodations:*
 - (i) *number of expats housed in accommodations, number of locals;*

- (ii) date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
 - (iii) actions taken to recommend/require improved conditions, or to improve conditions.
- g. *Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*
- h. *gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);*
- i. *training:*
 - (i) number of new workers, number receiving induction training, dates of induction training;
 - (ii) number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - (iii) number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - (iv) number and date of SEA prevention and SH sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
- j. *environmental and social supervision:*
 - (i) environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - (ii) sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
 - (iii) community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
- k. *Grievances: list new grievances (e.g., number of allegations of SEA and SH) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):*
 - (i) Worker grievances;
 - (ii) Community grievances
- l. *Traffic, road safety and vehicles/equipment:*

- (i) traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - (ii) traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - (iii) overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m. Environmental mitigations and issues (what has been done):*
- (i) dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/ spoil lorries with covers, actions taken for uncovered vehicles;
 - (ii) erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - (iii) quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
 - (iv) blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
 - (v) spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
 - (vi) waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - (vii) details of tree plantings and other mitigations required undertaken in the reporting period;
 - (viii) details of water and swamp protection mitigations required undertaken in the reporting period.
- n. compliance:*
- (i) compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - (ii) compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (iii) compliance status of SEA and SH prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (iv) compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - (v) other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle

covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

APPENDIX D

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Contractor, that was not named in the Contract]

Subcontractor’s Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Contract reference *[insert contract reference]*
 Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration
<p>We:</p> <ul style="list-style-type: none"> “ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. “ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. “ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date signed _____ day of _____, _____

Section IX - Particular Conditions of Contract

The following Particular Conditions of Contract shall supplement the General Conditions of Contract in Section VIII. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions.

Particular Conditions of Contract (PCC)

The following Particular Conditions (PCC) shall supplement the General Conditions (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The clause number of the PCC is the corresponding clause number of the GCC.

PCC 1. Definitions	<p>The Employer is: <i>Ministry of Natural Resources, Environment, and Technical Supervision (MNRETS) of the Kyrgyz Republic</i></p> <p>The Project Manager is: <i>Mrs. Abdyldeaeva Gulnara Orozbekovna</i></p> <p>The Bank is: _____</p> <p>Country of Origin: all countries and territories as indicated in Section V of the bidding document, Eligible Countries.</p>
PCC 5. Law and Language	<p>PCC 5.1 The Contract shall be governed by and interpreted in accordance with laws of the country: <i>Kyrgyz Republic</i></p> <p>PCC 5.2 The ruling language is: <i>English</i></p> <p>PCC 5.3 The language for communications is: <i>English</i></p>
PCC 7. Scope of Facilities [Spare Parts] (GCC Clause 7)	<p>PCC 7.3 The Contractor agrees to supply spare parts for a period of years: <i>3 (three) years</i></p> <p>Sample Addition to PCC 7.3</p> <p>The Contractor shall carry sufficient inventories to ensure an ex-stock supply of consumable spares for the Plant. Other spare parts and components shall be supplied as promptly as possible, but at the most within six (6) months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested.</p>
PCC 8. Time for Commencement and Completion	<p>PCC 8.1 The Contractor shall commence work on the Facilities within 14 (fourteen) days from the Effective Date for determining Time for Completion as specified in the Contract Agreement.</p> <p>PCC 8.2 The Time for Completion of the whole of the Facilities shall be 9 (nine) months from the Effective Date as described in the Contract Agreement.</p>
PCC 13. Securities	<p>PCC 13.3.1 The amount of Performance Security, as a percentage of the Contract Price for the Facility or for the part of the Facility for which a separate Time for Completion is provided, shall be: 10% (ten percent) and shall be valid till 28 (twenty-eight) days after of expiration of defect liability period stipulated by the contract.</p>

	<p>PCC 13.3.2 The Performance Security shall be in the form of the Bank Guarantee attached here to in Section X, Contract Forms.</p> <p>PCC 13.3.3 The Performance Security shall be reduced on the date of the Operational Acceptance.</p> <p>PCC 13.3.3 The Performance Security shall be reduced to two percent (2%) of the value of the component covered by the extended defect liability to cover the Contractor's extended defect liability in accordance with the provision in the PCC, pursuant to GCC Sub-Clause 27.10.</p>
PCC 22 Installation	<p>PCC22.2.5 Working Hours</p> <p>Normal working hours are: 09:30am to 16:30pm (Mon-Thu) 09:30am to 15:30pm (Fri)</p> <p>PCC 22.2.8 Funeral Arrangements: None</p>
PCC 25. Commissioning and Operational Acceptance	<p>PCC 25.2.2 The Guarantee Test of the Facilities shall be successfully completed within two months from the date of Completion.</p>
PCC 26. Completion Time Guarantee	<p>PCC 26.2</p> <p>Applicable rate for liquidated damages: 0.5% (a half percent) per week</p> <p>The above rate applies to the price of the part of the Facilities, as quoted in the Price Schedule, for that part for which the Contractor fails to achieve Completion within the particular Time for Completion.</p> <p>Maximum deduction for liquidated damages: 10% (ten percent) of contract amount</p> <p>PCC 26.3 Applicable (<i>amount or rate</i>) for the bonus for early Completion: No</p> <p>Maximum bonus: No</p> <p>PCC 26.3 No bonus will be given for earlier Completion of the Facilities or part thereof.</p>
PCC 27. Defect Liability	<p>PCC 27.10 The critical components covered under the extended defect liability are: None.</p>
PCC 30. Limitation of Liability	<p>PCC 30.1 (b) The multiplier of the Contract Price is: None</p>
PCC46. Disputes and Arbitration	<p>PCC 46.1 The DB shall be appointed within 60 days after signature by both parties of the Contract Agreement</p> <p>PCC 46.1 The DB shall be: <i>one sole member</i></p>

	<p>PCC 46.1 List of potential DB member:</p> <p>Proposed by Employer</p> <p><i>1. Ms. Natalia Alenkina (please see Appendix 9)</i></p> <p>Proposed by Contractor [<i>Attach CVs to the Contract</i>]</p> <p><i>1. _____</i></p> <p>PCC 46.2 Appointment (if not agreed) to be made by:</p> <p>(a) For contracts with foreign contractors:</p> <p style="padding-left: 40px;">International Chamber of Commerce, 38 cours Albert 1er, 75008 Paris, France, or another International Agency mutually agreed upon by the Employer and the Contractor.</p> <p>(b) For contracts with domestic contractors:</p> <p style="padding-left: 40px;">Kyrgyz National Board of Arbitration (KANI), or another National Agency mutually agreed upon by the Employer and the Contractor.</p> <p>PCC 46.5 Procedure to settle disputes in respect of DB's decisions:</p> <p style="padding-left: 40px;">Contracts with foreign contractors:</p> <p style="padding-left: 80px;">Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settle by arbitration in accordance with UNCITRAL Arbitration Rules as at present in force.</p> <p>(a) Contract with contractors being nationals of the Employer's country:</p> <p style="padding-left: 40px;">Any dispute between the Employer's and a Contractor who is a national of the Employer country arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Employer's country.</p> <p>Rules of arbitration</p> <p>GCC Sub-Clause 46.5(a) "<i>shall</i>" apply.</p> <p>GCC Sub-Clause 46.5 (b): "<i>shall</i>" apply.</p>
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Section X - Contract Forms

Table of Forms

Notification of Intention to Award.....	342
Letter of Acceptance.....	349
Contract Agreement.....	350
Appendix 1. Terms and Procedures of Payment	354
Appendix 2. Price Adjustment	359
Appendix 3. Insurance Requirements.....	359
Appendix 4. Time Schedule.....	363
Appendix 5. List of Major Items of Plant and Installation Services and List of Approved Subcontractors	364
Appendix 6. Scope of Works and Supply by the Employer.....	365
Appendix 7. List of Documents for Approval or Review.....	366
Appendix 8. Functional Guarantees.....	367
Performance Security Form– Bank Guarantee	369
Performance Security Form- Conditional Bank Guarantee..Error! Bookmark not defined.	
Advance Payment Security	372

Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid, unless the Bidder has previously received notice of exclusion from the process at an interim stage of the procurement process]

[Send this Notification to the Bidder’s Authorized Representative named in the Bidder Information Form]

For the attention of Bidder’s Authorized Representative

Name: *[insert Authorized Representative’s name]*

Address: *[insert Authorized Representative’s Address]*

Telephone/Fax numbers: *[insert Authorized Representative’s telephone/fax numbers]*

Email Address: *[insert Authorized Representative’s email address]*

[IMPORTANT: insert the date that this Notification is transmitted to all participating Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Employer: *[insert the name of the Employer]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	<i>[insert name of successful Bidder]</i>
--------------	---

Address:	<i>[insert address of the successful Bidder]</i>
Contract price:	<i>[insert contract price of the successful Bid]</i>
Total combined score:	<i>[insert the total combined score of the successful Bidder]</i>

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid, Bid prices as read out and evaluated, technical scores and combined scores.]*

Name of Bidder	Technical Score	Bid Price	Evaluated Bid Cost	Combined Score
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>

3. Reason/s why your Bid was unsuccessful*[Delete if the combined score already reveals the reason]*

[INSTRUCTIONS: State the reason/s why this Bidder's Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder's Bid or (b) information that is marked confidential by the Bidder in its Bid.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on *[insert date]* (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing, your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number] delete if not used*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

DEADLINE:: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, *[insert date]* (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number] delete if not used*

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the Procurement Regulations for IPF Borrowers (Procurement Regulations) (Annex III). You should read these provisions before preparing and submitting your complaint. In addition, the World Bank’s Guidance “How to make a Procurement-related Complaint” provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Bidder who submitted a Bid in this procurement and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the deadline stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens we will notify you of the extension

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Employer:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful Bidder. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

RFB No.: *[insert number of RFB process]*

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

To: *[insert complete name of Employer]*

In response to your request in the Letter of Acceptance dated *[insert date of letter of Acceptance]* to furnish additional information on beneficial ownership: *[select one option as applicable and delete the options that are not applicable]*

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an

			equivalent governing body of the Bidder (Yes / No)
<i>[include full name (last, middle, first), nationality, country of residence]</i>			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder”

Name of the Bidder: **[insert complete name of the Bidder]*_____

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

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

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

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

* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to “Bidder” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

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

Letter of Acceptance

To: _____

This is to notify you that your Bid dated _____ for execution of the _____ for the Contract Price in the aggregate of _____, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with ITB 46.1, within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, - Contract Forms, of the bidding document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT is made the _____ day of _____, _____,

BETWEEN

(1) _____, a corporation incorporated under the laws of _____ and having its principal place of business at _____ (hereinafter called “the Employer”), and (2) _____, a corporation incorporated under the laws of _____ and having its principal place of business at _____ (hereinafter called “the Contractor”).

WHEREAS the Employer desires to engage the Contractor to design, manufacture, test, deliver, install, complete and commission certain Facilities, viz. _____ (“the Facilities”), and the Contractor has agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGREED as follows:

Article 1. Contract Documents

1.1 Contract Documents (Reference GCC Clause 2)

The following documents shall constitute the Contract between the Employer and the Contractor, and each shall be read and construed as an integral part of the Contract:

- (a) This Contract Agreement and the Appendices hereto
- (b) Letter of Bid and Price Schedules submitted by the Contractor
- (c) Particular Conditions
- (d) General Conditions
- (e) Specification
- (f) Drawings
- (g) Other completed Bidding forms submitted with the Bid
- (h) Any other documents forming part of the Employer’s Requirements
- (i) Any other documents forming part of the contract, including, but not limited to:
 - i. the ES Management Strategies and Implementation Plans; and

ii. Code of Conduct for Contractor's Personnel (ES).

[Any other documents shall be added here.]

1.2 Order of Precedence (Reference GCC Clause 2)

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above.

1.3 Definitions (Reference GCC Clause 1)

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions.

**Article 2. Contract
Price and Terms of
Payment**

2.1 Contract Price (Reference GCC Clause 11)

The Employer hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the aggregate of: _____, _____ as specified in Price Schedule No. 5 (Grand Summary), and _____, _____, or such other sums as may be determined in accordance with the terms and conditions of the Contract.

2.2 Terms of Payment (Reference GCC Clause 12)

The terms and procedures of payment according to which the Employer will reimburse the Contractor are given in the Appendix (Terms and Procedures of Payment) hereto.

The Employer may instruct its bank to issue an irrevocable confirmed documentary credit made available to the Contractor in a bank in the country of the Contractor. The credit shall be for an amount of _____; and shall be subject to the Uniform Customs and Practice for Documentary Credits 2007 Revision, ICC Publication No. 600.

In the event that the amount payable under Schedule No. 1 is adjusted in accordance with GCC 11.2 or with any of the other terms of the Contract, the Employer shall arrange for the documentary credit to be amended accordingly.

**Article 3. Effective
Date**

3.1 Effective Date (Reference GCC Clause 1)

The Effective Date from which the Time for Completion of the Facilities shall be counted is the date when all of the following conditions have been fulfilled:

- (a) This Contract Agreement has been duly executed for and on behalf of the Employer and the Contractor;

- (b) The Contractor has submitted to the Employer the Performance Security and the advance payment guarantee;
- (c) The Employer has paid the Contractor the advance payment;
- (d) constitution of the DB.

Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.

3.2 If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract notification because of reasons not attributable to the Contractor, the Parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Completion and/or other relevant conditions of the Contract.

Article 4. Communications

- 4.1 The address of the Employer for notice purposes, pursuant to GCC 4.1 is: _____.
- 4.2 The address of the Contractor for notice purposes, pursuant to GCC 4.1 is: _____.

Article 5. Appendices

- 5.1 The Appendices listed in the attached List of Appendices shall be deemed to form an integral part of this Contract Agreement.
- 5.2 Reference in the Contract to any Appendix shall mean the Appendices attached hereto, and the Contract shall be read and construed accordingly.

IN WITNESS WHEREOF the Employer and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

Signed by, for and on behalf of the Employer

[Signature]

[Title]

in the presence of _____

Signed by, for and on behalf of the Contractor

[Signature]

[Title]

in the presence of _____

APPENDICES

- Appendix 1 Terms and Procedures of Payment
- Appendix 2 Price Adjustment
- Appendix 3 Insurance Requirements
- Appendix 4 Time Schedule
- Appendix 5 List of Major Items of Plant and Installation Services and List of Approved Subcontractors
- Appendix 6 Scope of Works and Supply by the Employer
- Appendix 7 List of Documents for Approval or Review
- Appendix 8 Functional Guarantees

Appendix 1. Terms and Procedures of Payment

In accordance with the provisions of GCC Clause 12 (Terms of Payment), the Employer shall pay the Contractor in the following manner and at the following times, on the basis of the Price Breakdown given in the section on Price Schedules. Payments will be made in the currencies quoted by the Bidder unless otherwise agreed between the Parties. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

TERMS OF PAYMENT

Schedule No. 1. Equipment Supplied from Abroad

In respect of plant and equipment supplied from abroad, the following payments shall be made:

Ten percent (10%) of the total CIP amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the plant and equipment delivered to the site, as evidenced by shipping and delivery documents.

Eighty percent (80%) of the total or pro rata CIP amount upon Incoterm “CIP”, upon delivery to the carrier within forty-five (45) days after receipt of documents.

Five percent (5%) of the total or pro rata CIP amount upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata CIP amount upon issue of the Operational Acceptance Certificate, within forty-five (45) days after receipt of invoice.

Schedule No. 2. Plant and Equipment Supplied from within the Employer’s Country

In respect of plant and equipment supplied from within the Employer’s Country, the following payments shall be made:

Ten percent (10%) of the total EXW amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the plant and equipment delivered to the site, as evidenced by shipping and delivery documents.

Eighty percent (80%) of the total or pro rata EXW amount upon Incoterm “Ex-Works,” upon delivery to the carrier within forty-five (45) days after receipt of invoice and documents.

Five percent (5%) of the total or pro rata EXW amount upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata EXW amount upon issue of the Operational Acceptance Certificate, within forty-five (45) days after receipt of invoice.

Schedule No. 3. Design Services

In respect of design services for both the foreign currency and the local currency portions, the following payments shall be made:

Ten percent (10%) of the total design services amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer.

Ninety percent (90%) of the total or pro rata design services amount upon acceptance of design in accordance with GCC Clause 20 by the Project Manager within forty-five (45) days after receipt of invoice.

Schedule No. 4. Installation Services

In respect of installation services for both the foreign and local currency portions, the following payments shall be made:

Ten percent (10%) of the total installation services amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of work performed by the Contractor as evidenced by the invoices for installation services.

Eighty percent (80%) of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Operational Acceptance Certificate, within forty-five (45) days after receipt of invoice.

In the event that the Employer fails to make any payment on its respective due date, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the rate of _____/percent (___%) per month for period of delay until payment has been made in full.

PAYMENT PROCEDURES

The procedures to be followed in applying for certification and making payments shall be as follows:

Procedure

Payments will be made by the Employer via wire transfer to the Contractor.

Procedures for payment of taxes and duties

Proof of payment will be required from the Contractor for the reimbursement of local taxes and duties which are eligible for reimbursement by the Employer.

Certificates and Payment

1. Method of Application for Certificate of Payment

- a) The Contractor shall submit to the Employer three (3) copies of the Application for Certificate of Payment each signed by the Contractor and in such form as the Employer may from time to time prescribe. Such invoices, receipts, or other documentary evidence shall accompany as the employer may from time to time require.
- b) The application for Certificate of Payment for progress of Works under the Schedule 4 shall be submitted after end of each month, accompanying also a statement signed by the Contractor in the format prescribed by the Project Manager, showing the amounts to which the Contractor may consider himself to be entitled up to the end of the month in respect of:
 - 1) The permanent work executed
 - 2) Payment of account of lump sum item in the Price Schedule not included under head (1) above
- c) The Applications for Certificate of Payment for supply of Goods from abroad under the Price Schedule No.1 shall be accompanied by the following documents:
 - (A) Shipping Documents comprising of:
 - i. Payment / Commercial Invoice
 - ii. Copy of shipped on-board Bill of Lading or airway bill issued by the freight forwarder (for imported Goods only)
 - iii. Packing list
 - iv. Certificate or Policy of Freight Insurance from Ex-factory to the Project Site or to the Employer Designated Warehouse in case of Spare Parts, of the portion of the Goods for which Certificate of Payment is requested
 - (B) Certificate that the Goods complies with the Specification
 - (C) Certificate of origin, issued by the Contractor
 - (D) Warranty Certificate
 - (E) Pre-shipment inspection report/ inspection report or letter of waiver, issued by the Employer

(F) The Application for Certificate of Payment shall state the amount claimed and shall set forth in detail, in the order of the Price Schedule, particulars of the Work executed up to the date named in the Application and subsequent to the period covered by the last preceding certificate, if any.

2. Issue of Certificate of Payment

The Project Manager, within 14 days, after receiving an Application for Certificate of Payment from the Contractor, shall either approve or amend it as he consider reasonable and proper in respect thereof subject to the deductions of any sums which may have become due and payable by the Contractor to the Employer and issue a Certificate of Payment accordingly to the Employer showing the amount due to the Contractor, with a copy to the Contractor, or, advise the Contractor in writing as to the reasons for which it is being withheld.

3. Reduction in Payment

If any Work is not being carried out in accordance with the Contract to the satisfaction of the Employer, the Project Manager shall have authority to omit or reduce the value of such Work in any Certificate of Payment.

4. Certification of Payable Amount

(1) A Certificate of Payment other than the Final Certificate of Payment shall not be withheld on account of any part of the payment applied for being disputed. In such case, a Certificate of Payment for the undisputed amount shall be issued.

(2) The said Application for Certificate of Payment under Clause 1 hereof, shall be approved or amended, such that, in the Employer's opinion, the Certificate of Payment reflects the amount due to the Contractor, in accordance with the Contract.

5. Corrections to Certificate of Payment

The Employer or its authorized representative may by any Certificate of Payment make any correction or modifications in any previous Certificate of Payment (other than one purporting to be a Final Certificate of Payment), which shall have been issued by him.

6. Time for Approval of Certificate of Payment

The amount due to the Contractor under any Certificate of Payment shall be approved by their for payment within the time stated.

7. Breakdown of Lump Sum Items

The Contractor shall submit to the Project Manager, within twenty-eight (28) days from the contract signing a preliminary breakdown for each of the lump sum items contained in the Bid. Such breakdowns shall be subject to the approval of the Project Manager.

8. Application for Final Certificate of Payment

- (1) The Contractor shall make Application for the Final Certificate of Payment with supporting documentation to the Employer within 28 days after the issuance of the Operational Acceptance Certificate.
- (2) The Application for the Final Certificate of Payment shall be accompanied by a Draft Final Statement prepared by the Contractor. The Draft Final Statement shall give full details of the value of all Goods supplied and Work done under the Contract together with:
 - (a) such additions to or deductions from the Contract Price as have been agreed, and
 - (b) all claims for additional payment to which the Contractor may consider himself entitled under the Contract up to the date of the Operational Acceptance Certificate.
- (3) If the Project Manager disagrees with or cannot verify any part of the Draft Final Statement, the Contractor shall submit such further information as the Project Manager may reasonably require and shall make such changes in all claims for additional payment to which the Contractor may consider himself entitled under the Contract up to the last Operational Acceptance Certificate.

9. Issue of Final Certificate of Payment

- (1) The Project Manager shall issue to the Employer with a copy to the Contractor, the Final Certificate of Payment within 14 days after receiving an Application with Final Statement in accordance with Sub-Clause 8 hereof.
- (2) If the Contractor has not applied for a Final Certificate of Payment within the time specified in Sub-Clause 8 hereof, the Project Manager shall request the Contractor to do so within a further period of 21 days. If the Contractor fails to make such an Application, the Employer shall issue the Final Payment Certificate for such amount as he deems correct.

10. Final Certificate of Payment Conclusive

- (1) A Final Certificate of Payment shall be conclusive evidence of the value of the Work, that the Work is in accordance with the Contract and that the Contractor has performed all his obligations under the Contract.
- (2) Payment of the amount certified in the Final Certificate of Payment shall be conclusive evidence that the Employer has performed all its obligations under the Contract.
- (3) A Final Certificate of Payment shall not be conclusive if any Arbitration or court proceedings under the Contract have been commenced by either party before the expiry of 84 days after the issue of the Final Certificate of Payment.

Appendix 2. Price Adjustment

NOT APPLICABLE

Appendix 3. Insurance Requirements

Insurances to be Taken Out by the Contractor

In accordance with the provisions of GCC Clause 34, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, such approval not to be unreasonably withheld.

(a) Cargo Insurance

Covering loss or damage occurring, while in transit from the supplier's or manufacturer's works or stores until arrival at the Site, to the Facilities (including spare parts therefor) and to the construction equipment to be provided by the Contractor or its Subcontractors.

Type	Amount (USD)	Deductible Limits	Parties Insured	From	To
Cargo Insurance	100% of CIP value	USD 5,000 per incident	Contractor, Employer (co-insured)	Point of Origin	Site Delivery

(b) Installation All Risks Insurance

Covering physical loss or damage to the Facilities at the Site, occurring prior to completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the defect liability period while the Contractor is on the Site for the purpose of performing its obligations during the defect liability period.

Type	Amount (USD)	Deductible Limits	Parties Insured	From	To
Installation All Risks Insurance	100% of Contract Price	USD 10,000 per incident	Contractor, Employer (co-insured)	Start of Installation	Taking Over

(c) Third Party Liability Insurance

Covering bodily injury or death suffered by third parties (including the Employer's personnel) and loss of or damage to property (including the Employer's property and any parts of the Facilities that have been accepted by the Employer) occurring in connection with the supply and installation of the Facilities.

Type	Amount (USD)	Deductible Limits	Parties Insured	From	To
Third Party Liability Insurance	Not less than USD 1,000,000 per occurrence	USD 5,000 per incident	Contractor	Start of Work	Completion

(d) Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors (whether or not owned by them) in connection with the supply and installation of the Facilities. Comprehensive insurance in accordance with statutory requirements.

(e) Workers' Compensation

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(f) Employer's Liability

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(g) Other Insurances

The Contractor is also required to take out and maintain at its own cost the following insurances:

Details:

Type	Amount (USD)	Deductible Limits	Parties Insured	From	To
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Other Insurances (if any)	To be proposed by Contractor	As applicable	Contractor	Start of Contract	Completion
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The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 34.1, except for the Third Party Liability, Workers' Compensation and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 34.1, except for the Cargo, Workers' Compensation and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

Insurances To Be Taken Out By The Employer

The Employer shall at its expense take out and maintain in effect during the performance of the Contract the following insurances.

NONE

Appendix 4. Time Schedule

Appendix 5. List of Major Items of Plant and Installation Services and List of Approved Subcontractors

A list of major items of Plant and Installation Services is provided below.

The following Subcontractors and/or manufacturers are approved for carrying out the items of the Facilities indicated below. Where more than one Subcontractor is listed, the Contractor is free to choose between them, but it must notify the Employer of its choice in good time prior to appointing any selected Subcontractor. In accordance with GCC Sub-Clause 19.1, the Contractor is free to submit proposals for Subcontractors for additional items from time to time. No Subcontracts shall be placed with any such Subcontractors for additional items until the Subcontractors have been approved in writing by the Employer and their names have been added to this list of Approved Subcontractors.

Major Items of Plant and Installation Services	Approved Subcontractors/Manufacturers	Nationality

Appendix 6. Scope of Works and Supply by the Employer

The following personnel, facilities, works and supplies will be provided/supplied by the Employer, and the provisions of GCC Clauses 10, 21 and 24 shall apply as appropriate.

All personnel, facilities, works and supplies will be provided by the Employer in good time so as not to delay the performance of the Contractor, in accordance with the approved Time Schedule and Program of Performance pursuant to GCC Sub-Clause 18.2.

Unless otherwise indicated, all personnel, facilities, works and supplies will be provided free of charge to the Contractor.

Personnel

Charge to Contractor (if any)

Facilities

Charge to Contractor (if any)

Works

Charge to Contractor (if any)

Supplies

Charge to Contractor (if any)

Appendix 7. List of Documents for Approval or Review

Pursuant to GCC Sub-Clause 20.3.1, the Contractor shall prepare, or cause its Subcontractor to prepare, and present to the Project Manager in accordance with the requirements of GCC Sub-Clause 18.2 (Program of Performance), the following documents for

A. Approval

1.

2.

3.

B. Review

1.

2.

3.

Appendix 8. Functional Guarantees

1. General

This Appendix sets out

- (a) the functional guarantees referred to in GCC Clause 28 (Functional Guarantees)
- (b) the preconditions to the validity of the functional guarantees, either in production and/or consumption, set forth below
- (c) the minimum level of the functional guarantees
- (d) the formula for calculation of liquidated damages for failure to attain the functional guarantees.

2. Preconditions

The Contractor gives the functional guarantees (specified herein) for the facilities, subject to the following preconditions being fully satisfied:

3. Functional Guarantees

Subject to compliance with the foregoing preconditions, the Contractor guarantees as follows:

3.1 Production Capacity

and/or

3.2 Raw Materials and Utilities Consumption

4. Failure in Guarantees and Liquidated Damages

4.1 Failure to Attain Guaranteed Production Capacity

If the production capacity of the facilities attained in the guarantee test, pursuant to GCC Sub-Clause 25.2, is less than the guaranteed figure specified in para. 3.1 above, but the actual production capacity attained in the guarantee test is not less than the minimum level specified in para. 4.3 below, and the Contractor elects to pay liquidated damages to the Employer in lieu of making changes, modifications and/or additions to the Facilities, pursuant to GCC Sub-Clause 28.3, then the Contractor shall pay liquidated damages at the rate of _____ for every complete one percent (1%) of the deficiency in the production capacity of the Facilities, or at a proportionately reduced rate for any deficiency, or part thereof, of less than a complete one percent (1%).

4.2 Raw Materials and Utilities Consumption in Excess of Guaranteed Level

If the actual measured figure of specified raw materials and utilities consumed per unit (or their average total cost of consumption) exceeds the guaranteed figure specified in para. 3.2 above (or their specified average total cost of consumption), but the actual consumption attained in the guarantee test, pursuant to GCC Sub-Clause 25.2, is not more than the maximum level specified in para. 4.3 below, and the Contractor elects to pay liquidated damages to the Employer in lieu of making changes, modifications and/or additions to the Facilities pursuant to GCC Sub-Clause 28.3, then the Contractor shall pay liquidated damages at the rate of *[amount in the contract currency]* for every complete one percent (1%) of the excess consumption of the Facilities, or part thereof, of less than a complete one percent (1%).

4.3 Minimum Levels

Notwithstanding the provisions of this paragraph, if as a result of the guarantee test(s), the following minimum levels of performance guarantees (and consumption guarantees) are not attained by the Contractor, the Contractor shall at its own cost make good any deficiencies until the Facilities reach any of such minimum performance levels, pursuant to GCC Sub-Clause 28.2:

- (a) production capacity of the Facilities attained in the guarantee test: ninety-five percent (95%) of the guaranteed production capacity (the values offered by the Contractor in its Bid for functional guarantees represents 100%).

and/or

- (b) average total cost of consumption of all the raw materials and utilities of the Facilities: one hundred and five percent (105%) of the guaranteed figures (the figures offered by the Contractor in its Bid for functional guarantees represents 100%).

4.4 Limitation of Liability

Subject to para. 4.3 above, the Contractor's aggregate liability to pay liquidated damages for failure to attain the functional guarantees shall not exceed _____ percent (___ %) of the Contract price.

Performance Security Form– Bank Guarantee¹

[Guarantor letterhead or SWIFT identifier code]

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

Date: *_ [Insert date of issue]*

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

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

We have been informed that _____ (hereinafter called “the Applicant”) has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called “the Contract”).

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

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (____)², such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall be reduced by half upon our receipt of:

- (a) a copy of the Operational Acceptance Certificate; or
- (b) a registered letter from the Applicant (i) attaching a copy of its notice requesting issuance of the Operational Acceptance Certificate and (ii) stating that the Project Manager has failed to issue such Certificate within the time required or provide in

¹ *The Employer should insert either the Bank Guarantee or the Conditional Guarantee.*

² *The Guarantor shall insert an amount representing the percentage of the Contract Price specified in the Contract and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Employer.*

writing justifiable reasons why such Certificate has not been issued, so that Operational Acceptance is deemed to have occurred.

This guarantee shall expire no later than the earlier of:³

- (a) twelve months after our receipt of either (a) or (b) above; or
- (b) eighteen months after our receipt of:
 - (i) a copy of the Completion Certificate; or
 - (ii) a registered letter from the Applicant, attaching a copy of the notice to the Project Manager that the Facilities are ready for commissioning, and stating that fourteen days have elapsed from receipt of such notice (or seven days have elapsed if the notice was a repeated notice) and the Project Manager has failed to issue a Completion Certificate or inform the Applicant in writing of any defects or deficiencies; or
 - (iii) a registered letter from the Applicant stating that no Completion Certificate has been issued but the Employer is making use of the Facilities; or
- (c) the ____ day of _____, 2____.⁴

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

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

³ This text shall be revised as and where necessary to take into account (i) partial acceptance of the Facilities in accordance with Sub-Clause 25.4 of the GCC; and (ii) extension of the Performance Security when the Contractor is liable for an extended warranty obligation pursuant to Sub-Clause 27.10 of the GCC (although in this latter case the *Employer* might want to consider an extended warranty security in lieu of the extension of the Performance Security).

⁴ Insert the date twenty-eight days after the expected expiration date of the Defect Liability Period. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[signature(s)]

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

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *Name and Address of Employer*

Date:*[Insert date of issue]*.....

Advance Payment Guarantee No.:*[Insert guarantee reference number]*

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

.....
We have been informed that (hereinafter called “the Applicant”) has entered into Contract No. datedwith the Beneficiary, for the execution of, (hereinafter called “the Contract”).

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum (.) is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of . (.)⁵ upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the applicant:

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

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary’s bank stating that the advance payment referred to above has been credited to the Applicant on its account number _____ at _____.

⁵The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of documentation indicating full repayment by the Applicant of the amount of the advance payment, or on the . . . day of⁶, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

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

_____ [signature(s)]

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

⁶*Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*