

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT
KODAL BUILDING, ANNA UNIVERSITY CAMPUS
CHENNAI – 600025, TAMILNADU

INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) PROJECT
Credit No. # 4765 – 0 IN

NATIONAL COMPETITIVE BIDDING

NAME OF WORK	:	Supply, Installation & Commissioning of Clean Room for National Centre for Sustainable Coastal Management, Chennai
IFB No.	:	NPMU/W-20e
PERIOD OF SALE OF BIDDING DOCUMENT	:	FROM 05.03.2014 TO 05.04.2014
DATE AND TIME OF PRE-BID MEETING	:	DATE 20.03.2014 TIME 11.30 HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	:	DATE 07.04.2014 TIME 10.00 HOURS
DATE AND TIME OF OPENING OF BIDS	:	DATE 07.04.2014 TIME 10.30 HOURS
PLACE OF OPENING OF BIDS	:	National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India Phone: 914422300108, Fax: 91 44 2220 0158
OFFICER INVITING BIDS:		The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 Tamilnadu, India Phone: 914422300108, Fax: 91 44 2220 0158

INVITATION FOR BID

(IFB)

GOVERNMENT OF INDIA
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NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT
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CHENNAI – 600025

INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) PROJECT
Credit No. # 4765 – 0 IN

INVITATIONS FOR BIDS (IFB)

NATIONAL COMPETITIVE BIDDING

Date: 03.03.2014
Bid No.: NPMU/W-20e

1. The Government of India has received a credit from the International Development Association towards the cost of Integrated Coastal Zone Management Project and intends to apply a part of the funds to cover eligible payments under the contracts for construction of works as detailed below. Bidding is open to all bidders from eligible source countries as defined in the *IBRD Guidelines for Procurement*. Bidders from India should, however, be registered with the Government of New Delhi or other State Governments/Government of India, or State/Central Government Undertakings. **Bidders are advised to note the minimum qualification criteria specified in Clause 4 of the Instructions to Bidders to qualify for the award of the contract.**

2. The Director, National Centre for Sustainable Coastal Management, Chennai invites bids for the construction of works detailed in the table.

3. Bidding documents (and additional copies) may be purchased from the office of The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 from **05.03.2014 to 05.04.2014** for a non-refundable fee as indicated, in the form of cash or Demand Draft on any Scheduled bank payable at Chennai, in favour of National Centre for Sustainable Coastal Management. Interested bidders may obtain further information at the same address. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of Rs. 500/-. The Director, National Centre for Sustainable Coastal Management, Chennai will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.

The document can also be seen with option to download from the Project website www.ncscm.org. The down loaded bid document can be submitted along with a non-refundable fee of **Rs. 5,250/-** (Rupees Five Thousand Two Hundred Fifty) only towards the cost of the bid document. The Director will not accept the same if any portion of the downloaded document differs from the approved bid document available in the above mentioned office. The download facility will be available from **Dt.05.03.2014 to 05.04.2014** up to 17.00 Hrs. The Bidder should regularly access the same website for clarification, amendment and pre-bid meeting minutes, if any, issued in respect of this bidding.

4. Bids must be accompanied by Security of the amount specified for the work in the table below, drawn in favour of National Centre for Sustainable Coastal Management, payable at Chennai. Bid Security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.

5. Bids must be delivered to The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 on or before 10.00 hours on **07.04.2014** and will be opened on the same day at 10.30 hours, in the presence of the bidders who wish to attend. If the Office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.

6. A pre-bid meeting will be held on **20.03.2014 at 11.30 hrs.** at the Office of The Director, National Centre for Sustainable Coastal Management, Koodal Building, Anna University Campus, Chennai-600025 to clarify the issues

and to answer questions on any matter that may be raised at that stage as stated in Clause 9.2 of 'Instructions to Bidders' of the bidding document.

7. Other details can be seen in the bidding documents.

TABLE

<u>Package No.</u>	<u>Name of Work</u>	<u>Approximate Value of Work (Rs.)</u>	<u>Bid Security (Rs.)</u>	<u>Cost of Bid Document (Rs.)</u>	<u>Period of Completion</u>
1	2	3	4	5	6
NPMU/ W-20e	Supply, Installation & Commissioning of Clean Room Facility for National Centre for Sustainable Coastal Management, Chennai	1.80 Crores	1,80,000/-	5,250/-	8 Months

Seal of Office

SECTION 1: INSTRUCTIONS TO BIDDERS
(ITB)

Section 1: Instructions to Bidders

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A. General

1. Scope of Bid

- 1.1** The Director, National Centre for Sustainable Coastal Management, Chennai (referred to as Employer in these documents) invites bids for the construction of works (as defined in these documents and referred to as "the works") detailed in the table given in IFB. The bidders may submit bids for any or all of the works detailed in the table given in IFB.
- 1.2** The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.

2. Source of Funds

- 2.1** The Government of India has received a loan/credit from the International Bank for Reconstruction and Development/the International Development Association (hereinafter interchangeably called "the Bank") towards the cost of Integrated Coastal Zone Management Project and intends to apply a part of the funds to cover eligible payments under the contract for the Works. Payments by the Bank will be made only at the request of the borrower and upon approval of the Bank in accordance with the *Loan/Credit Agreement*, and will be subject in all respects to the terms and conditions of that Agreement. Except as the Bank may specifically otherwise agree, no party other than the borrower shall derive any rights from the *Loan/Credit Agreement* or have any rights to the loan/credit proceeds.
- 2.2** The loan agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council, taken under Chapter VII of the Charter of the United Nations.

3. Eligible Bidders

- 3.1** This *Invitation for Bids* is open to all bidders from the eligible countries as defined under the *IBRD Guidelines for Procurement*. Any materials, equipment, and services to be used in the performance of the Contract shall have their origin in the eligible source countries.
- 3.2** All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Borrower to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.
- 3.3** Government-owned enterprises in the Employer's country may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Borrower or Sub-borrower.
- 3.4** Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Bank in accordance with sub-clause 37.1.

4. Qualification of the Bidder

- 4.1** All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 4.2** In the event that Pre-qualification of potential bidders has been undertaken, only bids from prequalified bidders will be considered for award for Contract. These qualified bidders should submit with their bids any information updating their original prequalification applications or, alternatively, confirm in their bids that the originally submitted prequalification information remains essentially correct as of date of bid submission. The update or confirmation should be provided in Section 2.

4.3 If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section 2:

- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
- (b) total monetary value of construction work performed for each of the last five years;
- (c) experience in works of a similar nature and size for each of the last five years, and details of works under way or contractually committed; and clients who may be contacted for further information on those contracts.

NOTE: Similar works means any single project of Clean Room Works. This work should include Supply, Installation and Commissioning Works for Clean Room: It should include Electrical Lighting & HVAC Work.

- (d) major items of construction equipment proposed to carry out the Contract;
- (e) qualifications and experience of key site management and technical personnel proposed for the Contract;
- (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
- (g) evidence of adequacy of working capital for this contract (access to line (s) of credit and availability of other financial resources);
- (h) authority to seek references from the Bidder's bankers;
- (i) information regarding any litigation or arbitration resulting from contracts executed by the Bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute;
- (j) proposals for subcontracting components of the Works which in aggregate add to more than 20 percent of the Bid Price (*for each, the qualifications and experience of the identified sub-contractor in the relevant field should be annexed; no vertical splitting of work for sub-contracting is acceptable*); and
- (k) the proposed methodology and program of construction including Environmental Management Plan, backed with equipment, materials and manpower planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.
- (l) The bidder and all the identified sub-contractors should have established quality control (QC) or quality assurance (QA) policies for the company (include the certified copies of the QC/QA policies along with the bid). The bidder and all the identified sub-contractors should have established environment, health and safety (EHS) policies and Environmental Management Plan; and should include in the bid the proposals for ensuring compliance to environmental, health and safety concerns and methodology for compliance with construction to achieve Leeds Certification, and include details of deployment of qualified environmental engineer(s) and safety engineer(s).

4.4 *'Bids from Joint ventures are not acceptable'.*

4.5 A. To qualify for award of the contract, each bidder in its name should have in the last five years i.e. 2008-09 to 2012-13-

- (a) achieved, in at least two financial years, a minimum annual financial turnover (in Supply, Installation & Commissioning of Clean Room only) of **Rs.5 Crores**.
- (b) satisfactorily completed (not less than 90% of contract value), as a prime contractor, (or as subcontractor duly certified by the employer/main contractor) at least **one similar work** of value not less than **Rs.2 Crore**;

NOTE: Similar works means any single project of Clean Room Works. This work should include Supply, Installation and Commissioning Works for Clean Room: It should include Electrical Lighting & HVAC Work.

- (c) Deleted
- (d) Deleted

NOTE: All prices financial qualification mentioned above are at 2013-14 price level. Financial turnover and cost of completed works of previous years shall be given weightage of 10% per year based on rupee value to bring them to 2013-14 price level.

4.5 B. Each bidder should further demonstrate:

- (a) availability (either owned or leased or by procurement against mobilization advances) of the key and critical equipments for this work:

The Bidders should undertake their own studies, read drawings, specification and organize scaffolding, power, water and all other tools, equipment as required to successfully complete the works.

- (b) availability for this work of following full time persons -

Sl. No.	Position/ Functional Expertise	No.	Minimum Experience in Specified work
1.	Project Manager	1-full time	5 years of experience in similar works
2.	Supervisor	1-full time	3 years of experience in similar work
3.	Safety Officer	1-full time	5 years experience in Daily review/ Supervision of procedures

- (c) liquid assets and/or availability of credit facilities of no less than **Rs. 1.00 Crore** in the format given in Section 2.
(Credit lines/letter of credit/certificates from Banks for meeting the funds requirement should be submitted along with the bid.)

4.5 C. To qualify for a package of contracts made up of this and other contracts for which bids are invited in the IFB, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for the individual contracts.

- 4.6 Sub-contractors' experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria.
- 4.7 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A * N * 1.5 - B)$$

where

- A = Maximum value of civil engineering works executed in any one year during the last five years (updated to 2013-14 price level) taking into account the completed as well as works in progress.
- N = Number of years prescribed for completion of the works for which bids are invited.
- B = Value, at 2013-14 price level, of existing commitments and on-going works to be completed during the next 1 years (period of completion of the works for which bids are invited)

Note: The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

4.8 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.

5. One Bid per Bidder

5.1 Each bidder shall submit only one bid for one contract. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

7. Site visit

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

** the financial year in which bids are received*

B. Bidding Documents

8. Content of Bidding Documents

8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

Invitation for Bids		
Section	1	Instructions to Bidders
	2	Forms of Bid and Qualification Information
	3	Conditions of Contract
	4	Contract Data
	5	Specifications
	6	Drawings
	7	Bills of Quantities
	8	Forms of Securities

8.2 Of the three sets of the bidding documents supplied, two sets should be completed and returned with the bid.

9. Clarification of Bidding Documents

9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable (hereinafter "cable" includes telex and facsimile) at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15

days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

9.2 Pre-bid meeting

9.2.1 The bidder or his official representative is invited to attend a pre-bid meeting which will take place at Office of The Director, National Centre for Sustainable Coastal Management (NCSCM), Koodal Building, Anna University Campus, Chennai-600025 on **20.03.2014 at 11.30 Hours**.

9.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.2.3 The bidder is requested to submit any questions in writing or by cable to reach the Employer not later than one week before the meeting.

9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 8.1 which 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 Clause 10 and not through the minutes of the pre-bid meeting.

9.2.5 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.

10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. Preparation of Bids

11. Language of the Bid

11.1 All documents relating to the bid shall be in the English language.

12. Documents comprising the Bid

12.1 The bid submitted by the bidder shall comprise the following:

- (a) The Bid (in the format indicated in Section 2).
- (b) Bid Security;
- (c) Priced Bill of Quantities;
- (d) Qualification Information Form and Documents;

and any other materials required to be completed and submitted by bidders in accordance with these instructions. The documents listed under Sections 2, 4 and 7 of Sub-Clause 8.1 shall be filled in without exception.

12.2 Bidders bidding for this contract together with other contracts stated in the IFB to form a package will so indicate in the bid together with any discounts offered for the award of more than one contract.

13. Bid Prices

13.1 The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill Quantities submitted by the Bidder.

13.2 The bidder shall fill in rates and prices and line item total (both in figures and words) for all items of the Works described in the **Bill of Quantities** along with total bid price (both in figures and words). *Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.* Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

13.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.

Note: *“Bidders may like to ascertain availability of excise/custom duty exemption benefits available in India to the contracts financed under World Bank loan/credits. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the employer will not compensate the bidder (contractor). Where the bidder has quoted taking into account such benefits, he must give all information required for issue of certificates in terms of such notifications as per form attached to the Qualification Information in the bid. To the extent the employer determines the quantity indicated therein are reasonable keeping in view the bill of quantities, construction programme and methodology, the certificates will be issued within 60 [sixty] days of signing of contract and no subsequent changes will be permitted. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. The bids which do not conform to the above provisions will be treated as non responsive and rejected. Any delay in procurement of the construction equipment /machinery/goods as a result of the above shall not be a cause for granting any extension of time.”*

13.4 The rates and prices quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.

14. Currencies of Bid and Payment

14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

15. Bid Validity

15.1 Bids shall remain valid for a period not less than ninety (90) days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

* *Choose one and delete the other.*

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid

security. A bidder agreeing to the request will not be required or permitted to modify his bid except as provided in 15.3 hereinafter, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.3 In the case of contracts in which the Contract Price is fixed (not subject to price adjustment), in the event that the purchaser requests and the Bidder agrees to an extension of the validity period, the contract price, if the Bidder is selected for award shall be the bid price corrected as follows :

The price shall be increased by the factor 0.4% for each week or part of a week that has elapsed from the expiration of the initial bid validity to the date of issue of letter of acceptance to the successful Bidder.

15.4 Bid evaluation will be based on the bid prices without taking into consideration the above correction.

16. Bid Security

16.1 The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This bid security shall be in favour of National Centre for Sustainable Coastal Management, payable at Chennai and may be in one of the following forms:

- a bank guarantee issued by a nationalized / scheduled bank located in India or a reputable bank located abroad in the form given in Section 8; or
- Certified Cheque, Bank Draft or Letter of Credit in favour of National Centre for Sustainable Coastal Management, payable at Chennai.

16.2 Bank guarantees issued as surety for the bid shall be valid for 45 days beyond the validity of the bid.

16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.

16.4 The Bid Security of unsuccessful bidders will be returned within 28 days of the end of the bid validity period specified in Sub-Clause 15.1.

16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security may be forfeited

- (a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
- (b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
- (c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - (i) sign the Agreement; or
 - (ii) furnish the required Performance Security.

17. **Alternative Proposals by Bidders**

17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.

18. **Format and Signing of Bid**

18.1 The Bidder shall prepare one original and one copy of the documents comprising the bid as described in Clause 12 of these *Instructions to Bidders*, bound with the volume containing the Form of Bid, and clearly marked "**ORIGINAL**" and "**COPY**" as appropriate. In the event of discrepancy between them, the original shall prevail.

18.2 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub-Clauses 4.3. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.

18.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

18.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

19. **Sealing and Marking of Bids**

19.1 The Bidder shall seal the original and copy of the Bid in separate envelopes, duly marking the envelopes as "**ORIGINAL**" and "**COPY**". These envelopes (called as inner envelopes) shall then be put inside one outer envelope.

19.2 The **inner and outer** envelopes shall

(a) be addressed to the Employer at the following address:
The Director,
National Centre for Sustainable Coastal Management,
Koodal Building, Anna University Campus,
Chennai-600025

and

(b) bear the following identification:

- Bid for Supply, Installation & Commissioning of Clean Room Facility for National Centre for Sustainable Coastal Management, Chennai
- Bid Reference No. NPMU/W-20e
- **DO NOT OPEN BEFORE 10.30 HOURS ON 07.04.2014**

19.3 In addition to the identification required in Sub-Clause 19.2, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21.

19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

20. **Deadline for Submission of the Bids**

20.1 Bids must be received by the Employer at the address specified above no later than 10.00 Hours on **07.04.2014**. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received up to the appointed time on the next working day.

20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

22. Modification and Withdrawal of Bids

22.1 Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20.

22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "**MODIFICATION**" or "**WITHDRAWAL**", as appropriate.

22.3 No bid may be modified after the deadline for submission of Bids.

22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

22.5 Bidders may offer discounts to, or modify the prices of their Bids only by submitting Bid modifications in accordance with this clause, or included in the original Bid submission.

E. Bid Opening and Evaluation

23. Bid Opening

23.1 The Employer will open all the Bids received (except those received late), including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at 10.30 hours on the date and the place specified in Clause 20. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.

23.2 Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened. Subsequently all envelopes marked "Modification" shall be opened and the submissions therein read out in appropriate detail.

23.3 The Bidders' names, the Bid prices, the total amount of each Bid and of any alternative Bid (if alternatives have been requested or permitted), any discounts, Bid modifications and withdrawals, the presence or absence of Bid security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. No bid shall be rejected at bid opening except for the late bids pursuant to Clause 21. Bids [and modifications] sent pursuant to Clause 22 that are not opened and read out at bid opening will not be considered for further evaluation regardless of the circumstances. Late and withdrawn bids will be returned un-opened to bidders.

23.4 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.3.

**Insert time and date; this should be the same as those given in the Invitation for Bids.*

24. Process to Be Confidential

24.1 Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

25. Clarification of Bids

25.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of the unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 27.

25.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

25.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

26. Examination of Bids and Determination of Responsiveness

26.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.

26.2 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

26.3 If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer **as follows**:

- (a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
- (b) where there is a discrepancy between the unit and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

27.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

28. Deleted

29. Evaluation and Comparison of Bids

- 29.1** The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 26.
- 29.2** In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
- (a) making any correction for errors pursuant to Clause 27; or
 - (b) making an appropriate adjustments for any other acceptable variations, deviations; and
 - (c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub Clause 22.5.
- 29.3** The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Bid evaluation.
- 29.4** The estimated effect of the price adjustment conditions under Clause 47 of the *Conditions of Contract*, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.
- 29.5** If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

30. Deleted

F. Award of Contract

31. Award Criteria

- 31.1** Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3, and (b) qualified in accordance with the provisions of Clause 4.
- 31.2** If, pursuant to Clause 12.2 this contract is being let along with other contracts, the lowest evaluated Bid Price will be determined when evaluating this contract in conjunction with other contracts to be awarded concurrently, taking into account any discounts offered by the bidders for the award of more than one contract.

32. Employer's Right to Accept any Bid and to Reject any or all Bids

- 32.1** Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

- 33.1** The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").
- 33.2** The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 34.
- 33.3** The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be kept ready for signature of the successful bidder in the office of employer within 28 days following the notification of award along with the Letter of Acceptance. Within 21 days of receipt, the successful Bidder will sign the Agreement and deliver it to the Employer.
- 33.4** Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

34. Performance Security

- 34.1** Within 21 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to 5% of the Contract price plus additional security for unbalanced Bids in accordance with Clause 29.5 of ITB and Clause 52 of Conditions of Contract:
- a bank guarantee in the form given in Section 8; or
 - Certified Cheque/Bank Draft, in favour of National Centre for Sustainable Coastal Management, payable at Chennai
- 34.2** If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalized/Scheduled Indian bank or (b) by a foreign bank located in India and acceptable to the Employer or (c) by a foreign bank through a correspondent Bank in India [scheduled or nationalized].
- 34.3** Failure of the successful bidder to comply with the requirements of sub-clause 34.1 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security, and any such other remedy the Employer may take under the contract, and the Employer may resort to awarding the contract to the next ranked bidder.

35. Advance Payment and Security

- 35.1** The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Data.

36. Adjudicator

- 36.1** The Employer proposes that Prof. Chhaya Dean, CEPT, be appointed as Adjudicator under the Contract, at a daily fee of Rs.5,000/- plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If in the Letter of Acceptance, the Employer has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by Institute of Engineers (India), Tamilnadu State Centre, Chennai, at the request of either party, at a daily fee plus reimbursable expenses, as suggested by Institute of Engineers (India), Tamilnadu State Centre, Chennai.

37. Corrupt or Fraudulent Practices

37.1 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and contractors and their subcontractors under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts.¹ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice"² 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"³ is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (iii) "collusive practice"⁴ 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"⁵ 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
 - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under sub-clause 3.1 (e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur;
- (d) will sanction a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a Bank-financed contract if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, a Bank-financed contract; and
- (e) will have the right to require that a provision be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers, and contractors and their sub-contractors to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

37.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 23.2 and⁶⁴ of the Conditions of Contract.

1 In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper.

2 "another party" refers to a public official acting in relation to the procurement process or contract execution]. In this context, "public official" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

3 a "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

4 "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

5 a "party" refers to a participant in the procurement process or contract execution.

SECTION 2:

FORMS OF BID, QUALIFICATION INFORMATION AND LETTER OF ACCEPTANCE

Table of Forms:

- **CONTRACTOR'S BID**
- **QUALIFICATION INFORMATION**
- **LETTER OF ACCEPTANCE**
- **NOTICE TO PROCEED WITH THE WORK**
- **AGREEMENT FORM**

Contractor's Bid

Description of the Works: Supply, Installation & Commissioning of Clean Room Facility for National Centre for Sustainable Coastal Management, Chennai

To
The Project Director
National Centre for Sustainable Coastal Management,
Koodal Building, Anna University Campus,
Chennai-600025

Having examined the bidding documents including addendum, we offer to execute the Works described above in accordance with the Conditions of Contract, Specifications, Drawings and Bill of Quantities accompanying this Bid for the Contract Price of _____ [in figures] (_____) [in letters].⁶

The advance Payment required is: Rupees _____.

We accept the appointment of Prof. Chhaya, Dean, CEPT _____ as the Adjudicator.

(OR)

We do not accept the appointment of Chhaya, Dean, CEPT _____ as the Adjudicator and propose instead that _____ be appointed as Adjudicator whose daily fees and biographical data are attached.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We also undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

<u>Name and address of agent</u>	<u>Amount</u>	<u>Purpose of Commission or gratuity</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

(if none, state "none")

We hereby confirm that this Bid complies with the Eligibility, Bid Validity and Bid Security required by the Bidding documents.

Yours faithfully,

Authorized Signature:

Name & Title of Signatory: _____

Name of Bidder : _____

Address : _____

Qualification Information

The information to be filled in by the Bidder in the following pages will be used for purposes of postqualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

1.1 Constitution or legal status of Bidder
[Attach copy]

Place of registration: _____

Principal place of business: _____

Power of attorney of signatory of Bid
[Attach]

1.2 Total value of Civil Engineering construction work executed and payments received in the last five years (in Rs. Million)

	β
	2008-2009 _____
	2009-2010 _____
	2010-2011 _____
	2011-2012 _____
	2012-2013 _____

1.3.1 Work performed as prime contractor (in the same name) on works of a similar nature over the last five years i.e. 2008-09, 2009-10, 2010-11, 2011-12 & 2012-13.

Similar works means any single project of Clean Room Works. This work should include Supply, Installation and Commissioning Works for Clean Room: It should include Electrical Lighting & HVAC Work.

<u>Project Name</u>	<u>Name of the Employer*</u>	<u>Description of work</u>	<u>Contract No.</u>	<u>Value of contract (Rs. Million)</u>	<u>Date of issue of work order</u>	<u>Stipulated period of completion</u>	<u>Actual date of completion*</u>	<u>Remarks explaining reasons for delay and work completed</u>

1.3.2 Quantities of work executed as prime contractor (in the same name and style) in the last five years:

<u>Year</u>	<u>Name of the Work</u>	<u>Name of the Employer*</u>	<u>Quantity of work performed (cum) @</u>			<u>Remarks* (indicate contract Ref)</u>
			<u>Cement concrete</u>	<u>Masonry</u>	<u>E/works</u>	
2008-2009						
2009-2010						
2010-2011						
2011-2012						
2012-2013						

**Attach certificate(s) from the Engineer(s)-in-Charge*

@The item of work for which data is requested should tally with that specified in ITB clause 4.5A(c).

β Attach certificate from Chartered Accountant.

1.4 Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Name and Address of Employer	Value of Contract (Rs. million)	Stipulated period of completion	Value of works* remaining to be completed (Rs. million)	Anticipated date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(B) Works for which bids already submitted:

Description of Work	Place & State	Name and Address of Employer	Estimated value of works period of (Rs. million)	Stipulated decision is completion	Date when if any expected	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)

* Attach certificate(s) from the Engineer(s)-in-Charge.

1.5 The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3 (d) and 4.5 (B) (a) of the Instructions to Bidders.

Item of equipment	Requirement		Availability proposals			Remarks (From whom to be purchased)
	No.	Capacity	Owned/leased/ to be procured	Nos/ capacity	Age/ condition	
*	*	*	*	*	*	*
	*	*	*	*	*	*

- 1.6 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to Sub Clause 4.3 (e) and 4.5 (B) (b) of instructions to Bidders and Sub Clause 9.1 of the Conditions of Contract.

<u>Position</u>	<u>Name</u>	<u>Qualifications</u>	<u>Years of experience (general)</u>	<u>Years of experience in the proposed position</u>
Project Manager	*	*	*	*
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
etc.				

- 1.7 Proposed subcontracts and firms involved. [Refer ITB Clause 4.3 (j)]

<u>Sections of the works</u>	<u>Value of Sub-contract</u>	<u>Sub-contractor (name and address)</u>	<u>Experience in similar work</u>
*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	*

- 1.8 Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies.
- 1.9 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents *[sample format attached]*.
- 1.10 Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.
- 1.11 Information on litigation history in which the Bidder is involved.

<u>Other party(ies)</u>	<u>Employer</u>	<u>Cause of dispute</u>	<u>Amount involved</u>	<u>Remarks showing Presentstatus</u>

1.12 Statement of compliance under the requirements of Sub Clause 3.2 of the instructions to Bidders.

1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 and 4.3 (k)].

2. Joint Ventures - Deleted

3. Additional Requirements

3.1 Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, (refer clause 4.5 B (d), (e) and (f):

(1) The bidder / parent company should be an Official member with SEFA (Scientific Equipment and Furniture Association) on a continuous basis for the past 10 years from the date of this notification. Relevant documentation in this regard should be submitted

(2) The bidder should have the ability to do ASHRAE testing at site through self or third party. The bidder should submit back-up documents verifying similar tests having been conducted at client site in the past.

(3) The bidder or its parent company in India or developed Countries should have a well-established (their own) in house manufacturing unit for the steel lab furniture and fume hood, quality management system as per International standards providing the products and services on a continuous basis for the last 7 years. The bidder or its parent company in India or developed Countries should possess the current/valid approval for such equipment manufacturing facility by a statutory certifying authority.

SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES –*
CLAUSE 4.5 [B] [c] OF ITB

BANK CERTIFICATE

This is to certify that M/s. is a reputed company with a good financial standing.

If the contract for the work, namely [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. to meet their working capital requirements for executing the above contract.

__ Sd. __

Name of Bank

Senior Bank Manager

Address of the Bank

(To be given from a Nationalised / Scheduled Bank in India)

(Name of the Project)

(Declaration regarding customs/excise duty exemption for materials/
construction equipment bought for the work)

(Bidder's Name and Address)

To:
(Name of the Employer)

Dear Sir:

Re: [Name of Work] -

Certificate for Import/Procurement of Goods/Construction Equipment

- We confirm that we are solely responsible for obtaining customs/excise duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.
- We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India Central Excise Notification No. 108/95 and Customs Notification No. 85/99.

- The goods/construction equipment for which certificates are required are as under:

Items	Make/ Brand Name	Capacity [where applicable]	Quantity	Value	State whether it will be procured locally or imported [if so from which country]	Remarks regarding justification for the quantity and their usage in works
Goods						
[a] Bitumen						
[b] Others						
Construction Equipment						
[a]						
[b]						
[c]						
[d]						

- We agree that no modification to the above list is permitted after bids are opened.
- We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction programme and methodology as furnished by us along with the bid.
- We confirm that the above goods will be exclusively used for the construction of the above work and construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
Place: _____(Signature) _____
(Printed Name) _____
(Designation) _____
(Common Seal) _____***This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.***

Letter of Acceptance
(Letter Head of the Employer)

_____ [date]

To: _____ [name and address of
the Contractor]

Dear Sirs,

This is to notify you that your Bid dated _____ for execution of the _____
_____ [name of the contract and identification
number, as given in the Instructions to Bidders] for the Contract Price of Rupees _____
_____ (_____) [amount in words and figures], as corrected and
modified in accordance with the Instructions to Bidders¹ is hereby accepted by our Agency.

We accept/do not accept that _____ be appointed as the Adjudicator².

We note that as per bid, you do not intend to subcontract any component of work.

[OR]

We note that as per bid, you propose to employ M/s. as sub-contractor for executing
.....

[Delete whichever is not applicable]

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 29.5, in the form detailed in Para 34.1 of ITB for an amount of Rs. _____ within 21 days of the receipt of this letter of acceptance valid upto 28 days from the date of expiry of Defects Liability Period i.e. upto and sign the contract, failing which action as stated in Para 34.3 of ITB will be taken.

We have reviewed the construction methodology submitted by you alongwith the bid in response to ITB Clause 4.3[k] and our comments are given in the attachment. You are requested to submit a revised Program including environmental management plan as per Clause 27 of General Conditions of Contract within 14 days of receipt of this letter.

Yours faithfully,

Authorized Signature

Name and Title of Signatory

Name of Agency

1 Delete "corrected and" or "and modified" if only one of these actions applies. Delete "as corrected and modified in accordance with the Instructions to Bidders" if corrections or modifications have not been effected.

2 To be used only if the Contractor disagrees in his Bid with the Adjudicator proposed by the Employer in the "Instructions to Bidders."

Issue of Notice to proceed with the work

(Letter Head of the Employer)

_____ (date)

To

_____ (name and address of the Contractor)

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB clause 34.1 and signing of the contract agreement for the construction of _____ @ a Bid Price of Rs. _____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of
signatory authorized to sign on
behalf of Employer)

Agreement Form

Agreement

This agreement, made the _____ day of _____, 19_____, between _____ [name and address of Employer] (hereinafter called “the Employer”) of the one part and _____ [name and address of contractor] (hereinafter called “the Contractor”) of the other part.

Whereas the Employer is desirous that the Contractor execute _____ [name and identification number of Contract] (hereinafter called “the Works”) and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a contract price of Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - i) Letter of Acceptance;
 - ii) Notice to proceed with the works;
 - iii) Contractor’s Bid;
 - iv) Contract Data;
 - v) Conditions of contract (including Special Conditions of Contract);
 - vi) Specifications;
 - vii) Drawings;
 - viii) Bill of Quantities; and
 - ix) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said _____

in the presence of:

Binding Signature of Employer _____

Binding Signature of Contractor _____

SECTION 3: CONDITIONS OF CONTRACT

Conditions of Contract

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Conditions of Contract

A. General

1. Definitions

1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Clauses 24 and 25. The name of the Adjudicator is defined in the Contract Data.

Bill of Quantities means the priced and completed **Bill of Quantities** forming part of the Bid.

Compensation Events are those defined in Clause 44 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the execution of the works and administering the Contract.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
- (1) Agreement
 - (2) Letter of Acceptance, notice to proceed with the works
 - (3) Contractor's Bid
 - (4) Contract Data

- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Drawings
- (8) **Bill of Quantities** and
- (9) any other document listed in the Contract Data as forming part of the Contract.

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

4.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

5.1 The Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Engineer but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

9. Personnel

9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Engineer.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

15.1 The Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

16.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings, and as per instructions of Engineer.

17. The Works to Be Completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.

18.2 The Contractor shall be responsible for design of Temporary Works.

18.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.

18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Safety

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

22. Access to the Site

22.1 The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

23. Instructions

23.1 The Contractor shall carry out all instructions of the Engineer which comply with the applicable laws where the Site is located.

23.2 The Contractor shall permit the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records of the Contractor and its subcontractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Bank if required by the Bank. The Contractor's attention is drawn to Clause 64 [Corrupt or Fraudulent Practices] which

provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 23.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility under the Procurement Guidelines)."

24. Disputes

24.1 If the Contractor believes that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Engineer's decision.

25. Procedure for Disputes

25.1 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

25.2 The Adjudicator shall be paid daily at the rate specified in the Contract Data together with reimbursable expenses of the types specified in the Contract Data and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

25.3 The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

26. Replacement of Adjudicator

26.1 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not fulfilling his functions in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the Contract Data at the request of either party, within 14 days of receipt of such request.

B. Time Control

27. Program

27.1 Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Program including Environmental Management Plan showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.

27.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

27.3 The Contractor shall submit to the Engineer, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.

27.4 The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

28. Extension of the Intended Completion Date

28.1 The Engineer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date

without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

28.2 The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

29. Deleted

30. Delays Ordered by the Engineer

30.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

31. Management Meetings

31.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

31.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

32.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

32.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

C. Quality Control

33. Identifying Defects

33.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.

33.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer's responsibility as defined in the Contract Agreement.

34. Tests

34.1 If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

35. Correction of Defects

35.1 The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

35.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

36. Uncorrected Defects

36.1 If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

Note: Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits at reduced rates, Engineer will certify payments to Contractor accordingly.

D. Cost Control

37. Bill of Quantities

37.1 The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the contractor.

37.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

38. Changes in the Quantities

38.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1% of Initial Contract Price, the Engineer shall adjust the rate to allow for the change.

38.2 The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the Prior approval of the Employer.

38.3 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

39. Variations

39.1 All Variations shall be included in updated Programs produced by the Contractor.

40. Payments for Variations

40.1 The Contractor shall provide the Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.

40.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the quantity of work above the limit stated in Sub Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work.

40.3 If the Contractor's quotation is unreasonable (or if the contractor fails to provide the Engineer with a quotation within a reasonable time specified by the engineer in accordance with Clause 40.1), the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.

40.4 If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

40.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

41. Cash flow forecasts

41.1 When the Program is updated, the contractor is to provide the Engineer with an updated cash flow forecast.

42. Payment Certificates

42.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously alongwith details of measurement of the quantity of works executed in a tabulated form as approved by the Engineer.

42.2 The Engineer shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 51(3) of the Contract Data (Secured Advance).

42.3 The value of work executed shall be determined by the Engineer after due check measurement of the quantities claimed as executed by the contractor.

42.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed..

42.5 The value of work executed shall include the valuation of Variations and Compensation Events.

42.6 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

43. Payments

43.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made upto the date when the late payment is made at 8% per annum.

43.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

43.3 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

44. Compensation Events

44.1 The following are Compensation Events unless they are caused by the Contractor:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.
- (b) The Employer modifies the schedule of other contractors in a way which affects the work of the contractor under the contract.
- (c) The Engineer orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
- (d) The Engineer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.

- (e) The Engineer unreasonably does not approve for a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Engineer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effect on the Contractor of any of the Employer's Risks.
- (k) The Engineer unreasonably delays issuing a Certificate of Completion.
- (l) Other Compensation Events listed in the Contract Data or mentioned in the Contract.

44.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date is extended. The Engineer shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

44.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Engineer and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Engineer shall adjust the Contract Price based on Engineer's own forecast. The Engineer will assume that the Contractor will react competently and promptly to the event.

44.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer.

45. Tax

45.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

46. Currencies

46.1 All payments shall be made in Indian Rupees.

47. Price Adjustment

47.1 Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in the contract data:

- (a) The price adjustment shall apply for the work done from the start date given in the contract data upto end of the initial intended completion date or extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.

- (b) The price adjustment shall be determined during each quarter from the formula given in the contract data.
- (c) Following expressions and meanings are assigned to the work done during each quarter:
 - R = Total value of work done during the quarter. It would include the amount of secured advance for materials paid for (if any) during the quarter, less the amount of the secured advance recovered, during the quarter. It will exclude value for works executed under variations for which price adjustment will be worked separately based on the terms mutually agreed.

47.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

48. Retention

- 48.1** The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.
- 48.2** On Completion of the whole of the Works half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- 48.3** On completion of the whole works, the contractor may substitute retention money (*balance half*) with an “on demand” Bank guarantee.

49. Liquidated Damages

- 49.1** The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.
- 49.2** If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the over payment calculated from the date of payment to the date of repayment at the rates specified in Sub Clause 43.1.

50. Deleted

51. Advance Payment

- 51.1** The Employer shall make advance payment to the Contractor of the amounts stated in the Contract Data by the date stated in the Contract Data, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will not be charged on the advance payment.
- 51.2** The Contractor is to use the advance payment only to pay for Equipment, Plant and Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that

advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

51.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance (mobilization and equipment only) payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, or Liquidated Damages.

51.4 Secured Advance:

The Engineer shall make advance payment in respect of materials intended for but not yet incorporated in the Works in accordance with conditions stipulated in the Contract Data.

52. Securities

52.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

53. Deleted

54. Cost of Repairs

54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

55. Completion

55.1 The Contractor shall request the Engineer to issue a Certificate of Completion of the Works and the Engineer will do so upon deciding that the Work is completed.

56. Taking Over

56.1 The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

57. Final Account

57.1 The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

58. Operating and Maintenance Manuals

58.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

58.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

59. Termination

59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

59.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer;
- (b) the Engineer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Engineer is not paid by the Employer to the Contractor within 56 days of the date of the Engineer's certificate;
- (e) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (f) the Contractor does not maintain a security which is required;
- (g) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (h) if the Contractor, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 64, in competing for or in executing the Contract.

59.3 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

59.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

59.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

60. Payment upon Termination

60.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due

to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

60.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

61. Property

61.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

62. Release from Performance

62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

63. Suspension of World Bank Loan or Credit

63.1 In the event that the World Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made:

- (a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the World Bank's suspension notice.
- (b) If the Contractor has not received sums due to it upon the expiration of the 28 days for payment provided for in Sub-Clause 43.1, the Contractor may immediately issue a 14-day termination notice.

64. Fraud and Corruption

64.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 59 shall apply as if such expulsion had been made under Sub-Clause 59.5 [Termination by Employer].

64.2 Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.

64.3 For the purposes of this Sub-Clause:

- (i) “corrupt practice”⁷ 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”⁸ is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) “collusive practice”⁹ 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”¹⁰ 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
 - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under Sub-Clause 22.2.

7 “another party” refers to a public official acting in relation to the procurement process or contract execution]. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

8 a “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

9 “parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

10 a “party” refers to a participant in the procurement process or contract execution.

F. Special Conditions of Contract

1. LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK **(The law as current on the date of bid opening will apply)**

- a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years of service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 (since amended): The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required

to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

- f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) Payment of Wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/-per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment and back, etc.
- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing

10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

3. SUB-CONTRACTING (GCC Clause 7)

Please add the following as Clause 7.2:

The contractor shall not be required to obtain any consent from the employer for:

- a) the sub-contracting of any part of the Works for which the Sub-contractor is named in the contract;
- b) the provision of labour; and
- c) the purchase of materials which are in accordance with the standards specified in the Contract.

Beyond this if the contractor proposes sub-contracting any part of the work during execution of works, because of some unforeseen circumstances to enable him to complete the work as per terms of the contract, the Engineer will consider the following before according approval:

- The contractor shall not sub-contract the whole of the Works.
- The contractor shall not sub-contract any part of the Work without prior consent of the Engineer. Any such consent shall not relieve the contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents or workmen.
- The Engineer should satisfy whether (a) the circumstances warrant such sub-contracting; and (b) the sub-contractors so proposed for the Work possess the experience, qualifications and equipment necessary for the job proposed to be entrusted to them in proportion to the quantum of work to be sub-contracted.
- If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that this arrangement does not alter the contractor's liability or obligations under the contract.

4. ARBITRATION (GCC Clause 25.3)

The procedure for arbitration will be as follows:

- 25.3 (a) In case of Dispute or difference arising between the Employer and a domestic contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the * Indian Council of Arbitration/President of the Institution of Engineers (India)/The International Centre for Alternative Dispute Resolution (India).

(Note: 1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 20 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished alongwith the bid to enable the employer to satisfy himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract.

2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for subcontracting is not acceptable. [b] In any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.

3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.

- (b) In the case of dispute with a Foreign contractor the dispute shall be settled in accordance with provisions of UNCITRAL Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties, and shall act a presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding arbitrator shall be appointed by the * Indian Council of Arbitration/President of the Institution of Engineers (India)/
- (c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the * Indian Council of Arbitration/President of the Institution of Engineers (India, both in cases of the Foreign Contractor as well as Indian Contractor, shall appoint the arbitrator. A certified copy of the order of the *Indian Council of Arbitration /President of the Institution of Engineers (India)/, making such an appointment shall be furnished to each of the parties.
- (d) Arbitration proceedings shall be held at Chennai, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.
- (f) Where the value of the contract is Rs.50 millions and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority, namely the *Indian Council of Arbitration/President of the Institution of Engineers (India)/The International Centre for Alternative Disputes Resolution (India).
- (g) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the owners shall not be withheld, unless they are the subject matter of the arbitration proceedings.

5. PROTECTION OF ENVIRONMENT:

Add the following as GCC Clause 16.2:

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

Salient features of some of the major laws that are applicable are given below :

The Water (Prevention and Control of Pollution) Act, 1974, This provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

* *Choose one alternative. Insert Chairman of the executive Committee of the Indian Roads Congress (for highway project) or any other appropriate institutions (for other types of works).*

The Air (Prevention and Control of Pollution) Act, 1981, This provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The Environment (Protection) Act, 1986, This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

[Employers should note that the Loan Agreement between IBRD and the borrowing country may establish specific measures to be taken during construction of the Works for the protection of the environment. Sub-clause 16.2 should be modified/expanded to take into account such specific measures or other measures considered appropriate by the Employer]

Environment Management Plan

The Environment Management Plan (EMP) is a set of measures for avoidance, minimization and mitigation of adverse environmental impacts. The Contractor will abide by the environmental, occupational health and safety measures listed in the Environment Management Plan (EMP) given in the table below during preparation and execution of Works. Adverse impact/s on the environment caused due to non-adherence of legal and EMP requirements during preparation and execution of civil works shall be made good at the Contractor's own expenses. The Engineer's check and certification for payment, in accordance to requirements under Clause 42.2 of GCC, shall also include the performance review of the Contractor with regard to EMP compliance.

S. No.	Activity	Measures to be Implemented by the Contractor
1	Appropriate behaviour of contractor's staff	The contractor shall be responsible to train all their staff (including any sub-contractor staff) on acceptable respectful behaviour within the Anna University campus and shall be liable to make good any damage perceived in the opinion of the Engineer caused by inappropriate behaviour within the Anna University Campus.
2.	Work Plan for EMP implementation	The Contractor's Project Manager shall be responsible for implementation of EMP provisions and will coordinate the over-all implementation of the said plan. Along with the Work Programme, the Contractor shall submit a plan including method statement and timeline about specific actions that will be taken by him to implement the provisions laid out in the EMP.
3.	Regulatory Permissions and Consents	The Contractor shall obtain all requisite statutory clearances prior to commencement of civil works, which includes obtaining permission/consent for plants, water extraction and borrow areas operations. This includes: <ul style="list-style-type: none"> ▪ Consent for establishment and operation of plant (for concrete work) from SPCB, as applicable ▪ PUC certification for all vehicles/equipment used for/during construction ▪ Permission for water extraction, if applicable in the local area context. The Contractor shall abide by all conditions laid out in the said clearances.
3.		.
	Construction/ Labour Camp	(a) Location: The camp and plant site/s location should be as permitted by the Engineer within the Anna University Campus and establishment shall be done in a manner that does not interfere or disturb the activities of campus inhabitants, particularly those of schools and health facilities.. . (b) Accommodation and Basic Amenities: All weather shelter with the required tenement size and toilets shall be provided, as per provisions of Labour Laws. Separate toilet facilities shall be provided for women workers. If a common mess is not provided/operated, additional space for cooking shall be provided. The contractor shall ensure that hygienic conditions are maintained during the operation of such camps/facilities. (c) Fuel for Cooking: The Contractor shall ensure that fuel wood is not used as a cooking medium

S. No.	Activity	Measures to be Implemented by the Contractor
		in the construction/labour camp.
		(d) Potable water supply: Drinking water supply of at least 40 lpcd with the required supply points shall be provided.
		(e) Fire Safety: Adequate fire safety precautions shall be taken and required fire safety equipment (such as fire extinguishers) shall be provided by the Contractor.
5.	Site Clearance	<p>(a). No tree cutting is to carried out without the written instruction from the Employer, who in turn will ensure that relevant regulatory permission/s (including those from Forest Dept., if required) are obtained prior to cutting of such trees.</p> <p>(b) The non-timber grade trees are to be stacked and possession is to be given to Employer/concerned Govt. Department.</p> <p>(c) The Contractor shall strip, store and preserve top soil from the site of construction work and in the stock yards prior to stacking of materials. The top soil shall be reinstated in the cyclone shelter compound after the construction is over.</p>
6.	Protection of Properties and Resources	<p>The Contractor shall take due care to protect and prevent damages to the following resources during preparatory and construction work:</p> <ol style="list-style-type: none"> Water supply lines Cultural properties and sites/structures of religious importance Houses, Farmlands, Orchards and/or Trees School and other existing buildings adjacent to the site of construction <p>In case of damage due to construction activity, the restoration/repairs shall be carried out by the Contractor at his own cost.</p>
7.	Water Extraction/ Use	<p>Water for construction and for use at construction camps (including labour camps) is to be extracted with prior written permission of (a) the individual owner, in case the source is private well/tube well; (b) Gram Panchayat in case the source belongs to community; and (c) Irrigation Department in case the source is an irrigation canal or a river.</p>
8.	Safety of Road Users and Local Residents	(a) Traffic safety arrangements (including provision of warning signage, speed breakers etc.) shall be made by the Contractor to ensure safety of road users and students, particularly in the internal campus roads which will be used for transporting materials.
		(b) Material shall be covered during transportation to prevent spillage, accidents and pollution.
		(c) All required measures to ensure safety of local residents including children and other near-by residents shall be taken up by the Contractor. This shall include provisions to prevent unauthorised entry into the construction site and camp; fire and electrical safety measures; precautions around excavation such as barricading and warning signs and safe storage of material.
9.	Worker's Safety	(a) All measures required for ensuring safety and health of the workers shall be taken up by the Contractor. This includes provision and enforcement of appropriate personal protective equipment; first aid facility; emergency response arrangement; proper storage of hazardous/toxic and polluting materials and; measures for ensuring fire, electrical and mechanical safety arrangements in camp and in work site.
		(b) All methods, steps and measures required for ensuring safety of workers, particularly those needed while undertaking work in or around excavations; working at height; and; while handling inflammable, toxic and/or hazardous materials shall be ensured by the contractor.
		(c) Material safety data sheet record of fuel and other inflammable chemicals shall be maintained at the site.
10.	Air Pollution	(a) Wind barriers or screens shall be provided in the downwind direction at air pollution causing sources like plant sites and fine material storage stock yards.
		(b) Fugitive dust emissions have to be eliminated by providing dust suppression/control measures, such as water sprinkling and cover on materials, based on activity and site conditions.
		(c) All plants and equipment shall comply with pollution control norms.
		(d) Water shall be sprinkled at least twice during dry day on haulage roads passing through or near settlements (including at least 100 m before the settlement).

S. No.	Activity	Measures to be Implemented by the Contractor
11.	Water pollution	(a) All measures (including provision of temporary silt fencing to control sediment run-off) required for avoiding adverse impacts to water bodies (such as ponds, streams, canals and rivers), water sources (such as hand pumps and wells) and adjacent farmland shall be undertaken by the Contractor.
		(b) Storage of materials like fuel, chemicals and cement shall be done in a manner (with impervious layer on bottom and a covered shed on top) that does not contaminate land and ground/surface water.
12	Noise Pollution	(a) All noise causing activities shall be stopped during night time (9:00 PM to 6:00 AM). The Contractor shall schedule construction works in consultation with the Engineer to ensure least disturbance to students and other adjacent residents.
		(b) Ear plugs shall be provided to the labour facing risk from high noise pollution such as plant site and those working near generators, heavy equipment/machinery.
		(c) Appropriate noise controlling devices including acoustic generators shall be used to minimise noise during construction work and operation of camp.
13.	Disposal of Debris/Wastes	(a) Debris and other construction waste, if any, shall be disposed in locations pre-approved by the Engineer in a manner that it does not contaminate the environment.
		(b) Location of Debris Disposal Sites: Debris disposal sites shall be located preferably away from farmlands, water sources and water bodies. In no case, debris shall be disposed within 500 mts. of ecologically sensitive areas, including forests, wetlands and protected natural habitats.
14.	Restoration and Rehabilitation of Sites	All work sites and areas under temporary use (including construction and labour camps, plant sites, haul roads) shall be restored/ rehabilitated to a better condition (if not at least to its original condition) and to the satisfaction of the Engineer and land owner upon completion of construction work by the Contractor. Completion of work (as covered under clause 55.1 of GCC) will also include completion of rehabilitation and clean-up of the work sites including camps, plants, in and around the construction site; disposal of debris/construction wastes at pre-approved locations and; restoration of borrow areas and other sites/locations used for material sourcing.
15.	Liabilities	Any liability arising out of Contractor's agreement with landowners/ local people/ students / Anna University (including those related to temporary use of land, water extraction and disposal of debris) shall be settled by the Contractor.

6. LIQUIDATED DAMAGES:

Sub-clause 49.1:

Please substitute the last sentence with the following:

“Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones or from any other of the contractor's obligations and liabilities under the contract.”

7. Payments

Sub-clause 43.1:

Please substitute the clause 43.1 with the following:

“Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall pay the Contractor 60% of the amounts certified by the Engineer with 5 days and the balance 40% within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made upto the date when the late payment is made at 8% per annum. “

SECTION 4: CONTRACT DATA

Contract Data

Items marked "N/A" do not apply in this Contract.

The following documents are also part of the Contract:

Clause Reference

- The Schedule of Operating and Maintenance Manuals [58]
- The Schedule of Other Contractors [8]
- The Schedule of Key Personnel [9]
- The Methodology and Program of Construction & Environmental Management Plan [27]
- The Schedule of Key and Critical equipment to be deployed on the work as per agreed program of construction [27]
- Site Investigation reports [14]

The Borrower is Government of India and NCSCM is the Implementing Agency in the Integrated Coastal Zone Management Project

/ _____ [1.1]

The World Bank means International Development Association [1.1]

and loan refers to an *IDA Credit*

The above insertions should correspond to the information provided in the Invitation of Bids.

The Employer is

The Director, National Centre for Sustainable Coastal Management,
Koodal Building, Anna University Campus, Chennai-600025, Tamilnadu, India

Name of authorized Representative: Prof. Dr. R. Ramesh, Director, NCSCM, Anna University Campus, Chennai-600025

The Engineer is (1.1)

Name: Prof. Raneer Vedamuthu _____

Address: Chairman, CAC & Dean, School of Architecture and Planning, Anna University, Chennai _____

Name of Authorized Representative: Prof. Dr. R. Ramesh _____

The Adjudicator appointed jointly by the Employer and Contractor is:

*Name : _____ Prof. Chhaya, Dean, CEPT _____

*Address : Anna University, Chennai

(*to be filled in after the Adjudicator has been appointed)

The name and identification number of the Contract is: Construction of Building for National Centre for Sustainable Coastal Management, Chennai

IFB No. NPMU/W-20e

[1.1]

The Work consists of Supply, Installation & Commissioning of Clean Room Facility for National Centre for Sustainable Coastal Management, Chennai.

The work is to be executed in the financial year 2014-15.

[brief summary, including relationship to other contracts under the Project].

The Start Date shall be the date of issue of notice to proceed with the work. (1.1)

(1.1)

The Intended Completion Date for the whole of the Works is 8 Months with the following milestones:

[17, 28]

Milestone Dates:

<u>Physical works to be completed</u>	<u>Period from the date of issue of notice to proceed with the work</u>
Milestone 1: Approval of all Shop Drawings, assuming two weeks as Consultant checking period	01 Month
Milestone 2: Supply of all units to Site and completion of 50% works	05 Months
Milestone 3: Completion of 90% works and dry run testing	07 Months
Milestone 4: Completion	08 Months

The following documents also form part of the Contract:

[2.3]

NIL

The Contractor shall submit a revised Program including Environmental Management Plan for the Works (in such form and detail as the engineer shall reasonably prescribe) within 14 days of delivery of the Letter of Acceptance.

[27]

[This program should be in adequate detail and generally conform to the program submitted alongwith bid in response to ITB Clause 4.3 (k). Deviations if any from that should be clearly explained and should be satisfactory to the Engineer]

The Site Possession Date shall be:

[21]

Seven days from the date of signing the Agreement.

The Site is located at **Anna University Campus, Chennai**, and is defined in drawings.

[1]

The Defects Liability Period is 365 days from the date of certification of completion of works.

[35]

Insurance requirements are as under:

[13]

		Minimum Cover for Insurance	Maximum deductible for Insurance
(i)	Works and Plant and Materials	Contract Value	5% of the Contract Value
(ii)	Loss or damage to Equipment	Total book value of the equipments brought to the site by the Contractor	5% of the figure alongside
(iii)	Other Property	Rs.1,00,00,000/-	Rs.10,000/-

(iv)	Personal injury or death insurance: a) for other people;	As per Workmen's Compensation Act 1923 and other Acts in force.	As per Workmen's Compensation Act 1923 and other Acts in force.
	b) for Contractor's Employees	In accordance with the statutory requirements applicable to India	

The following events shall also be Compensation Events: [44]

1. NIL

The period between Program updates shall be 30 days. [27]

The amount to be withheld for late submission of an updated Program shall be Rs.5,000/- per day. [27]

The language of the Contract documents is English [3]

The law which applies to the Contract is the laws of Union of India [3]

The currency of the Contract is Indian Rupees. [46]

Fees and types of reimbursable expenses to be paid to the Adjudicator Rs. 5,000.00 per sitting plus reimbursable expenses, (i.e.) Travelling, Boarding & Lodging Expenses. [25]

In case appointed by the The Institute of Engineers (India), Tamilnadu State Centre, Chennai, at a daily fee per sitting plus reimbursable expenses, (i.e.) Travelling, Boarding & Lodging Expenses, as suggested by the The Institute of Engineers (India), Tamilnadu State Centre, Chennai

Appointing Authority for the Adjudicator The Chairman, Institute of Engineers (India), Tamilnadu State Centre, Chennai [26]

The formula (e) for adjustment of prices are: **[Deleted]** [47]

The proportion of payments retained (retention money) shall be 6% from each bill subject to a maximum of 5% of final contract price [48]

The liquidated damages for the whole of the works are Rs. 9,000/- per day and that for the milestone are as under: [49]

For Milestone 1	Rs.1,000.00 per day
For Milestone 2	Rs.6,000.00 per day
For Milestone 3	Rs.8,000.00 per day
For Milestone 4	Rs.9,000.00 per day

The maximum amount of liquidated damages for the whole of the works is ten percent of final contract price. [49]

The amounts of the advance payment are: [51]

<u>Nature of Advance</u>	<u>Amount (Rs.)</u>	<u>Conditions to be fulfilled</u>
1. Mobilization	5% of the Contract price. To be submitted by the contractor within 15 days of signing of contract. He will not be eligible for mobilization	On submission of un-conditional Bank Guarantee. (to be drawn before end of 20% of Contract period)

- advance if not submitted within 15 days of signing of contract.
2. Equipment 90% for new and 50% of depreciated value for old equipment. Total amount will be subject to a maximum of 5%/* of the Contract price. (This advance is not applicable for equipment already owned or hired/leased by the contractor.) (* To be submitted by the contractor within 2 months of signing of contract. He will not be eligible for mobilization advance if not submitted within 2 months of signing of contract.
3. Secured advance for non-perishable materials brought to site 75% of Invoice value or Market value - lower of the two.
- After equipment is brought to site as per agreed construction program (provided the Engineer is satisfied that the equipment is required for performance of the contract) and on submission of unconditional Bank Guarantee for amount of advance.
- The materials are in accordance with the specification for Works;
 - Such materials have been delivered to site, and are properly stored and protected against damage or deterioration to the satisfaction of the Engineer. The contractor shall store the bulk material in measurable stacks.;
 - The Contractor's records of the requirements, orders, receipt and use of materials are kept in a form approved by the Engineer and such records shall be available for inspection by the Engineer;
 - The contractor has submitted with his monthly statement the estimated value of the materials on site together with such documents as may be required by the Engineer for the purpose of valuation of the materials and providing evidence of ownership and payment thereof;
 - Ownership of such materials shall be deemed to vest in the Employer for which the Contractor has submitted an Indemnity Bond in an acceptable format; and
 - The quantity of materials are not excessive and shall be used within a reasonable time as determined by the Engineer.

(The advance payment will be paid to the Contractor no later than 15 days after fulfillment of the above conditions).

Repayment of advance payment for mobilization and equipment: [51]

The advance shall be repaid with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 15 percent of the Contract Price or 6 months from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 15 percent of the amounts of all Interim Payment Certificates until such time as the advance has been repaid, always provided that the advance shall be completely repaid prior to the expiry of the original time for completion.

Repayment of secured advance:

The advance shall be repaid from each succeeding monthly payments to the extent materials [for which advance was previously paid pursuant to Clause 51.4 of G.C.C. and 51(3) of Contract Data on prepage] have been incorporated into the Works.

The Securities shall be for the following minimum amounts equivalent as a percentage of [52]

the Contract Price:

Performance Security for 5 per cent of contract price plus Rs. as additional security for unbalanced bids [*in terms of ITB Clause 29.5*].

The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 8 of the Bidding Documents.

The date by which operating and maintenance manuals are required is within 28 days of issue of certificate of completion of whole or section of the work, as the case may be. [58]

The date by which “as-built” drawings (to scale in 2 sets are required is within 28 days of issue of certificate of completion of whole or section of the work, as the case may be. [58]

The amount to be withheld for failing to supply “as built” drawings and/or operating and maintenance manuals by the date required is Rs.5,00,000.00 [58]

The following events shall also be fundamental breach of contract: [59.2]

1. The Contractor has contravened Sub-clause 7 of GCC read with SCC and Clause 9.0 of GCC
2. The contractor does not adhere to the agreed construction program and agreed environmental management plan (Clause 27 of GCC) and also fails to take satisfactory remedial action as per agreements reached in the management meetings (Clause 31) for a period of 60 days.
3. The contractor fails to carry out of the instructions of Engineer within a reasonable time determined by the Engineer in accordance with GCC Clause 16.1 and 23.1.

The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 20 percent. [60]

SECTION 5: SPECIFICATIONS

The proposed clean room facility at NCSCM shall consist of following Clean areas per the layout shown in Drawing. Vendor shall have to design, supply/fabricate, install and commission Clean room areas as per following specifications:

No.	Tender No.	Item Description	Qty/
1		Supply, Installation & Commissioning of Clean Room: 1. Class 1000 clean room of 22.63 square meters 2. Class 100 area of 4 square meters (The lab layout drawing prepared is attached)	1

Clean Room Parent Building

The parent building construction features reinforced concrete columns and ring beam, reinforced concrete support beams and reinforced concrete floor slabs. The parent building. Perimeter walls are constructed from block work between the building columns. Internally, the walls should be finished with a painted smooth render.

The proposed Clean room facility is to be designed, built, installed and commissioned as per ISO-14644: 2001 standards on 'Turnkey' basis. Vendor has to strictly comply with the requirements specified in various sections of this document. Vendor has to prepare a detailed design document on the specifications of different modules of the project. Vendor should also present the clean room layout considering their design specifications and suggested improvements if any.

Clean room Facility Design:

To design, build, install and commission Clean room facility comprising of ISO 5 (Class 100), ISO 6 (Class 1000) and ISO 7 (Class 10000 for Gowning) and perimeter which should be air conditioned.

Facilities and services

To design, supply, install, test and commission following facilities and services, as per the Specification provided in the document

- a. Cleanroom Fabric & Ancillaries
- b. Clean room HVAC

- Make-up air unit
- Air handling unit
- Air distribution
- HEPA filter modules
- Process Exhaust systems (Exhaust)

- c. Central Utilities (Mechanical)

- Chiller plant
- Chilled water distribution
- Pipes and bridges & Support

- d. Central Utilities (electrical)

• Electrical Lighting and power distribution for complete facility, including Clean room, Comfort areas, utility areas, HVAC areas

- Switch gears
- Variable frequency drives
- Containment systems
- Grounding

- e. Process Utilities

- Chilled/Process cooling water.

- Compressed Dry Air.
 - Process Exhaust systems (Heat and process exhaust blowers for vapors and drain for liquid waste)
- f. Life, Safety and security systems
- Fire detection
 - Local Suppression system Emergency safety shower and eye wash
 - Access control system
 - Gas leak detection
 - CCTV
 - Local Area Network and Telephone
- g. Bulk and speciality gas distribution
- h. Clean room Commissioning & Validation
- i. A portable particle counter should be provided within the facility for the routine assessment of local cleanliness.

Clean room specifications:

The Vendor shall have to design, supply/fabricate & install and commission Clean room areas as per following specifications

Sl No.	Area	Temperature %	RH	Pressure With respect to Atm
1	ISO - 5 (Class 100) Yellow lighting with 350 lux	21±1 °C	45±5%	35 Pa
2	ISO – 6 (Class 1000) White light with 600 lux	21±2 °C	50±5%	25 Pa
3	ISO – 6 (Class 1000) Wet etch area White light with 600 lux	21±2 °C	50±5%	15 Pa
4	ISO – 7 (Class 10000) Gowning White light with 600 lux	21±2 °C	50±5%	5Pa

Clean room Fabric & Ancillaries

i. Modular Wall System

The Clean room walls should be compatible with the class of the clean room as specified. The modules should be finished with a mill applied, anti-static powder coat, and zero out gassing finish with a fire rating of 1 hour. The internal sub-dividing modules should be installed in such a way to allow practical future relocation of internal modules, being completely demountable.

ii. Doors

- Door-sets should match the partition modules.
- Door leaves should be complete with; vision panel, pull handle, push plate, mechanical closer and shoot bolt as appropriate.

iii. Windows & Door Vision Panels

Windows and door vision panels should be formed from double glazed toughened glass

Composite modules. UV filtration film should be applied to the ISO -5 (class 100) windows and door vision panels.

iv. Flooring

The clean room should have ESD PVC Flooring. The electro static dissipative flooring should be a homogeneous constructed product sliced from a pressed vinyl block to assure a highly flexible tile of dense construction, dimensionally stable, extremely hardwearing, with a completely non-directional pattern.

v. Grid Ceiling System

The Clean room ceiling should be formed from a heavy duty suspended aluminium tee bar grid. The grid should be suspended from the parent building roof with appropriate method. The ceiling should be walk-able type for general maintenance.

vi. Lighting

Clean room teardrop light fittings for ISO 5 (class 100) and surface mounted fittings to be provided throughout the facility to achieve the desired lighting levels. The teardrop & surface mounted light fittings shall comprise of a powder coated extruded aluminium body and clear acrylic diffusers. UV filtration film should be applied to the ISO 5 (class 100) lighting.

Selected fittings in each area should be provided with a uninterrupted supply to ensure emergency illumination in the event of a mains power failure. Lighting control should be located on the walk way corridor and switch provided at convenient location to each room.

vii. Planar Grounding

All metallic components within the Clean room fabric should be grounded to a building earth point provided outside the parent building by the civil contractor.

viii. Air shower

A class 100 Air shower should be provided at the entrance of clean room gowning area. The air shower should have a card reader for authorised personnel entry.

MOC – SS or CRC powder coated construction

Unit shall be self-contained, self-supporting. The doors should have interlock. Exit doors of the air shower should be locked when the entry door is open. The air shower cycle should begin upon entry to the air shower after entry door closes. All doors should automatically get locked during the air shower cycle.

ix. Transfer Hatch

Appropriate numbers of transfer Hatches at respective locations to be provided for materials entry/exit of following approximate dimensions.

x. Step-Over

Stainless steel Step-Over Barriers should be provided within the Gowning Lobby, with integrated shoe compartments for the storage of the dedicated Clean room footwear of regular staff.

Garment Storage

Laminar flow garment storage units should be provided in the Gowning Lobby for the storage of 'in use' garments, complete with stainless steel hanging rail and retained stainless steel hangers.

- A full length gowning mirror should be provided in the Gowning Lobby so that staff
- can check that they are appropriately attired prior to entering the facility.

Clean room HVAC

The Clean room HVAC conceptual design is to be based on negative pressure supply plenums (Lithography and all remaining areas). The dehumidified fresh air should be supplied in to air handling unit/units which supplies the air to class 100 and class 1000 including the gowning lobby. Fan HEPA filter modules (FFMs) will deliver air from the plenum into the Clean rooms. Within the Clean rooms a proportion of air should be exhausted to atmosphere via process exhaust, a proportion will bleed into adjacent areas of lower differential pressure, balance being re-circulated via return air ducts back to the respective air handling units for treatment to maintain the Clean room temperature and relative humidity within the design tolerance. By virtue of the local environmental ambient conditions there is a very limited requirement for humidification, but as there should be a tight relative humidity control band in the ISO – 5 (Class 100) areas, humidification capability should be incorporated. The air handling plant should be designed for continuous operation, 24 hours per day, contamination controlled environment conditions should be achieved subject to appropriate working protocols and routine preventative maintenance.

Air showers:

- Dynamic Air showers to be provided and installed for ISO-Class 5 operations.
- Wall panels to be of SS 304 powder coated compatible to clean room and matching to clean room partition panel.
- Security Access control system to be installed at entry of Air showers and to be integrated with BMS control system.
- Number of air showers to provided as per clean room design.
-

Air Handling Units (AHU's) & Makeup Air Units (MAU's)

- To be designed as per Clean room facility specifications (Section- A). Vendor to work out the number. of AHU's & MAU's required as per proposed facility design and layout.
- AHU's to be horizontal draw through type.
-
- AHU' panels to be double skin having minimum thickness of 45mm and PUF infill. To be fabricated from 20 SWG/22 SWG galvanized zinc sheet, inside plain and outside coated with epoxy.
- The framework of AHU's to be of Anodized extruded sections with thermal break bolted together. All panels to be detachable or hinged. Complete casing to have earthing connections at two ends.
- Blower & motor assembly as per proposed design requirements.

- Motorized fire dampers to be installed to isolate different fire rated areas connected by ducts from fire-affected areas and to be BMS compatible.
- Cooling coils to be factory tested and vendor to provide test certificates.
- Special drives (VFD/VSD) to be provided for all motors to be provided to match the loads and adjust frequency/voltage and operate motors in an efficient manner.
- Humidification/De-humidification systems as per facility design requirements.
- All AHU enclosures to be designed for sound levels less than 60 decibels and vibration free.
- All AHU's to be microprocessor based, fully programmable with standard features for control & monitoring and fully compatible to BMS.
- **Air distribution system:**
 - Ducting to be of cold rolled, cold annealed (CRCA) sheets of 20-24 gauge continuously galvanized.
 - Fabrication of ducts to be as per SMACNA standard and fabricated on Pittsburg lock forming machine with slip type flange joints. All lateral joints between two ducts to be provided with Neoprene rubber gaskets to render the joints leak proof. All bends/elbows to have suitable vanes to guide the air streams. All duct pieces to be properly aligned before connection to each other on both sides. Provision to be made for duct internal cleaning at appropriate locations.
 - Ducts to be tested for leakages after installation. Leakage limits shall be as per Class 'C' of WD – 142 as per SMACNA.
 - Ducts to be properly insulated and duly clad with aluminium sheets including those exposed to the ambient.
 - Ducts to be vibration free and not to create any noise.
 - Grills and diffusers to be fabricated out of anodized aluminium extruded material.
 - Supply and return air diffusers to be provided with face-operated volume control dampers.
 - All flexible ducts must meet the clean room design requirements.

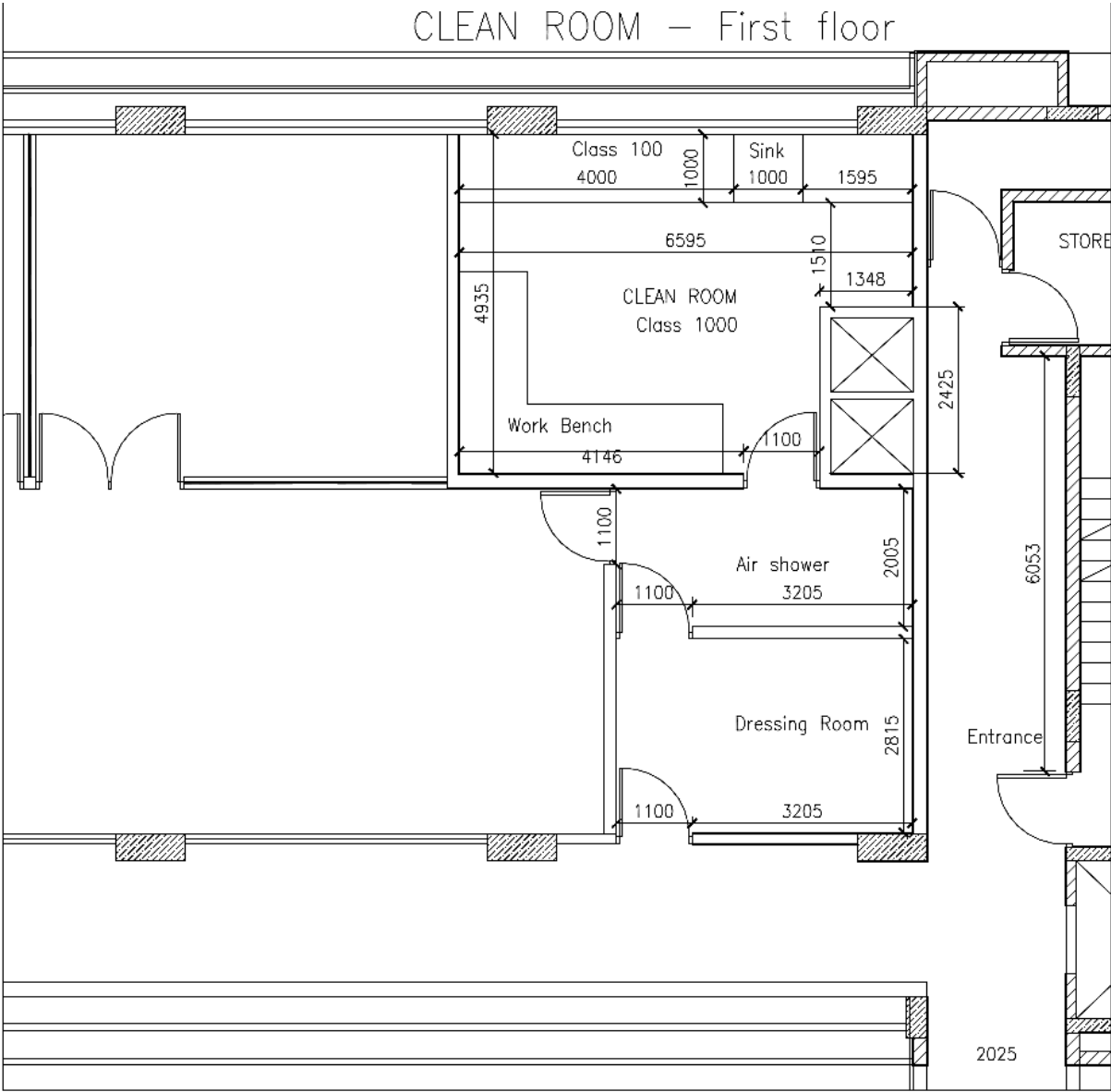
Clean room Accessories:

Shoe racks (for Gowning areas)	SS304 construction to accommodate at least 5pairs
Glove box (for Gowning areas)	Polypropylene construction. Quantity : 4 No.'s.
Shoe Cleaner	Quantity : 1 No.'s.
Cleanroom shoes	Antistatic. Quantity : 5 pairs (Imported)
Cleanroom garments	Antistatic with hologram as CMSDS. Quantity : 50 sets Assorted sizes (Imported).
Chairs	Ergonomic chairs suitable for ISO Class 5 clean room.

	<p>Adjustable height of pneumatic lift and with comfort backrest. Chairs must have tubular base, antistatic rotating castor wheels and Fixed foot ring. Chairs must be Bio fit chairs with 360 degree rotation. Metal parts of the chairs must be chrome plated for non-contaminating operations. Back and bottom rest must be of colored vinyl outside and carbon underneath to ensure static dissipative characteristics. Quantity : 5 No.'s.</p>
Cross-Over Bench	<p>SS304, Non-EP, smooth & powder free construction. Size : To be designed and fabricated as per site condition. Quantity : 1No.'s.</p>

SECTION 6: DRAWINGS

CLEAN ROOM – First floor



SECTION 7: BILL OF QUANTITIES
SEE VOLUME 2

Bill of Quantities

Sl. No.	Description of item (with brief specification and reference to Book of specification)	Quantity	Unit	Rate		Amount
				In figures	In words	
Total Bid Price (in figures)						
(in words)						

Note:

- (1) Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the **Bill of Quantities** (refer: ITB Clause 13.2 and GCC Clause 43.3).
- (2) Unit rates and prices shall be quoted by the bidder in Indian rupee [ITB Clause 14.1].
- (3) Where there is a discrepancy between the rate in figures and words, the rates in words will govern.
[ITB Clause 27.1(a)]
- 4) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITB Clause 27.1 (b)].

SECTION 8: FORMS OF SECURITIES

Forms of Securities

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms, or in a similar form acceptable to the Employer.

Annex A:	Bid Security (Bank Guarantee)
Annex B:	Performance Bank Guarantee
Annex B1:	Performance Bank Guarantee for Unbalanced Items
Annex C:	Deleted
Annex D:	Bank Guarantee for Advance Payment

BID SECURITY (BANK GUARANTEE)

WHEREAS, _____ [*name of Bidder*] (hereinafter called "the Bidder") has submitted his Bid dated _____ [*date*] for the construction of _____ [*name of Contract*] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We _____ [*name of bank*] of _____ [*name of country*] having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ [*name of Employer*] (hereinafter called "the Employer") in the sum of _____¹ for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 19____.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;
- or
- (2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:
- (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or
 - (c) does not accept the correction of the Bid Price pursuant to Clause 27;

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date _____² days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

[signature, name, and address]

1 The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

2 45 days after the end of the validity period of the Bid.

PERFORMANCE BANK GUARANTEE

To: _____ [name of Employer]
_____ [address of Employer]

WHEREAS _____ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [amount of guarantee]¹ _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee]¹ as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

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

This guarantee shall be valid until (i.e.) 28 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____
Date _____

1 An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

PERFORMANCE BANK GUARANTEE (for unbalanced items)

To: _____ [name of Employer]
_____ [address of Employer]

WHEREAS _____ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [amount of guarantee]¹ _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee]¹ as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

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

This guarantee shall be valid until (i.e.) 28 days from the date of issue of the certificate of completion of works.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____
Date _____

1 An amount shall be inserted by the Guarantor, representing additional security for unbalanced Bids, if any and denominated in Indian Rupees.

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ [name of Employer]
_____ [address of Employer]
_____ [name of Contract]

Gentlemen:

In accordance with the provisions of the Conditions of Contract, subclause 51.1 ("Advance Payment") of the above-mentioned Contract, _____ [name and address of Contractor] (hereinafter called "the Contractor") shall deposit with _____ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of guarantee]¹ _____ [in words].

We, the _____ [bank or financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ [name of Employer] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee]¹ _____ [in words].

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

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ [name of Employer] receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and seal: _____
Name of Bank/Financial Institution: _____
Address: _____
Date: _____

1 An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.