

**VETRINARY TYPE CULTURE COLLECTION (VTCC),
NATIONAL RESEARCH CENTRE FOR EQUINES
(NRCE)
HISAR, HARYANA**

TENDER

FOR

**CONSTRUCTION OF BIOSAFETY LEVEL-3 (BSL-3)
LABORATORY AT NRCE, HISAR**

**VOLUME-III
INSTRUCTION TO BIDDERS AND SPECIFIC
CONDITIONS OF CONTRACT
FEBRUARY 2013**



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(CONSULTANTS & ENGINEERS FOR MEGA HOSPITALS & LABORATORIES)
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Tender No. HSCC/PGIII/NRCE/2012

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INSTRUCTIONS TO BIDDERS

A. General

1.0 Description of Works :

PART-A : Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3)Laboratory & associated works on “Turnkey Basis” at National Research Centre on Equines (NRCE), Hisar-Haryana in compliance with CDC, USA guidelines as minimum and its maintenance during the defect liability period

PART-B: Comprehensive Operation & Maintenance for five years (Optional).

The site of work is with in existing campus of *National Research Centre on Equines (NRCE), Hisar- Haryana*

The Scope of work comprising of Construction of *Bio-safety level 3 (BSL-3) Laboratory..* The scope of work shall also includes Civil, Electrical works, HVAC work, external development works, finishing works, All PHE works & fire fighting works etc. and their maintenance during defect liability period including & preparation of all detailed shop drawings, obtaining approval from all local authorities, electrical inspector, water, sewer, drainage, electricity connection from local bodies, permission/approval for tree cuttings etc if any.

- 1.1 All the terms and conditions, undertakings of PQ documents under which the agency has been pre qualified for this work will have to be strictly followed and will be treated as part of this tender documents in addition to other terms and conditions of the tender documents.

1.2 The Employer

The National Research Centre on Equines (NRCE), Hisar-Haryana under Indian Council of Agricultural Research,(ICAR), New Delhi shall be the employer / owner for the subject work.

All documents relating to Labour License for obtaining necessary clearance etc is to be signed/endorsed by representative of the Employer.

1.3 In these documents wherever the word Tender/ Tenderer/ Tendering has been used. The same may be considered synonymous with Bid/ Bidder/ Bidding.

1.4 Time for Completion

The successful Bidder shall complete the whole Works within **12 (Twelve) Calendar months** from Engineer's order to commence the Work.

2.0 Information to be submitted

2.1 Bids submitted shall include the following information:

- (a) Copies of original documents defining the constitution, legal status, place of registration and principal place of business of the company or firm
- (b) A work plan clearly bringing out how the Bidder proposes to carry out the work to achieve the quality and the time schedule

The work plan shall clearly spell out with specific details the following:

- i. Detailed programme in the form of a **PERT/CPM network** clearly bringing out details of start & completion of all important activities and also programme showing material & labour resources related to the above PERT/CPM network.
- ii. List of equipment along with details proposed to be used on the Works.
- iii. List and bio data of Engineers and other important staff members proposed to be employed on the Works.
- iv. Details of new and used shuttering proposed to be employed on the Works.

3.0 Cost of Bidding

3.1 The Bidder shall bear all costs associated with the preparation and submission of his Bids and "The Employer" will in no case be

responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

4.0 Site Visit

4.1 The Bidder is advised to acquaint himself with the job involved, visit the Site & examine soil conditions (No report will be provided by Engineer), climatic conditions, labour, power, water, material availability, transport and communication facilities, environmental regulations, laws and bye-laws of Statutory bodies of Govt. of Manipur and the Govt. of India and collect all information that will be necessary for preparing the Bid and entering into a Contract.

The cost of visiting the Site and collecting information for the purpose of submission of the Bid shall be to the Bidder's account.

4.2 The Bidder and any of his personnel or agents will be granted permission by the Employer to enter upon the Site for the purpose of such inspection, but only upon the express condition that the Bidder, his personnel or agents will release and indemnify the Employer and Employer's Personnel and agents from and against all liability in respect thereof and will be responsible for personnel injury (Whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expense however caused, which, but for the exercise of such permission would not have arisen.

B. Bid Documents

5.0 Content of Bid Documents

5.1 The Bid Documents comprise the following:

Volume-I = Prequalification Document

Volume II = General Conditions of Contract

Volume III = Specific Conditions of Contract
Comprising of:

- Instructions to Bidders

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- Additional Specific Conditions of Contract
relating to
(a) General

(b) Civil, Public Health works

(C) Electrical works.

(D) HVAC works,

- Sample Forms of Securities
- Sample Form of Agreement

Volume IV = Technical Specifications

Volume V = Bill of Quantities

Volume VI = Tender Drawings

5.2 The Bidder is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the Bid documents. Failure to comply with the requirements of the Bid Documents will be at the Bidder's own risk.

Bids, which are not substantially responsive to the requirements of the Bid documents, will be rejected. **Bidders are requested to clear their queries before submission of bids and submit bids without conditions.**

6.0 Clarification on Bid Documents

6.1 A interested Bidder requiring any clarifications on the Bid documents may notify the Engineer in writing or by telex or cable at the Engineer's mailing address indicated in the Bid documents. A meeting of the prospective Bidders shall be held at which the Engineer will respond to any request for clarification which he receives within two weeks of the first date of the issue of the Tenders. Written copies of the Engineer's response (including an explanation of the query but without identifying the source of the inquiry) will be sent to all prospective Bidders who have received the Bid documents.

7.0 Amendment of Bid Documents

7.1 At any time prior to the dead line for submission of Bids, the Engineer may for any reason, whether at his own initiative or in response to a clarification requested by the prospective Bidder, modify the Bid documents by amendment.

7.2 The amendment will be sent to all prospective Bidders who have received the Bid documents, to arrive not later than 3 days prior to the original or extended deadline for submission of Bids, in writing or by telex or cable and will be binding upon them. Prospective Bidders should promptly acknowledge receipt thereof by telex or cable to the Engineer.

- 7.3 In order to afford prospective Bidders reasonable time in which to take an amendment into account in preparing their Bids, the Engineer may, at his discretion, extend the deadline for the submission of Bids.

C. Preparation of Bids

8.0 Language of Bid

- 8.1 The Bid prepared by the Bidders and all correspondence and documents relating to the Bid exchanged by the Bidder and the Engineer shall be written in the English Language.

9.0 Documents comprising the Bid

- 9.1 The Bid to be prepared by the Bidder shall comprise of the following: the prequalification document duly filled with required information including all supporting documents, the Bid and Appendix thereto, the Bid Security, the Bill of Quantities; the Schedules of Supplementary information, and any other materials required to be completed and submitted in accordance with the instructions to Bidders embodied in these Bid documents. The Forms, Bill of Quantities and Schedules provided in these Bid documents shall be used without exception.

- 9.2 All documents issued for the purpose of Bidding as described in Clause 5.1 and amendments issued in accordance with Clause 7, shall be deemed incorporated in the Bid. Bid Documents prepared and submitted in accordance with Clause 14 and 15 shall be returned by Bidders to the Employer along with the submission of the Bid.

10.0 Bid Prices

- 10.1 The Bidder shall fill the rates against each item of Bill Of Quantities both in words and figures in the blank spaces provided in the respective columns. Item for which no rate or price is entered by the bidder will not be paid for by the employer/Engineer and its price shall be deemed to be included and covered in the others rates and prices in the bill of quantities. The quantity of execution of such item shall be as per requirement and as such there will be no limit. Correction, if any, shall be made by crossing out, initialling, dating, stamping and rewriting. Wherever in any head if the same items are appearing and contractor has quoted different rates, contractor shall be paid the lowest quoted rate for such items.

- 10.2 All duties, taxes including works contract tax, building & construction/ labour cess etc and other levies payable by the Contractor under the Contract including Contractors profit and over heads etc. or for any other cost shall be included in the rates and prices and the total amount of Bid submitted by the Bidder. The evaluation and comparison of Bids by the Engineer shall be made accordingly.
- 10.3 The rates and prices quoted by the Bidder shall be fixed for items complete in all respect for the duration of the Contract and not subject to adjustment on any account except as otherwise provided in the conditions of Contract.
- 10.4 The Bidder shall fill his most competitive rates in the first instance as no negotiations shall be made after opening of the Tenders except if required with the lowest Bidder.
- 11.0 Bid Validity**
- 11.1 The Bid shall remain valid and open for acceptance for a period of **180 days** from the last date fixed for receiving the same.
- 11.2 In exceptional circumstances prior to expiry of the original Bid validity period, the Engineer may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing or by cable or telex. A Bidder may refuse the request without forfeiting his Bid Security. A Bidder agreeing to the request will neither be required nor permitted to modify his Bid, but will be required to extend the validity of his Bid Security correspondingly.
- 12.0 Bid Security**
- 12.1 The Bidder shall furnish, as part of his Bid, a Bid Security of the amount of **Rs. 14,80,000 (Fourteen Lakhs Eighty Thousand Only) having validity period of 180 days from the last date fixed for receiving of bid.** No deviation shall be permitted from this.
- 12.2 The Bid Security shall be in the form of a Demand Draft/Pay Order/Bank Guarantee in favour of M/s HSCC(India) Ltd., Plot-6(A), Block-E, Sector-I, NOIDA, UP-201 301 from any Nationalised bank/Scheduled bank.

- 12.3 Any Bid not accompanied by an acceptable Bid Security will be straightaway Rejected.
- 12.4 The Bid Securities of unsuccessful Bidders will be returned as promptly as possible as but not later than 30 days after the expiration of the period of Bid validity prescribed by the Employer.
- 12.5 The Bid Security of the successful Bidder will be returned upon the Bidder executing the Contract and furnishing the required Performance Security.
- 12.6 The Bid Security may be forfeited
- a) If a Bidder withdraws his Bid during the period of Bid validity.
 - b) In the case of successful Bidder, if he does not :
 - i) enter into the Contract, or
 - ii) furnish the necessary Performance Security
 - iii) agree to arithmetic corrections made as per terms of Bid documents.
 - iv) Submitted any misleading information during prequalification and or tendering process.
- 13.0 No interest will be payable by the Engineer on the Bid Security amount cited above.

14.0 Format and Signing of Bid

- 14.1 The Tender shall be filled & signed only by the firm/ corporation in whose name the Tenders have been issued. The Bid shall be typed or written in indelible ink and duly signed by a person or persons duly authorised to being the Bidder to the Contract. Proof of authorization shall be furnished in the form of written Power of Attorney, which shall accompany the Bid.
- 14.2 All pages of Bid shall be initialled and stamped by the person signing the Bid where entries or amendments have been made.
- 14.3 The complete Bid shall be without alterations interlining and erasures except those to accord with instruction issued by the Engineer or as necessary to correct errors made by the Bidder in which case such correction shall be initialled by person signing the Bid.

D. Submission of Bid

15.0 Sealing, Marking & Submission

15.1 The Bid shall be submitted in accordance with the procedure detailed herein. Specified documents shall be enclosed in envelope of appropriate size each of which shall be sealed.

- (i) Envelope No. 1 : Shall contain the Bid Securities as indicated in Clause 12 of these Instructions to Bidders & tender document fee if downloaded.
- (ii) Envelope No. 2 : Shall contain covering letter and the other Bid documents duly signed including the following :
 - (a) Power of attorney of person authorised to sign the Bid.
 - (b) Original Bid documents (all pages) & drawing (Volume I, II, III, IV & VI) duly signed and stamped.
 - (c) Documents regarding constitution of Bidder as indicated in Clause 2.1 of these Instructions to Bidders.
 - (d) Certificate of Registration.
 - (e) All the information as stipulated in clause 2.0 under information to be submitted
 - (f) Schedule for submission of structural design, drawing and all other shop drawings of civil, sanitary & plumbing, electrical, HVAC etc.
 - (g) Construction Schedule, **PERT Chart** and Schedule for manpower to be deployed at Site.
- (iii) Envelope No. 3 : Shall contain only the Bill of Quantities and rates/prices (Volume V) duly filled in and signed and stamped without any conditions whatsoever. Bids containing any conditions in Envelope No. 3 are liable to be summarily rejected.

The Contractor must fill up price against each item of BOQ (Volume V) both in words and figures in the blank spaces provided in the respective columns. The rates written in words

shall prevail in case of any variation between the rates mentioned in figure and words.

Please note that the price should not be indicated in any of the documents enclosed in Envelope no. 1&2. Non-compliance shall entail rejection of the Bid. Any addition, modification, alteration etc if observed in any of the bid documents containing volume -I to VI at any stage the bid shall be summarily rejected.

No rates to be quoted for the items where nil quantity is mentioned against that item. Indicating NIL quantity does not mean that this item will not be operated in the work. Rate of item quoted under any section of Bill of Quantity is interchangeable and minimum rate quoted for the same item under any section will be taken for payment.

- 15.2 The Bidder shall seal the Bid.
- 15.3 All the above three envelopes shall be sealed in a fourth envelope and addressed to The Dy. General Manager (Civil), HSCC (I) Ltd, E-6A, Sector-1, Noida-201301 (UP).
- 15.4 All the above envelope shall bear the following identification:

Name of work: *Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3)Laboratory & associated works on "Turnkey Basis" at National Research Centre on Equines (NRCE), Hisar- Haryana.*

Tender number, Due date and Time.

- 15.5 All the envelopes shall indicate the name and address of the Bidder to enable the Bid to be returned unopened, if required.
- 15.6 All recipients for the purpose of submitting a Bid shall treat the contents of the documents as private and confidential.

16.0 Deadline for Submission of Bids

- 16.1 Bids must be received by the Engineer, HSCC (India) Ltd., on or before **of the designated date & time.**
- 16.2 The Engineer may, at his discretion, extend the deadline for submission of Bids through the issuance of an amendment in accordance with Clause 7 in which case all rights and obligations of the Employer and the Bidders previously subject to the deadlines shall thereafter be subject to the new deadline as extended.

17.0 Late Bids

17.1 Any Bid received by the Employer/Engineer after the prescribed deadline for submission will liable to be rejected and will be returned unopened to the Bidder.

18.0 Modification and Withdrawal of Bid

18.1 The Bidder may modify or withdraw his Bid after Bid submission, provided that modification or notice of withdrawal is received in writing by the Engineer prior to the prescribed deadline for submission of Bids.

18.2 The Bidder's modification or notice of withdrawal shall be prepared, sealed, marked and despatched in accordance with the provisions for the submission of Bids. Notice of withdrawal may also be sent by telex or cable but shall be followed by a signed confirmation copy, postmarked not later than the deadline for submission of Bids.

18.3 No Bid may be modified subsequent to the dead line for submission of Bids.

18.4 No Bid may be withdrawn in the interval between the deadline for submission of Bids and the expiration of the period of validity of the Bid specified. Withdrawal of a Bid during this interval may result in the forfeiture of the Bid Security.

18.5 Subsequent to the expiration of the period of validity of Bids prescribed in the Bid documents, a successful Bidder who has not been notified by the Engineer of the Award of the Contract may withdraw his Bid without penalty.

E. Bid Opening and Evaluation

19.0 Bid Opening

19.1 Bids shall then be opened in the office of HSCC (I) Ltd., at Plot - 6 (A), Block - E, Sector - I, Noida, Uttar Pradesh - 201 301, half an hour after the prescribed time for Bid submission in presence of the Bidders' representatives who may wish to be present.

Envelope No. 1: Shall be opened first. If the Bid Security & tender document fee (if document downloaded from websites) is not found as prescribed, the Bid shall be summarily rejected.

Envelope No. 2: Shall be opened next. Bids of parties who do not accept the conditions laid above in the Bid documents are also liable to be rejected.

19.2. The Engineer will examine the Bids to determine whether they are complete, whether the requisite bid securities have been furnished, whether the Bids have been properly signed and stamped and whether the Bids are generally in order.

19.3 Telegraphic/ Fax offer will be treated as defective, invalid and rejected. Only detailed complete Bids received prior to the closing time and date of the Bids will be taken as valid.

19.4 The Bidder's names, general technical details, the presence of the requisite Bid Security and such other details as the Engineer, at his discretion may consider appropriate will be announced at the Bid opening.

Envelope No. 3: Shall contain the sealed price Bid (volume-V). Whose bid is found to be generally in order and substantially responsive shall be opened either at the Bid opening or at a subsequent date to be intimated in advance to such eligible Bidders.

19.5 Only summary of prices quoted by the Bidders will be read out.

19.6 The Bid of any Bidder who has not complied with any of the instructions contained herein may not be considered.

20.0 **Process to be Confidential**

20.1 After the public opening of Bids, information relating to the examination, clarification, evaluation and comparisons of Bids and recommendations concerning the Award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.

20.2 Any effort by the Bidder to influence the Employer/ Engineer in the process of examination, clarification, evaluation and comparison of Bids and decision concerning Award of Contract may result in the rejection of the Bidder's Bid.

21.0 **Clarification of Bids**

21.1 To assist in the examination, evaluation and comparison of Bids, the Engineer may ask Bidders individually for clarification of their Bids, including breakdowns of unit prices. The request for clarification and the response shall be in writing or cable or telex, but no change in the price or substance of the Bid shall be sought, offered or permitted except as required to confirm the correction or arithmetical errors discovered by the Engineer during the evaluation of the Bids in accordance with Clause 24 hereof.

22.0 Determination of Eligibility & Responsiveness

22.1 The Engineer will determine whether the Bid is substantially responsive to the requirements of the Bid documents.

For the purpose of this Clause, a substantially responsive Bid is one which conforms to all the terms, conditions and specifications of the Bid documents without any deviation or reservation.

22.2 A Bid, which in relation to the cost estimates of the Engineer is unrealistically priced and which cannot be substantiated satisfactorily by the Bidder may be rejected as non responsive.

23.0 Correction of Errors

23.1 Bids, determined to be substantially responsive will be checked by the Engineer for any arithmetical errors in computation and summation. Errors will be dealt by the Engineer as follows :

- a) Where there is discrepancy between rates indicated in figures and in words, rates in words will govern.
- b) Incorrectly added totals will be corrected.
- c) In case of any clerical error between rates indicated in figures and words, the rate in words shall prevail. In case there is any inconsistency between the rate and the value extended (after multiplication with the tender quantity), the rate quoted shall prevail.
- d) **All corrections, cuttings, additions and over-writings shall be encircled and numbered and initialled.**
- e) **The number of such corrections, cuttings additions and over-writings must be clearly mentioned at the end of each relevant page of the BOQ and they should be**

initialled. Any omission observed will be brought out clearly on each relevant page.

- f) **Use of correction fluid anywhere in tender documents including price bid should not be allowed. In case use of correction fluid is noticed, such tender will be liable for rejection.**

23.2 If a Bidder does not accept the correction of errors as outlined above, his Bid will be rejected.

24.0 Evaluation and Comparison of Bids

24.1 Only such of the Bids as have been determined to be substantially responsive to the requirements of the Bid documents, in accordance with Clause 22 will be evaluated. Other non-responsive Bids will be rejected.

24.2 Bidders shall note that no preference of any nature will be given to any Bidder notwithstanding any custom, usage or instructions to the contrary.

24.3 Evaluation of the Bids will take into account, in addition to the Bid amounts, the following factors:

- a) Arithmetical errors corrected in accordance with Clause 23.
- b) Such other factors as the Engineer considers may have a potentially significant impact on Contract execution price and payments.

24.4 Offers, deviations and other factors, which are in excess of the requirements of the Bid documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in Bid evaluation.

24.5 Price adjustment provisions applying to the period of execution of the Contract shall not be taken into account in Bid evaluation except to the extent specifically stated in the Contract.

F. Award of Contract

25.0 Award Criteria

25.1 Subject to Clause 26, Engineer will Award the Contract after prior approval by the Employer to the Bidder whose Bid has been determined to be eligible and to be substantially responsive to the Bid documents and who has offered the lowest evaluated Bid of the Bill of Quantities calculated considering the sum total of the rates quoted for PART-A and PART-B of Bill of quantities (Volume-V) , provided further that the Bidder has the capability and resources effectively to carry out the Contract Works.

26.0 Engineer's Right to Accept any Bid, to Reject any or all Bids

26.1 Notwithstanding Clause 25, the Employer/Engineer reserves the right to accept or reject any Bid including the lowest and to annul the Bidding process and reject all Bids, at any time prior to Award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligations to inform the affected Bidder or Bidders of the grounds for the Employer's/Engineer's action.

27.0 Notification of Award

27.1 Prior to the expiration of the prescribed period of Bid validity, the Engineer will notify the successful Bidder by cable or telex or letter confirmed in writing by registered letter that his Bid has been accepted. Notification of award for both the parts i.e PART-A & PART-B may be made together or separately. However for award of PART-B of the work employer (VTCC, NRCE) reserves the write not to award the work and/or to reduce the duration of work of PART-B Notification of award for both the parts may be made together or separately.

27.2 The notification of Award will constitute the formation of the Contract.

27.3 Upon the furnishing by the successful Bidder of a Performance Security in accordance with the provisions of Clause 29, the Engineer will promptly notify the unsuccessful Bidders that their Bids have been unsuccessful.

28.0 Signing of Agreement

Upon the receipt of the notification of Award by the successful Bidder, the successful Bidder shall fill the Agreement in accordance with form of Agreement included in the Bid documents and submit

the same to the Engineer within two weeks of the date of receipt of notification of Award. The Engineer shall return the draft duly approved within one day from the date of receipt of the draft and the successful Bidder shall get the same engrossed, have the correct amount to stamp duly adjudicated by Superintendent of Stamps and thereafter return the same duly signed and executed on behalf of the successful Bidder, all at his own cost within 3 days from the receipt of the approved draft. The signing of agreement may be made together or separately for sections with respective client / HSCC Ltd, on behalf of the client.

29.0 Performance Security

29.1 Within 15 days of receipt of the notification of Award from the Engineer, the successful Bidder shall furnish to the Engineer a Security in the form of a Bank Guarantee from Nationalised/Scheduled bank for an amount of 5 percent of the Contract sum. The Performance security for PART-A & PART-B shall be submitted separately.

The validity of the Performance Security as per the Notification of Award for PART-A work shall be upto the end of the Defect Liability Period with 3 months claim period after expiry of defect liability period.

The Performance security for PART-B shall be valid upto the end of comprehensive Maintenance period as per the Notification of Award for PART-B with a further 03 months claim period. The Performance Security for Part-B shall be submitted in the form of four separate Bank Guarantees for an amount equal to 5% of the Annual Maintenance Rate for each of the four years.

29.2 In cases, where the aggregate of expected Contract payment would at any time exceed the Engineer's estimate of actual work performed by more than the amount of Performance Security specified in Clause 29.1 such Security shall be increased accordingly at the expense of the successful Bidder.

29.3 Failure of the successful Bidder to lodge the required Bank Guarantee shall constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security, in which event the Engineer may make the Award to the next lowest evaluated Bidder or, if there are no other Bidders, call for new Bids.

SPECIFIC CONDITIONS OF CONTRACT

The Conditions of Contract shall be GENERAL CONDITIONS OF CONTRACT in Volume I (hereinafter called the General Conditions) as modified or added to by the following Specific Conditions of Contract, which shall be read and construed with the General Conditions as if they were incorporated therewith.

Insofar as any of the Conditions of Specific Conditions of Contract conflict or be inconsistent with any of the General Conditions, the conditions of Specific Conditions of Contract shall prevail.

30.0 Definitions

- a) "EMPLOYER" means National Research Centre on Equines (NRCE), Hisar-Haryana under Indian Council of Agricultural Research,(ICAR), New Delhi shall be the employer / owner for the subject work.
- b) "Engineer" means DGM/General Manager **of HSCC (India) Ltd.** or any officer nominated by the Chairman-cum-Managing Director, HSCC (India) Ltd. to act as Engineer from time to time.
- c) "Site In-charge" means the HSCC incharge of work designated by the Engineer
- d) "Month" and "Year" and all dates shall be calculated according to the Gregorian Calendar.

31.0 Insurance of Works

All Insurances referred to in General Conditions shall be effected with an Indian Insurance Company incorporated and registered in India. All insurances and labour license to be submitted within 15 days from notification of Award of work. Depending upon the case, the insurance cover may be required either together for the whole work or separately for both the parts.

32.0 Guarantees

Performance Guarantees, Advance Payment Guarantee, Retention money Guarantee and any insurance policies entered into by the Contractor under the terms of the Contract, shall stipulate that the proceeds of any claim shall be payable to **Employers**.

33.0

Certificates and Payments:

- a) Mobilization Advance - Deleted
- b) Clause on Mobilization Advance- Deleted
- c) Clause on Mobilization Advance- Deleted
- d) The Contractor shall submit to the Engineer after the end of each month a detailed statement including measurements showing the estimated contract value of the Permanent Works executed up to the end of the month together with particulars of other amounts to which he is entitled under the Contract.
- e) The statement shall be submitted on a printed proforma (Prepared at the cost of the Contractor) approved by the Engineer along with soft copy of the same in a CD/Pen drive.
- f) The Contractor shall be paid monthly, on the certification of the Engineer, the amount due to him which shall be the sum of the following amounts :
 - i) Subject to and in accordance with Clause 21 of these Specific Conditions, the estimated value of the Permanent Works executed upto the end of the previous month less retention money named in the Bid, and
 - ii) 75% of the value of materials expected to be consumed within 3 months of its delivery at Site for Permanent Works on the Site provided the Engineer is satisfied that the amounts for such materials are reasonable bearing in mind the requirements of Works, less deductions, if any as per Clauses 33(f) and 37 of these Specific Conditions and other Contract conditions.
- g) Clause on Mobilization Advance- Deleted
- h) Retention Money
 - i) With in 15 days of award of work, The contractor shall furnish a bank Guarantee from any nationalised/Scheduled bank for an amount of 2.5%(Two & half) of the contract price in the form approved by the Engineer and having validity upto completion period with a claim period of three months as per format attached at Annexure-F.

further retention money @ 5% (Five) shall be Deducted from each interim certificate from First RA bill subject to a maximum of 2.5 %(Two & half) of the contract price and shall be released after defect liability period.

Alternatively/or

Retention money at the rate of 10% (ten percent) shall be deducted from each interim certificate subject to the maximum of 5%(Five percent) of the contract price after approval by engineer.

- i) The Retention Money shall, subject to Clause 60.6 (a) & 60.6 (b) of General Conditions of Contract, become due and shall be paid to the Contractor when the Engineer shall issue the Taking Over certificate notwithstanding that at such time there may be outstanding claims by the Contractor against the Employer, provided always that if at such time there shall remain to be executed by the Contractor any Works ordered during the Defect Liability Period pursuant to Clause 49.1, 49.2, 49.3, 49.4 and 50.1 of the General Conditions hereof, the Employer shall be entitled to withhold payment until the completion of such Works as much of the Retention Money as the Engineer may in his absolute discretion think fit.
- j) Payment against each monthly R/A bills upon each of the Engineer's certificates shall be made by the HSCC (I) Ltd. acting for and on behalf of Employer or by the Employer directly within 30 working days after such certificate has been issued by the Engineer.

However, 75% of the estimated amount as determined by the Engineer of the payment due against the monthly running bill shall be paid within 10 (Ten) working days after certification by the Engineer in the approved format and complete in all respects.
- k) The Engineer may at any time make any corrections or modifications to any certificate, which shall have been issued by him and shall have power to withhold any certificate if the Works or any parts thereof are not being carried out to his satisfaction.
- l) The responsibility for making the payments or meeting other obligations to the Contractor in respect of all Works as certified by the Engineer on behalf of Employer.

- m) After completion of work and prior to final payment, the contractor shall furnish to the engineer, a release of claim against the Employer arising out of contract, other than claims specifically identified, evaluated and excepted from the operation of the release by contractor.
- n) Contractor has to submit break up of BOQ rate to facilitate approval of interim payment by the Engineer. However final decision on break up of rates/ part rates to be paid in parts will be taken by Engineer
- o) Monthly bill not submitted in approved formats will not be accepted.

34.0 Settlement of Disputes - Arbitration

Sub Clause 67.1, 67.2, 67.3 and 67.4 of G.C.C. shall be followed.

35.0 Address

- a. The address of the Employer is as follows :

Director, The National Research Centre on Equines (NRCE), Hisar-Haryana under Indian Council of Agricultural Research,(ICAR), New Delhi.

- b. The address of the Engineer/representative is as follows

Dy. General Manager (Civil) of HSCC (India) Ltd., plot no. E-6A, Sector-1, Noida

- c. The address of the Contractor is

36.0 THE FOLLOWING SHALL BE READ IN ADDITION TO CLAUSE 34.1 TO THE GENERAL CONDITIONS

36.1 Labour

36.1.1 Engagement of Labour

The contractor shall make his own arrangement for engagement of all labour, local or otherwise, and, save insofar as the contract otherwise provides, for the transport, housing, feeding and payment thereof.

36.1.2 Supply of water

The contractor shall provide at his own cost adequate quantity of drinking water on the site to the satisfaction of the Engineer's Representative for the use of contractor's and the Engineer's staff and work people, sub contractor and site visitors.

36.1.3 Alcoholic Liquor or Drugs

The Contractor shall not import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his sub-contractor, agents or employees.

36.1.4 Arms and Ammunition

The Contractor shall not give, barter or otherwise dispose off to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

36.1.5 Festivals and religious Customs

The Contractor shall in all dealing with labour in his employment have due regard to all recognised festivals, days of rest and religious or other customs.

36.1.6 Epidemics

In the event of any outbreak of illness of an epidemic nature, the contractor shall comply with and carry out such regulation, orders and requirements as may be made by the government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

36.1.7 Disorderly Conduct, etc

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighbourhood of the works against the same.

36.1.8 Observation of legislation etc.

The Contractor shall at all times during the continuance of the contract comply fully with all existing Acts, regulation and bylaws including all statutory amendments and re-enactments and acts that may be passed in future either by state or the central Government or local authority, including, Indian Workmen's compensation act, contract labour (Regulation and Abolition) Act 1970 and equal remuneration Act 1976. Factories Act, Minimum wages Act provident fund regulations employees provident fund Act and Schemes made under same act, Health and sanitary arrangements for workmen, Insurance and other benefits and shall keep the employer indemnified in case any action is commenced for contravention by the contractor. If the Employer is caused to pay or reimburse any amount for non-observance of the provision of this clause on the part of the contractor the engineer shall have the right to deduct from any moneys due to the contractor or recover from the contractor personally any sum required or estimated to be required for making good the loss or damage suffered by the Employer. all registration and station inspection fees if any in respect of his work pursuant to the contract shall be to the account of the contractor.

36.1.9 Fair Wages

The contractor shall pay the labours engaged by him on the work not less than a fair wages, which expression shall mean, whether or time or piecework, the respective rates of wages as fixed by the public works department as fair wages for the area payable to the different categories of Labourers or those notified under the minimum wages act for corresponding employees of the employer whichever may be higher.

36.1.10 The contractor shall notwithstanding the provisions of any contract to the contrary, cause to be paid a fair wage to the labourers indirectly engaged on the works including any labour engaged by subcontractor in connection with the said works as if the labourers has been immediately employed by him.

36.1.11 Notices

The Contractor shall before he commences the work display and correctly maintain in clean and legible condition at a conspicuous place on the site notices in English and in a local language spoken by the majority of the workers, stating therein the rate of wages which have been fixed as fair wages and the hours of work for which such wages are earned and send a copy of such notices to the Engineer.

36.1.12 Wage Records

The Contractor shall maintain records of wages and other remuneration paid to his employees in such form as may be convenient and to the requirement of the Employer/Engineer and the conciliation officer (Central) Ministry of labour, Government of India, or such other authorised person appointed by the central or state government and the same shall include the following particulars of each worker:

- I) Name works number and grade
- II) Rate of daily or monthly wage.
- III) Nature of work on which employed.
- IV) Total number of days worked during each wage period.
- V) Total amount payable for the work during each wage period.
- VI) All deduction made from the wage with details in each case of the ground for which the deduction is made.
- VII) Wage actually paid for each wage period.

36.1.13 The contractor shall provide a wage slip for each worker employed on the works.

36.1.14 The wage record and wage slips shall be preserved for least 12 months after the last entry.

36.1.15 Inspection of wage Records

The contractor shall allow inspection of the aforesaid wage records and wage slip to the engineer and to any of his workers or to his agent at a convenient time and place after due notice is received, or to the Employer or any other person authorised by him on his behalf.

36.1.16 The Employer and the Engineer or any other person authorised by them on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observation of the fair wages clause. He shall also have the power to investigate into any complaint regarding any default made by the contractor or sub-contractor in regard to such provision.

36.1.17 The Employer shall have the right to deduct from money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non payment of the aforesaid fair wage, except on account of any

deduction that may be permissible under any law for the time being in force.

36.1.18 Representation of parties

- (i) A workman shall be entitled to be represented in any investigation or enquiry under this clause by :-
 - (a) An officer of a registered trade union of which he is a member.
 - (b) An officer of a federation of trade union to which the trade union referred to in previous sub-clause is affiliated.
 - (c) Where the worker is not a member of any registered trade union, by an officer of a registered Trade union connected with or by any other workmen employed in the industry in which the workers is employed.
- (ii) The contractor or sub-contractor shall be entitled to be represented in any investigation or enquiry under this clause by an officer of an Association of Employers of which he is a member.
- (iii) No party shall be represented by a legal practitioner in any Investigation or enquiry under this clause, unless all parties agree.

36.1.19 Safety Provision

The contractor shall comply with all the precautions as required for the safety of the workman by I.L.O convention (NO.62) as far as they are applicable to the contract. The contractor shall provide all necessary safety applications, gears like goggles, helmets, masks, etc. to the workmen and the staff.

The contractor shall be responsible for observance by his sub contractor of the forgoing provisions

36.1.20 Footwear

The contractor shall at his own expense provide footwear for all labour engaged on concrete mixing work and all other type of work involving the use of tar, cement, etc. to the satisfaction of the Engineer or his Representative, and on his failure to do so the

Employer shall be entitled to provide the same and recover the cost from the Contractor

The contractor shall deliver to the Engineer's representative at his office on the site a return in detail in such form and at such interval as the Employer/Engineer may prescribe showing the supervisory staff and the number of the several classes of labour from time to time employed on the site.

36.2 Variation in price: -

No Variation shall be payable in price on account of labour, material (General), POL and / or any other account. Also no variation/escalation shall be payable on account of time over run if any in completion.

36.2.1 Subsequent Legislation

If, after the date seven days prior to the latest date for submission of Bids for the Works, there occurs changes to any National or State Statute, Ordinance, Decree or other law or any regulation or bye-law of any local or other duly constituted authority or the introduction of any such statute ordinance, etc. which causes additional or reduced cost, the same shall be certified by the Engineer and shall be paid by or credited to the Employer and the Contract Price adjusted accordingly. Notwithstanding the foregoing such additional or reduced cost shall not be separately paid or credited if the same shall already have been taken into account in the indexing of any inputs to the price adjustments formula in accordance with the provisions of Sub-Clauses (1), (2), (3), (4) and (5) of this Clause.

The following items are not to be included in the price adjustment calculations:

- a. Liquidated Damages.
- b. Retention money withheld and released.
- c. Advance payments in the form of loan and their repayments.
- d. Value of any additional or varied work valued at current price.

- e. Payment to nominated subcontractors included as "Provisional sums" or "Prime cost" items in the Contract Price.

37.0 Taxation

The Contractor shall pay all taxes, duties, levies, work contract tax etc. of the Government provisions of the Income tax Act or as per the advice of the Income Tax Authority. Deduction of Income tax/ Works Contract tax/ other taxes shall be made from each certificate of payment as per the relevant provisions of the Income tax Act or as per the advice of the Income tax Authority/ other Competent Authority.

38.0 Co-ordination Meeting

The Contractor shall be required to attend co-ordination meetings with the Engineer, the Consultant and other Contractors during the period of Contract at any suitable place as instructed by the Engineer. All costs incidental to such interaction including providing vehicle shall be to the Contractor's account and no claim will be entertained by the Employer/Engineer on this account. The contractor shall ensure that the meeting is attended only by their officials/ representatives at appropriate level and as directed by Engineer.

38.1 Engineer's visit to site

The contractor/his representative shall be required to be present during periodical site visit of the engineer along with all the drawings and details required by the engineer and make a good vehicle available to the engineer at their own cost during his period of stay in town. The contractor will make all the places accessible for the smooth visit of engineer at site. The contractor will take all permissions and to make all the arrangements for visit of any place or any local authority concerned related to the works.

39.0 Special Applications

39.1 Site Information

The proposed Site for the *Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3) Laboratory & associated works on "Turnkey Basis" at National Research Centre on Equines (NRCE),*

Hisar- Haryana in compliance with CDC, USA guidelines as minimum and its maintenance during the defect liability period within NRCE campus, Hisar

39.2 Site Development

- a) Proper pumping arrangement should be maintained at site for removing water from the basement at no extra cost.
- b) Proper arrangement of security, safety, transportation, manpower, lighting arrangement to be maintained during execution of works at night.
- c) For rapid execution of work, contractor has to arrange their own tower crane, batching plant and others machinery, tools and tackles needed for the work as given in the submitted PQ document.
- d) As directed by Engineer Proper barricading to be made so that surrounding area free from disturbances. The specifications of barricading to be got approved by Engineer. External face of barricading to be nicely painted and written the name of Employer, consultant & project only. NO sign board of contractor is allowed unless permitted by engineer in writing.
- e) For diversion of under ground services proper arrangement to be made by the contractor with the approval of Engineer.

b) Statutory Requirements

Contractor is responsible for obtaining approval from local electrical inspector & water & Sewer line connection, tree cuttings, permission for borewell and others local Statutory bodies etc, if any, and any structure made / to be made of work, which is not in the approved plan, by the local authority. All the statutory expenditure if any shall incur towards payment to the local body for getting local Electric inspector, sewer line and water supply connection, any other statutory fees etc for Employer will be reimbursed on the production of proof of payment. The contractor will be promptly extended all assistance in this connection.

39.2.1 Contractor's Working Area

Suitable working area will be provided by the Engineer to the Contractor. The Contractor may have to carry out some cutting /

filling work for making his working area. The cost of all such Works shall be deemed to have been included in the rates and prices quoted for the Works and no extra payment shall be made on this account.

39.2.2 Contractor's Temporary Structures

The Contractor may, at his own expense and subject to the approval of the Engineer and statutory authorities, construct offices, stores, Workshop in the area allocated to him and remove the same as per the orders of the Engineer on completion of Works. The Contractor shall furnish such details of his Temporary Works as may be called for by the Engineer and the Contractor shall satisfy the Engineer as to their safety and efficiency. Engineer may direct those Temporary work which he considers unsafe or inefficient be removed and replaced in a satisfactory manner. The Contractor shall immediately follow Engineer's directions/instructions.

The Contractor shall make his own arrangement at his own expense for labour camp / accommodation of his labour and staff and their conveyance to Site as no workers/ staff shall unless with the specific approval of the Engineer be allowed to stay within the Site. Gate passes shall be issued by the Engineer to authorise the Contractor's staff and workers to enter the Site. No extra payment shall be made on this account

39.2.3 Procurement of Various Materials

The Employer will not supply any construction materials required for the Works under this Contract. The Contractor must, therefore, make his own arrangements for timely procurement of various materials including steel and cement. Prior approval of each and every material including steel cement, aggregate, bricks etc or any other fittings & fixtures to be taken from engineer before its procurement to site. However in case of excessive delay in procurement of various materials, the engineer may also take decision of procurement of material directly and the cost will be recovered from the contractor.

39.2.4 Water Supply & Power Supply

The Contractor shall make his own arrangement for water supply at Site for drinking as well as construction purposes at his own cost. The Contractor shall also make his own arrangements for power

supply at Site for construction, testing & commissioning of all services and general use at his own cost.

Non-availability of power supply and/or water from whatever source shall not entail any additional claims or extension of Contract period in this account. The contractor will provide water & electricity to the Engineer's office free of cost for the required quantity by the engineer's site office.

39.2.5 Site office

Contractor has to provide within 30 days of issue of letter of award, at his own cost a reasonably furnished site office accommodation for HSCC (area approx 90 Sqm) having a sample room, Air conditioned meeting room & staff rooms along with toilets, Electricity, drinking water & pantry, file storage facility along with computers & Laser printers and its consumables, a telephone with STD facility and vehicle/Car of good running condition inclusive of all services like driver, consumables and maintenance etc at any time for exclusive use of engineer/HSCC round the clock during the currency of the contract till defect liability period to HSCC as per requirements given by the Engineer.

39.2.6 Temporary Fencing

The Contractor shall at his own expense, erect and maintain in good condition temporary fences all around the working premises as per specifications & size approved by Engineer/Employer and statutory authorities requirements. After the successful completion of work all the temporary fencing will be dismantled/removed by contractor and all the dismantled/removed material from here shall be the property of the contractor. The specification is as under

“Providing and fixing and making 2.1M temporary fencing with 24 gauge GI corrugated sheets with 8mm dia. “L” hooks on MS steel structure frame work @ 12 Kgs/Sqm including pit excavation with cement concrete 1:4:8 pit filling(1cement : 4 coarse sand: 8 graded stone aggregate 40mm nominal size) or fixed in floor by suitable means and painting with primer to steel structure including the two or more coats or synthetic enamel paint outside (50% blue and 50% green synthetic enamel paint as directed by engineer over a coat of approved steel primer as per instruction of engineer complete. (After the successful completion of work all the temporary fencing will be dismantled/removed by contractor and all the dismantled/removed material from here shall be the property of the contractor)”.On all the fencing work the name of client and

consultant will only appear and in no case the name of contractor is allowed on any board or sheets of fencing. The format of signboard & fencing board will be approved by Engineer. The suitable place & size of board for the name of agency/agencies to be shown by Engineer. The Contractor shall, except when authorised by the Engineer, confine his men, materials and plant within the Site of which he is given possession. The Contractor shall not use any part of the Site for purposes not connected with the Works unless prior written consent of the Engineer has been obtained. Access shall be made to such areas only by way of approved gateways

39.2.7 Mix Design of Concrete

The contractor shall carry out the mix design for the relevant item of concrete from reputed institution/laboratories as approved by Engineer at his own expenses within 15 days from notification of award. Prior approval of engineer is to be taken before the samples (Cement, Coarse & fine aggregates) sent to the Institution for Mix design. The decision of engineer shall be final and binding for above. The design mix required may with or without admixtures.

39.2.8 Testing of Materials

All materials used in the works shall be subject to inspection and test. The Contractor shall carry out sampling of such materials and making of concrete test cubes as per the appropriate Indian Standards and as directed by the Engineer. The contractor shall deliver the samples of materials and concrete test cubes to the site office of the Engineer at site office/Site Testing Lab in a manner as directed by engineer who will inspect the same and then order for testing of materials and concrete cubes..

The Contractor shall arrange for testing of materials normally in site testing lab but samples may be sent outside testing laboratories if necessary.

The delivery of the samples shall be undertaken by the Contractor. The cost and charges for sampling of materials and concrete cubes and delivering the same to the office of the Engineer and/or other places including all incidentals in connection with the same as directed by the Engineer and the testing charges there of shall be borne by the Contractor and shall be deemed to be included in the rates and prices quoted in the Bill of Quantities. The results of the tests carried out shall be binding on the Contractor who shall

comply with any rectification measures that the Engineer may deem fit and order to be executed by the Contractor as a result of testing.

39.2.9 Approval of Samples prior to use

The Contractor shall submit the samples of all materials,(Whether in list of approved make or not in list of approved make) he proposes to use in the Works for prior approval of the Engineer. A sample room shall be maintained at Site in which all approved samples shall be kept for comparison with materials being used at Site.

39.2.10 Bar Bending Schedule

Contractor shall prepare bar bending schedules in the prescribed proforma as approved by the Engineer for prior approval of the Engineer. However, the approval does not relieve the Contractor from his liability for bending, placing and binding reinforcements as per the approved drawings.

39.3 (a) Working drawings/ shop drawings/Design:

The drawings supplied by the engineer have been listed in the tender documents.

These drawings are indicating for the purpose of detailing the intent and requirement of the contracts. The contractor shall take into consideration by space allocated for equipments before ordering them to ensured that the equipment would fit in the space provided with necessary clearances required as per the relevant standard/ manufactures recommendations.

Structural and architectural drawings will be provided by HSCC however to ensure the uninterrupted progress of work and timely completion, the contractor will do further detailing as per site requirement at his own.

Detailing and shop drawings of all services will have to be done by the contractor based on the schematics and other details provided by HSCC or local authorities. The work will be executed by the contractor based on the approved drawings from the concerned authority and accordingly contractor will be responsible for obtaining final NOC/clearance from concerned authority.

The contractor shall submit to the Engineer for approval details of all proposed equipments, accessories, equipment characteristics and capacity details of all equipment, accessories and devices etc. as per the specifications and required by the Engineer.

In case there is delay in any drawings and design viz shop drawings, as made drawings etc. in preparation, design, quality, submission, etc. HSCC may ask the contractor to change the design consultant immediately or get the same done on risk and cost of the contractor.

These drawings and details shall also contain details of construction, size, arrangement, operating clearances, performance

characteristics and capacity of all items of equipments and also details of all related items of work by other discipline.

All drawings to be signed by authorised contractor's representative with name, seal and date before submission to Engineer.

39.4 "AS MADE" Drawings

The Contractor shall supply two complete sets of "As Made" Drawings on polyester tracing film 75 micron thick and also on computer pen drive and three prints showing details of all the Works as executed. The drawings and prints shall be delivered to the Engineer within one month of completion of the various Sections of the work or at such other times as directed by the Engineer. The drawings shall be fully dimensioned with the Engineer's standard title block or as approved by the Engineer. The cost of making the "As Made" drawings shall be deemed to be included in the rates quoted in the Bill of Quantities.

39.5 Monthly Progress Photograph

The Contractor shall supply to the Engineer a pen drive, negative and three prints of colour progress photographs in good quality album with two copy at site and one copy at HSCC Head Office of such portions of the work in progress or completed works every month end or as directed by the Engineer. The pen drive, negative and the photographs shall become the property of the Employer. The photographs shall be of approximate size 169 mm x 115 mm each. The photographs shall be mounted in albums approved by Engineer and shall be suitably inscribed and captioned. The albums

in a chronological order shall be handed over to the Engineer. No pen drive prints or the negatives may be supplied to any persons without the authority of the Engineer. All photographs to be taken from digital camera and software to be provided for transformation it to the computer. Photograph shall be taken after a gap of one month till completion of project and shall be displayed at site.

39.6 Programme of Work and Progress Reports

The Contractor shall submit to the Engineer within two weeks of the Award of the Contract, six copies of detailed Schedule showing in an approved form the estimated dates of commencement and completion of different parts of the Works including the expected dates for completion of the various Sections of the Works. The detailed Schedule shall be such as it can be updated quarterly or as directed by the Engineer. Six copies of the revised Schedule shall be supplied to the Engineer as and when it is revised. The schedule will be in two parts. The first part will consist of schedule for detailing & preparation & submission of shop drawings and second part of schedule for execution. The schedule will be only detailing of original schedule submitted alongwith tender.

The Contractor shall submit to the Engineer before the second day of every week, a progress report for the preceding week showing the unto date progress and progress during the preceding week on all items of each section of the Works in relation to and in consideration of the detailed Schedule.

39.7 Metric Units

Metric units have been used in the specifications and on all the drawings.

If any materials described in the Contract or ordered by the Engineer are described by dimensions in the metric units and the Contractor can not in accordance with the Contract, procure such materials in the measure specified in sufficient time to avoid delay in the performance of his other obligations under the Contract, but can obtain such materials in other measure to dimensions approximating to those described in the Contract or ordered by the Engineer, then the Contractor shall henceforth give notice to the Engineer of these facts stating the dimensions to which such materials are procurable in the other measure. As soon as practicable after the receipts of any such notice the Engineer shall give an order to the Contractor which shall either

- (a) Direct the Contractor to supply such materials to the dimensions stated in his said notice to be procurable instead of the dimensions described in the Contract or originally ordered by the Engineer, or
- (b) Direct the Contractor to make some other variation whereby the need to supply such materials to the dimensions described in the Contract or originally ordered by the Engineer will be avoided.

39.8 Field Materials Testing Laboratory

39.8.1.1 The Contractor shall provide ,furnish, man and maintain a laboratory at his own cost for the Testing of bricks, concrete cubes, construction materials, soil and any other materials in accordance with (Indian Standards and CPWD norms etc.) & as per the directions of Engineer.

Whenever directed by the engineer the contractor shall permit other contractor working for the employer on the project to use field-testing laboratory on payments as fixed by the Engineer. Such payments will be made directly by the other contractor using the laboratory.

39.8.1.2 The laboratory shall be equipped and manned by the Contractor at his own cost with all necessary apparatus to carry out the above mentioned tests in accordance with relevant Indian Standards or equivalent approved Standards.

i) Cement testing:

Tests for fineness, Strength, setting time and soundness in accordance with IS:4031.

ii) Concrete Testing:

Test for workability, proportions, density and strength in accordance with IS:516 and 1199. In particular the cube testing machine shall be capable of exerting a slowly applied force up to 200 tonnes and the platens shall be suitable for crushing both 150mm and 200 mm cubes. A Vibrating table of suitable design shall be provided for compaction of cubes.

iii) Aggregate Testing:

In accordance with IS: 2386 (part I to VIII) for the following tests on both fine and coarse aggregates:

- a. Sieve analysis
- b. Determination of bulk density and voids on fine aggregates only:
- c. Determination of moisture content, specific gravity and absorption on coarse aggregates only:
- d. Determination of specific gravity and absorption

39.8.1.3 The contractor shall carryout inspection, testing, checks and also shall maintain records of inspection, testing & checks of material, works and activities related to construction works in the ISO 9001 quality system formats, checklists etc. to be given by consultant during execution period. After getting approval from the Engineer, The contractor shall print at his own cost all forms, tables, formats etc.

39.8.1.4 The laboratory shall be connected to the main water and electricity Services. It shall also be supplied with portable gas equipment.

39.8.1.5 On completion of the Maintenance period, the laboratory is to be dismantled and removed from Site. The dismantled materials and equipment shall be the property of the Contractor.

40.0 Rates/Prices

The quoted rates/prices for the items shall be complete in all respect including all labour, material, plant and machinery, tools and tackles, batching plant for RCC work including water & electricity, all taxes, duties, levies, octroi, statutory levies applicable from time to time and others as specified in SCC etc. The contractors attention is invited towards different floor finish and their respective finish levels as indicated in architectural drawings, and nothing extra will be payable for additional mortar bed required to achieve uniform finished levels. The Contractor should quote his rates/prices accordingly for the complete items in all respects.

41.0 Compliance of Statutory Obligations for obtaining completion Certificates:

The Contractor shall comply all the statutory obligations and obtain all required clearances to implement the project without any financial repercussions to HSCC/Employer and ensure all follow up actions with the local authorities in this respect for smooth completion of the project. All statutory charges to get any NOC, clearances from local authorities to be obtained by the contractor and the charges towards the NOC shall be reimbursed after

submitting the bills/documentary evidences along with RA bills/final bill. The contractor is required to obtain all NOC, completion & Occupancy certificates from respective local bodies , if any as under:

i) Pollution control Board, ii) Environment clearances, iii) NOC form fire department, iv) Lift licence, v) Chief Electrical Inspector CEA, vi) Municipal authority vii) Airport Authority, viii) Tree cutting, ix) Explosive department, x) Municipal authority for water and sewer connection, xi) And any other statutory requirement to occupy the building and run the services in all respect. Contractor shall organise all inspections of concerned authorities & obtain the NOC's within the time for completion.

The contractor is required to submit the relevant drawings like completion Drawings and any other statutory documentary requirements of local bodies in copies as per requirement to obtain the above etc. at their own cost.

42.0 deleted

43.0 Unpriced Bids

The unpriced copies of the purchase orders of major items/equipments and of subcontracts placed by the Contractor shall be furnished to the Engineer.

44.0 Milestone

The contractor shall submit mile stones for procurement of all the bought out items and completion of all the major activities including details of manpower proposed to be engaged for each activity.

45.0 Guarantee and Defects Liability Period

45.1 The entire BSL-3 Laboratory works including all the equipments, systems, services and components as a whole shall be guaranteed for its performance and against any manufacturing defects. The defects liability period shall be valid for a period of 1 (One) Year from the date of Completion of works and taking over of the works by the employer. The contractor shall guarantee that all the works, equipments, systems, services and components shall be free from any defect due to defective materials and bad workmanship or any other cause and that the equipments and systems shall work satisfactorily and the performance and efficiencies of the equipments

and systems shall not be less than the approved values. Any part found defective during the defects liability period shall be repaired/replaced by the contractor at his own expense. The services of the contractors personnel, if requisitioned during this period for such work, shall be made available free of any cost to the Employer. However any consumables like gas, oil, v-belts, filters etc. is not covered under the defects liability. If the defects are not remedied within a reasonable time mentioned in the written notice, the Consultant/Employer may proceed to do so at the contractors risk and expenses without prejudice to any other rights. Joint inspection reports shall also be deemed as written notice for this purpose.

46.0 Comprehensive Annual Operation and Maintenance Services

46.1 After Taking Over of the BSL-3 Laboratory, the contractor shall provide Comprehensive Operation and Maintenance services for 1 year. The comprehensive operation and maintenance services provided by the contractor shall include providing trained manpower, accessories, tools, tackles, all spares and consumables, replacement of defective parts, carrying out routine and preventive maintenance and servicing of the equipments and systems etc. complete in all respect (excluding only power and water which shall be provided by the employer). The charges for providing 1 year comprehensive operation and maintenance services shall be included in the quoted rates and nothing over and extra shall be paid to the contractor on this account.

46.2 After completion of one year comprehensive operation and maintenance services, the contractor may be required to provide comprehensive operation and maintenance services for the complete BSL-3 Laboratory systems and equipments covered under this contract for a further period of upto 3 (three) years. However availing of comprehensive annual operation and maintenance services shall be at the sole discretion of the Employer. The unit rates quotes for comprehensive annual operation and maintenance services (after completion of 1 year already covered in the scope of works) for 1st year, 2nd year and 3rd year shall be binding on the contractor. The rates quoted for comprehensive annual operation and maintenance services shall be inclusive of all accessories, manpower, tools and tackles, spares and consumables, replacement of parts, routine servicing and maintenance of equipments and systems etc. (excluding only power and water which shall be provided by the employer) complete in all respect.

Nothing extra over and above the quoted rates shall be payable on any account for providing operation and maintenance services.

46.3 The unit rates quotes for providing comprehensive annual operation and maintenance services for 1st year, 2nd year and 3rd year shall be binding on the contractor and shall be considered for the purpose of evaluation of financial/price bids.

46.4 During providing comprehensive operation and maintenance services, the contractor shall deploy adequate skilled manpower and tools and tackles and spares for smooth operation and maintenance of the Laboratory facility. The Engineer/Employer shall have the right to ask for more manpower or ask for replacement of existing manpower in case it is found that the operation and maintenance services provided are not satisfactory. The decision of the Engineer/Employer in this regard shall be final and binding on the contractor.

47. Approval of Make / agencies

a. Engineer may add any equivalent approved make with price adjustment

b. In case of non availability /monopolistic attitude of any approved make engineers decision to introduce any other make shall be final with suitable price adjustment.

c. Approved make of same item under different sub-heads are interchangeable.

d. The same criteria for approval of electrical , HAVC, plumbing, fire fighting works and other specialised agency will be followed, as per undertaking submitted by the contractor during pre qualification.

48. RCC WORKS

Suitable batching plant with pumping arrangement for a minimum four storey building to be installed at site for the all RCC works. In case break down of the batching plant suitable alternative arrangement like RMC to be made by the contractor to avoid any interruption in RCC work. The alternative arrangement of RMC plant with advance engineer's approval of design mix to be kept ready for such emergency so that RCC can be readily available within 12 hrs of break down of batching plant.

49. Extra/Substituted items: The items shall be analysed based on following norms :

- a) Any extra item/non schedule item will first be analysed based on the similar items existing in the BOQ under any sub heads. Components of any similar item nearest to the non schedule item will be decomposed to get the various sub components of material and manpower. The item will again be composed on the basis of requirements taking other components from DAR and rates.
- b) Components of material, manpower, wastage, profit, sundries, etc will be taken from CPWD latest DAR
- c) In absence of similar item and In case the components are not available in DAR, the same will be taken from actual observations made and recorded at site. A register to be made for such actual observations to be jointly signed each day of observations and put up to the engineer alongwith analysis for approval.
- d) Actual market rates of the material and bought out items at the time of execution of activity will be verified by the site incharge of HSCC based on the rates submitted by the contractor alongwith his claim for extra items after due consideration for all the project discount on the market rates of any item.
- e) Contractor's profit on extra items will be as per CPWD norms or 10% only in case the item in any forms in not available in DAR.
- f) The analysis of items enclosing actual observation sheets, photocopy of pages of DAR, original paid bills and vouchers to be submitted at site.
- g) Labour rates will be taken from local body /collector rates of that area for minimum wages

The claim and analysis will not be accepted unless proper analysis with supporting documents are submitted.

No extra item will be paid unless prior administrative approval of engineer is taken in writing for its execution with tentative rates and total cost involved.

50. Financial capability: The contractor must have the financial capability to continue the work uninterrupted at site.

No time extension will be considered for delay in payment.

51. Details required along with submission of running/final bills to the Engineer

Clause 33.0 under Certificates & Payment contractor is required to submit following details/documents along with every running/final bill without which bills will not be processed.

1. Bills of every section of work as provided in BOQ to be prepared separately and submitted all together. In case there is no billable amount of any section of work, the same should be clearly indicated zero value during the period of bill.
2. Complete measurement details along with location of each measurement should be clearly indicated.
3. Authorised representative of contractor with name & seal to sign on each page of bill submitted.
4. Carryover and brought forward for each & every quantity to be indicated in the bill.
5. The running bill should contain the measurement of items executed during the period of bill. Full measurement may be given in pre final/ final bill. The measurement of all concealed items should be made before covering them.
6. All the copy of challan of materials, bills and test certificates specially of the items on which secured advance has been claimed , steel, cement, sand, aggregates, bricks, any plumbing material, Aluminium, waterproofing material etc. should be submitted alongwith the every bill to the Engineer. Actual measurement of secured advance to be submitted for verification of Engineer. Rate of secured advance material to be verified by Engineer independently. Secured advance on approved make material will only be payable.
7. Manufacturer Catalogue for aluminium and other items for verification of standard unit weight and checking that material is as per specification should be submitted.
8. Weight slip of reinforcement steel and aluminium and any other material as required by Engineer Representative from authenticated source like Dharam Kanta should be submitted.

9. The computerised soft copy of the entire bill shall be submitted alongwith the bill.
10. Correction as made by Engineer Representative should be incorporated by the contractor and corrected copy in three copy should be submitted for payment. Date of submission of bill will be reckoned from the date of submission of corrected bill.
11. Material consumption statement should be submitted alongwith every bill.
12. Bill should be indexed properly and each page and correction if any should be signed and stamped by the authorised representative of he contractor and acceptance should be given.
13. Copy of challan of submission of PF & ESI and any other relevant as required from time to time should be submitted.
14. Contractor shall maintain a check list at site duly marked on drawing for the items/works already measured till previous bill should be submitted alongwith the bill.
15. Register for steel, cement, water proofing material, concealed item etc. should be maintained at site in the standard format of CPWD duly modified by Engineer Representative as per requirement. Monthly statement should be submitted along with the bill.
16. Power of attorney of authorized person on behalf of contractor to be submitted. Contractor must ensure that all papers /Measurement book to be signed by authorized person with measurement date, date of start & date of completion etc.
17. Copy of duly certified bank guarantee from bank, performance BG, insurance policies as required in terms of contract to be enclosed with first RA bill.
18. All overwriting, alterations have been countersigned by the authorized person with date.
19. Approval of extra item if any conveyed to be enclosed.
20. Contractor must ensure, in case of time extension, confirmation of extended validity of insurance, performance BG upto Defect liability period as per contract and a copy of approved time extension to be submitted.

21. Contractor must authorise their representatives competent for verification of measurement at site and these person should be available at site.
22. Contractor is required to submit all test certificates of items claimed in bill for payment or for secured advance payment. Any item not meeting the test criteria's will not be considered for payment.
23. All the pages and enclosures of bills to be stamped with name and designation of the person with full signature of contractor's and HSCC's site incharge before submission to the engineer.

In addition to above any other document and details as required for checking, verification and timely processing of bill.

52. Terms & Conditions of Pre-qualification

All the terms & conditions & prequalification criteria's of prequalification document of invitation of prequalification are to be strictly complied during tenancy of contract.

53. Records , Accounts, information and Audit: -

Contract shall maintain accurate and systematic records and accounts in respect of works performed under this contract.

Contractor shall furnish compile or make available at all time to employer /HSCC any records for information's oral or written which employer/HSCC may reasonable request in respect of works or contractors performance, thereof. Contractor shall allow employer /HSCC or its authorized agents to inspect and audit such records or information upon reasonable notice.

54. Increase and Decrease of cost : -

Except if otherwise provided by the contract no adjustment of contract price shall be made in respect of fluctuations of market price of labour, materials, plants or equipments, neither due to fluctuation in interest rates nor devaluation or any other matter affecting the works. Contract shall maintain accurate and systematic records and accounts in respect of works performed under this contract.

55. Photographs & Advertising : -

Contractor shall not publish any photographs of works or allow works to be used in any form of advertising without prior approval in writing from employer.

55. Contractor responsible :

Notwithstanding any other provisions in contract document contractor shall be totally responsible for and shall bear any and all risk of loss or damage to or failure of works or any part thereof for a period of four years after defect liability period provided always that such risks , damage or failure results from acts, defaults and negligence of the contractor, his agents, or workmen

ADDITIONAL SPECIFIC CONDITION OF CONTRACT
AND
SPECIFICATIONS

(A) GENERAL

Scope of work broadly consisting of the following modules but not limited to only these:

Any material and inventory which is in usable condition will have to be handed over to NRCE authorities and its receipt to be submitted to the engineer. In case the usable material and inventories are not handed over or the receipt not submitted then the amount as per advice of NRCE will be deducted from the bills.

The work on all the modules will be taken up simultaneously by deploying independent team of labor, supervisor etc. to that particular module.

- A. Shut down of electrical HVAC, Water supply, sanitary or any other services will have to be taken by properly by making a request to NRCE in writing at least 3 days in advance so that existing system is not affected.
- B. Agency has to make temporary barricading of work site by putting curtains, sheets etc. for making the patient care area of hospital sound and dust proof.
- C. If required, there will be no working during day and it will be allowed only at nights. The execution area to be made for temporary use of patient care during day.
- D. Any statutory approvals required for demolition, carriage of material, addition or deletion of temporary or permanent structure will be taken by the agency. Payments made towards statutory charges will be reimbursed to the agency.

The following facilities are also required to be provided during execution of work :

- 1. Safety barriers
- 2. Safety tapes
- 3. Safety officer
- 4. Use of safety jacket, caps and shoes and other safety norms
- 5. Provision for electricity and water during construction
- 6. Scaffolding provision for support of existing structure during construction
- 7. Outer lights
- 8. Traffic warden/guards
- 9. Approval from local authorities

10. Round the clock working for contractor in shifts
11. Defect liabilities on total work
12. non vendor based specification
13. Waterless urinals, audio visual console for information system
14. Plywood barrier outside working area
15. External lighting
16. Total electrical load
17. Total water requirement
18. Signage's – special module– Alphabets and back lighting
19. Exhaust and ventilation in toilets.
20. Provision of site office and manpower
21. Anti skid strips on ramp
22. Outdoor land scaping
23. Provision for new electrical load and water supply need
24. Round the clock working permission from NRCE

Further, The following conditions may also include in contract :

- 1 The following Additional Specific Conditions and specification shall be read in conjunction with General Conditions of Contract and Specific Conditions of Contract. If there are any provisions in these Additional Specific Conditions which are at variance with the provisions in the above mentioned documents, the provisions in these Additional Specific conditions shall take precedence.
- 2 The contractor shall be obtain all approvals/ permissions from local/ statutory bodies during progress of works for dismantling/ demolition, additional/ alteration etc of any existing structure/ building or part of it.
- 3 The contractor shall check & ensure design, safety requirements & sustainability of existing structure on account of additions/ alterations/dismantling works.
4. Contractor shall make all arrangement of water, electricity, HVAC, fire fighting and any or part of services of the existing premises/hospital shall run uninterruptedly during execution of work. However if required to hold/interrupt any or part of services to execute the work, prior approval required to be obtained from concerned department/officials.

ADDITIONAL SPECIFIC CONDITION OF CONTRACT
AND
SPECIFICATIONS

(B) RELATING TO CIVIL, PLUMBING & fire fighting WORKS

1.0 General

1.1 The following Additional Specific Conditions and specification shall be read in conjunction with General Conditions of Contract and Specific Conditions of Contract. If there are any provisions in these Additional Specific Conditions which are at variance with the provisions in the above mentioned documents, the provisions in these Additional Specific Conditions shall take precedence.

1.2 These additional specific conditions and specification shall be considered as an extension and not as a limitation of obligation of the preference.

* The CPWD General Specification for Electrical works: Part V Down Comer System for fire fighting-latest issue. Termination used in the bid shall also be accordance with CPWD.

* For items not covered in CPWD Specification, the work shall be done as per the latest relevant IS Code of practice.

* For item not covered by any of the above the installation shall be done as directed by the Engineer and as per sound engineering practices.

2.0 Scope of Contract

2.1 The scope of work covers the supply, erection, testing and commissioning of the Civil, Plumbing, Fire Fighting & Electrical Systems, Air- conditioning & Landscaping works which also includes design & preparation of structural and all other detailed shop drawings, testing and commissioning of components and accessories.

* Civil works, plumbing & Fire Fighting works, Fire Alarm System.

* Electrical works.

2.2 The work shall be carried out in conformity with the plumbing drawings and the requirement of architectural, electrical, structural, and other specialised service drawings by the agency approved by Engineer..

2.3 The Contractor shall make provision of hangers, sleeves, structural openings and other requirements well in advance to hold up progress of the construction schedule.

2.4 The said Contract comprises of furnishing of all materials, equipment, labour & transportation etc. necessary to render the installation fully operational as per the intent of specification and drawings, including any necessary adjustment or corrections. The installation shall be all in conformity with local laws covering such installation.

3.0 Contract Drawings

3.1 The drawings issued with the Bid are diagrammatic only and indicate the extent and general arrangement of the installation. Drawings shall not be scaled.

3.2 The Contractor shall follow the Bid drawings for preparation of his detailed sanitary, plumbing & fire fighting & Shop drawings and for subsequent installation work. He shall check the drawings of other services to verify spaces in which his work will be installed. The Contractor shall examine all Architectural, Structural, Plumbing and other services drawings before starting the work and report to the Engineer any discrepancies and obtain clarification. Any changes found essential to coordinate installation of this work with other services, shall be made with prior approval of the Engineer.

4.0 Shop Drawings

4.1 With in two weeks after Award of the Contract, the Contractor shall furnish for approval of the Engineer, three sets of detailed sanitary, plumbing, fire fighting (external & internal), Pump room & Shop drawings of all equipment and materials required to complete the work as per specifications. These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics, and capacity of all items of equipment, as also the details of all related items of work of other trades. All shop drawings to be made in accordance with latest fire safety norms & to be got

approved by the authorities before it is finally approved by Engineer before start of work.

- 4.2 All drawings necessary for assembly, erection, maintenance, repair and operation of the equipment shall be furnished and different parts shall be suitably numbered for identification and ordering of spare parts.
- 4.3 When the Engineer makes any amendments in the above drawings, the Contractor shall supply fresh sets of drawings with the amendments duly incorporated, along with the drawings on which corrections were indicated.
- 4.4 No material or equipment may be delivered or installed at the job Site until the Contractor has in his possession, the approved Shop drawings for that particular material or equipment.
- 4.5 After approval of the drawings by the Engineer, the Contractor shall further furnish six sets of Shop drawings for the exclusive use of and retention by the Engineer.
- 4.6 Approval of drawings by the Engineer shall not relieve the Contractor of any part of his obligation to meet all the requirements of the Contract or of the correctness of his drawings. The Engineer's approval of specific item shall not mean the approval of the assembly of which it is a component. The Contractor shall be responsible for and is to bear the cost for all alternations of the works due to discrepancies or omission in the drawings or other particulars supplied by him, whether such drawings have been approved by the Engineer or not.
- 4.7 Where the work of the Contractor has to be installed in close proximity to, or will interfere with the work of other trades, the Contractor shall assist in working out the space conditions to make a satisfactory adjustment. If so directed by the Engineer, the Contractor shall prepare composite working drawings and sections to a suitable scale not less than 1:50, clearly showing how his work is to be installed in relation to the work of other trades. If the Contractor installs his work before coordinating with other trades, or so as to cause any interference with the work of other trades, he shall make all the necessary changes without extra cost.
- 4.8 All shop drawings and detail drawings will be made as per requirements of local authorities and tender drawings incorporating all latest regulations and requirements. No separate drawings will be, issued for making shop drawings.

5.0 Samples and Catalogues

5.1 Prior to ordering any equipment/ material/ system, the Contractor shall submit to the Engineer, the catalogues, along with samples from approved list of manufacturers. No material shall be procured prior to the approval by the Engineer.

5.2 Approval of Materials

All materials used on the Works shall be new and of the best quality available, conforming to the relevant specifications and as per good Engineering practice. Prior approval shall be obtained in writing from the Engineer for all materials proposed and when necessary, approved sample duly identified and labelled shall be deposited with the Engineer and shall be kept at Site. List of approved make indicates make / manufacturer generally acceptable but final choice of make / manufacturer of material & models shall be with the Engineer.

6.0 Material and Equipment

6.1 All material and equipment shall conform to the relevant Indian Standards.

6.2 Where interfacing occurs, equipment shall be mutually compatible in all respects.

6.3 Where an item of equipment, other than as specified or detailed on the drawings, is approved by Engineer, requires any re-design of the structure, partitions, foundation, piping, writing or any other part of the mechanical, electrical or architectural layout, all such re-design, and all new drawings and detailing required therefore, shall be prepared by the Contractor at his own expense and approval obtained by the Engineer.

6.4 All similar equipment, materials, removable parts of similar equipment etc. shall be inter-changeable with one another.

7.0 Conformity with Statutory Acts, Rules and Standards

7.1 The installation shall be in conformity with the Bye-laws Regulations and Standards of the local authorities applicable to the

installations. But if the specifications and drawings call for a higher standard of materials and/or workmanship than those required by any of the above regulations and those required by any of the above regulations and standards, then the specifications and drawings shall take precedence over the said Regulations and Standards.

- 7.2 However, if the drawings or specifications required something, which violates the Byelaws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.
- 7.3 Indian Standards : The System / Components shall conform to relevant Indian standards wherever they exist and to the national Building Code Amended up to date.
- 7.4 Nothing in these Specification shall be constructed to relieve the contract of his responsibility for the design. Manufacture and installation of equipment with all its accessories in accordance with applicable statutory regulations and safety codes in force.

8.0 Technical Data

- 8.1 Deleted

9.0 Manufacturer's Instructions

- 9.1 Where manufacturers have furnished specific instructions relating to the materials and equipment used, covering points not specifically mentioned in these documents, manufacture's instructions shall be followed.

10.0 Training and Operating Instructions

- 10.1 If required by the Engineer, the Contractor shall at no extra cost train members of the maintenance staff either at his or the subcontractor's workshop or at such other place or places as may be considered suitable by the Engineer.
- 10.2 Upon completion of all work and all tests, the Contractor shall furnish the necessary skilled labour and helpers for operating the entire installation for a period of fifteen (15) working days. During this period, the Contractor shall instruct and train the Engineer's representative in the operation, adjustments and maintenance of all equipment installed.

10.3 The Contractor shall submit to the Engineer a draft copy of comprehensive operating instructions and maintenance schedule for all systems and equipment including in this Contract. This shall be supplemented, not substituted, by manufacturer's operating and maintenance manuals. Upon approval of the draft, the Contractor shall submit to the Engineer four (4) complete bound sets of operating and maintenance schedules along with manufacturers printed literature.

11.0 Inspection and Testing

11.1 The Engineer reserves the right to request inspection and testing at manufacturer's Works at all reasonable times during manufacture of items for this Contract.

11.2 The Engineer or his authorised representative shall have full power to inspect the materials and workmanship at the Contractor's Works or at any place from which the materials or equipment is obtained. Acceptance by the Engineer of any material or equipment shall in no way relieve the Contractor of his responsibility for meeting the requirements of the specifications. All incident expenditure like travelling, boarding and lodging etc shall be born by the contractor.

11.3 Routine and typical tests for the various items of equipment shall be performed at the Contractor's Works and test certificates furnished. If required by the Engineer, the Contractor shall permit the authorised representative of the Engineer to be present during any of the tests.

11.4 After installation has been virtually completed, the Contractor shall carry out under the direction and in the presence of the representative of the Engineer such tests and inspections as have been specified, or as the representative shall consider necessary to determine whether or not the full intent of the requirements of the drawings and specifications have been fulfilled. In case the work does not meet the full intent of the drawings and specifications and further tests are considered necessary, the Contractor shall carry them out and bear the expenses thereof.

11.5 The Contractor shall provide all necessary instruments such as Theodolite, Dumpy level, steel tapes, weighing machine, plumb bobs, spirit levels, hammers, micrometers, thermometers, hydraulic testing machine, smoke test machine and labour for testing. The Contractor shall make adequate records of the test procedures and readings, shall repeat any tests requested by the Engineer and

shall provide test certificates signed by an properly authorised person. Such test certificates shall cover all Works. All such equipments shall be tested for calibration at any approved laboratory.

11.6 If test fail to demonstrate the satisfactory nature of the installation or any part thereof, then no claims for the extra cost of modifications, replacement or retesting will be considered. The decision of the Engineer shall be regarded as final as to what constitutes a satisfactory test.

11.7 The above general requirements as to testing shall be read in conjunction with any particular requirements specified elsewhere.

12.0 Test Certificates

The contractor shall submit test certificates for all the materials / systems. These shall be issued by a government recognized inspection office certifying that all Equipment, Materials, Construction and function are in agreement with the requirements of these specification and accepted standards.

13.0 Performance Guarantee/Retention Money

13.1 It is clearly understood that the specifications, drawings, schedule of quantities for fire fighting system are for bidder's guidance only. The bidder shall carry out necessary calculation and provide alternative equipment required to achieve the specified level of fire fighting required for human safety. Complete sets of Architectural Drawings are available at site in the Engineer's office and reference may be made to these drawings as required for calculations or for other details. The contractor shall also guarantee that performance of various equipments, individually, shall not be less than, the quoted ratings.

14.0 Quiet Operation and Vibration

14.1 All equipment shall operate under all conditions of load without any sound or vibration, which is objectionable in the opinion of the Engineer. In case of rotating machinery, sound or vibration noticeable outside the room in which it is installed or annoyingly noticeable inside its own room, shall be considered objectionable. Such conditions shall be corrected by the Contractor at his own expense.

15.0 Accessibility

15.1 The Contractor shall locate all equipment, which must be serviced, operated or maintained in fully accessible positions. The exact location and size of access panels, required for each valve or other devices requiring attendance, shall be finalised and communicated well in time, to be provided in the normal course of work, failing this, the Contractor shall make all the necessary repairs and changes at his own expense.

16.0 Electrical Installation

16.1 The electrical installation shall be in total conformity with the control wiring drawings prepared by the Contractor and approved by the Engineer & shall be connected and tested in the presence of an authorised representative of the Contractor and of the Engineer.

16.2 It is to be clearly understood that the final responsibility for the sufficiency, adequacy and conformity to the Contract requirements of the electrical installation work lies solely with the Contractor.

17.0 Completion Certificate

17.1 On completion of the installation, a certificate shall be furnished to the Engineer, by the Contractor, countersigned by the licensed supervisor under whose direct supervision the installation was carried out. This Certificate shall be in the prescribed form as required by the local authority. On the basis of this certificate, the Contractor shall arrange for inspection of installation by the concerned local authorities.

17.2 The Contractor shall be responsible at his own cost for getting the installation duly approved by the Authorities concerned.

18.0 Completion Drawings

18.1 At the completion of the work in all respects, the Contractor shall at his own cost submit to the Engineer 4 (four) sets of layout drawings drawn at the approved scale indicating the installation. These drawings shall clearly indicate the complete plant layouts, and piping layouts, location wiring, exact location of all the concealed piping, valves, controls, wiring and other services. The Contractor shall also submit 4(four) sets of consolidated control diagrams, technical literature on all automatic controls and complete technical literature on all equipment and materials. The Contractor shall

frame under glass, in the plant room all consolidated control diagrams and all piping diagrams.

19.0 Rates

19.1 Quoted rate includes any materials, equipment, appliances and incidental work not specifically as being furnishing or installed, but which are necessary and customary to make a complete installation.

19.2 The Contractor shall check at all stages and supervise at the point of connection the associated civil, electrical and plumbing works like underground and overhead tanks, power supply and installation of makeup water connection, drain connection in the fire fighting tanks and vicinity of plant room etc. In case of any discrepancy, all rectifications etc, required as a failure to do so, shall be carried out by the Contractor at his own expenses.

20.0 Check List

20.1 The Contractor shall provide to the Engineer 4(four) copies of a comprehensive maintenance checklist and shall post a copy of it in the Plant Room. The checklist shall be a list of each piece of equipment in this Contract, and shall provide a space for each of the next fifty-two weeks to record the maintenance provided to and status of various equipment. Each month at the time of inspection, the Contractor shall certify on this check list that he has examined each piece of equipment and that, in his opinion, it is operating as intended by the manufacturer, and that all necessary intention has been performed.

21.0 Repairs

All equipment that requires repairing shall be immediately serviced and repaired. During the maintenance period, all parts and labours shall be furnished at no extra cost to the Engineer.

22.0 Control System

During the maintenance period, once each month the Contractor shall check all controls in various areas to ensure that these are functioning as designed. This shall apply to all pressure switches and pressure gauges, contactors, relays, controller switches, high and low pressure cut-outs etc.

23.0 Reference Points

- 23.1 Contractor shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of Works.
- 23.2 All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.

24.0 License and Permits

- 24.1 Contractor shall hold a valid plumbing, electrical, HVAC license issued by the Municipal Authority or other competent authority under whose jurisdiction the work falls.
- 24.2 The contractor has to take all the approvals of local bodies for all the addition/deletion over the approved building plans. The documents/drawings to be prepared and submitted in the manner desired by them after the same is approved by HSCC. Contractor has to take approvals of entire/Part works if required before start of works. Contractor will be held responsible if any work at site is carried out without having approval of municipal or local bodies.
- 24.3 Contractor shall keep constant liaison with the competent Municipal or other authority and obtain approvals and connections for all drainage and water supply works carried out by him.
- 24.4 Contractor shall obtain from the competent Municipal Authority completion certificates with respect to his work as required for occupation of the building.
- 24.5 Before start of HVAC, Electrical, ATT, Water proofing, Fire Fighting, Fire alarm system, PA System, EPABX System, Horticulture Works, aluminium works, stainless steel works, signages works etc. The contractor must take approval of agencies from engineer.
- 24.6 Any fees deposited in connection with the work on behalf of the Client in Statutory bodies, Corporations, Government departments, etc. shall be paid by the Contractor and the same shall be reimbursed on production of original vouchers. Necessary endorsement / application if required shall be arranged from the Employer by the Engineer.

25.0 Cutting and Making Good

- 25.1 No structural member shall be chased or cut without the written permission of the Engineer.

26.0. Operation and Running of entire system

The contractor shall pay for and arrange for operation & running of entire sanitary, plumbing and fire fighting system including pumps and RO plant, solar water heating system etc. for a minimum period of one month after satisfactory completion of work as desired by Engineer. Cost of operation & running of entire system including required material e.g fuel, consumables, tools & tackles, requisite manpower etc. shall be deemed to be included in the contract price and nothing extra shall be paid.

C) RELATING TO ELECTRICAL INSTALLATIONS

1.0 General

1.1 The following Additional Specific Conditions shall be read in conjunction with General Conditions of Contract and Specific Conditions of Contract. If there are any provisions in these Additional Specific Conditions which are at variance with the provisions in the above mentioned documents, the provisions in these Additional Specific Conditions shall take precedence.

2.0 Regulations and Standards

2.1 The installations shall conform in all respects to Indian Standard Code of Practice for Electrical Wiring Installation IS : 732-1989 and as per latest CPWD General Specification for Electrical Works (Part I, II & IV). It shall also be in conformity with the current Indian Electricity Rules and regulations in so far as these are applicable to the installations. Wherever these Additional Specific Conditions calls for a higher standard of material and/or workmanship than those required by any of the above regulations, then this Additional Specific Conditions shall take precedence over the said Regulation and Standards. External works & fire detection & alarm system works to be done as per CPWD specification & relevant IS codes.

3.0 Rates

3.1 The rates bided shall be for complete items of work inclusive of all taxes, statutory charges and all other charges for items contingent to the work, such as, packing, forwarding, insurance, freight and delivery at Site for the materials to be supplied by the Contractor, watch and ward of all materials for the Internal & external, Electrical Installation testing & commissioning work including water & power for successful installation, testing & commissioning work at Site and getting approvals & permanent electricity connection from concerned local body(s) etc.

4.0 Completeness of Bid

All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various

components of the work shall be deemed to have been included in the Bid rates and prices, whether such items are specifically mentioned in the Bid documents or not.

5.0 Works to be done by the Contractor

5.1 Unless and otherwise mentioned in the Bid documents, the following works shall be done by the Contractor, and therefore their cost shall be deemed to be included in their rates and prices:

- i. Foundations for equipments and components where required, including foundation bolts
- ii. Cutting and making good all damages caused during installation and restoring the same to their original finish
- iii. Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same
- iv. Painting at site of all exposed metal surfaces of the installation other than pre-painted items like fittings, fans, switchgear/ distribution gear items, cubicle switch board etc. and erection, shall however be rectified to the satisfaction of the Engineer
- v. Testing and commissioning of complete installation

6.0 Tools for Handling and Erection

6.1 All tools and tackles required for handling of equipments and materials at Site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the Contractor.

7.0 Terminology & Scope

7.1 Terminology & scope for this project shall be as per CPWD Specification for Electrical Works (Part I - Internal) - latest & External Works - Part II - latest.

7.2 Measurement

Measurement shall be as per CPWD specifications Part – I (Internal) & Part - II (External) unless otherwise specified in the technical specifications / BOQ.

8.0 Drawings

8.1 The drawings indicate the extent and general arrangements of the fixtures, controlling switches, wiring system etc. and are essentially diagrammatic. The drawings indicate the points of termination of conduit runs and broadly suggest the routes to be followed. The Contractor shall submit six sets of working electrical drawings based on tender drawing including reflected ceiling plan coordinating other essential building services for HSCC approval. Contractor has to make necessary changes if any as per comments given by HSCC before execution. The work shall be executed as indicated in the approved drawings, however any minor changes found essential to co-ordinate the installation of this work with the other trades shall be made without any additional cost of owner. The drawings are for guidance of the contractor and exact locations, distance and levels shall be governed by the building. The Contractor shall examine all architectural, structural, plumbing and sanitary & electrical drawings before starting the work and report to the Engineer any discrepancies, which in his opinion appear on them and get it clarified. Contractor shall not be entitled to any extras for omissions or defects in electrical drawings or when they conflict with other services work.

9.0 Conduit/ Trunking Layout

9.1 Prior to the laying of the conduits and trunking, the Contractor shall examine/ study drawings and report to Engineer in case he desires to make any changes from Consultant proposed conduit layout plan and shall get the same approved from HSCC.

10.0 Shop Drawings

10.1 The Contractor shall prepare and submit to the Engineer for his approval detail shop drawings of Main & Sub Distribution Boards, Distribution Boards, special pull boxes, light & fan switch boards, telephone distribution boards, FDA system and lightning protection system and other equipment to be procured/ fabrication by the Contractor within 15 days of signing of the above items required to complete the electrical installation in all respect.

11.0 Manufacturer's Instruction

11.1 Where manufacturers' have furnished specific instructions, relating to the materials used in this job, covering points not specifically mentioned in these documents, these instructions shall be followed in all cases.

12.0 Materials & Equipment

12.1 All materials and equipment shall be ISI marked and shall be of the approved make and design. Unless otherwise called for, only the best quality of materials and equipment shall be used. The Contractor shall be responsible for the safe custody of all materials till these are taken over by client and shall insure as against theft, damage by fire, earth quake etc. A list of items of materials and equipment, together with a sample of each shall be submitted to the Site office.

13.0 Scale

13.1 Drawings shall be prepared to the scale as required for proper explanation and shall indicate the size and location of all equipments and accessories herein. The Contractor shall obtain all dimensions preferably at the building (Site of work) and check those plans for interference with the building structure and other equipment.

14.0 Brochures and Data

14.1 The Contractor shall submit four copies of all brochures / manufacturer's description data and similar literature.

15.0 Approval of Shop Drawings

15.1 The Engineer's approval of shop drawings, schedule, brochures etc. shall be an approval of general details and arrangements only and shall not relieve the Contractor from responsibility for deviation from drawings or specifications unless he has in writing called Engineer to such deviations at the time of submission nor shall it relieve the Contractor from responsibility for errors or omissions of any kind in the shop drawings when approved.

16.0 Samples & Catalogues

For HSCC approval, Contractor shall submit the samples & catalogue of the material, which are used at Site as per the approved makes.

17.0 Approval of Materials

17.1 All materials used on the Works shall be new and of the best quality available, conforming to the relevant specifications and as per good Engineering practice. Prior approval shall be obtained in writing from the Engineer for all materials proposed and when necessary, approved sample duly identified and labelled shall be deposited with the Engineer and shall be kept at Site. List of approved make indicates make/ manufacturer generally acceptable. Contractor shall submit the detail drawings for HSCC approval.

18.0 Inspection, Testing and Inspection Certificate

18.1 HSCC and authorised representative of HSCC shall have at all Reasonable times access to the Contractor's premises or Works and shall have the power at all reasonable time to inspect and examine the materials and workmanship during its manufacture or erection or if the part of works is being manufactured or assembled at other premises or works.

18.2 The Contractor shall arrange all the materials and labour required for inspection of equipment or for any testing to be carried out at his/ manufacturer's works or at Site. Notice for such inspection/ presence for testing shall be given to the Engineer by the Contractor at least fifteen (15) days in advance together with the routine test certificates of the equipments/ materials given by the manufacturer.

18.3 Notwithstanding approval of tests or equipment by the Engineer, the Contractor shall be required to perform site tests and prove the correctness of ratings and performance of equipment/ machinery and materials supplied and installed by the Contractor as per the Contract specifications and conditions. Engineer shall have full power to order the material or work to be tested by an independent agency at the electrical Contractor's expense in order to prove soundness & adequacy.

19.0 Schedule & Manner of Operation

19.1 Time being the essence of this Contract, Contractor shall be expected to furnish all labour & material in sufficient quantities at

appropriate time, expedite and schedule the work to meet the Engineer's requirement and so manage the operations that the work shall be completed in time as stated else where. In case of shut down of power supply, Contractor shall coordinate with Engineer and shall carry out essential works during the shut down period allowed by the Engineer. In case Engineer allows for such period during night or early morning hours, Contractor shall make all provisions to avail such account. Contractor shall not be entitled for any extra claims on such account. Contractor shall programme his work in such a way that items of work requiring presence of Engineer are carried out between 9 A.M. & 5 P.M. on working days.

20.0 Performance Guarantee

20.1 All equipment shall be guaranteed for a minimum period of 12 (Twelve) months from the date of handing over of installation to the Engineer against unsatisfactory performance and/or break down. The equipment or component or any other part of installation so found defective within the guarantee period shall be replaced / repaired by the Contractor free of cost to the satisfaction of the Engineer. The normal guarantee and or warrantee provided by the manufacturer will have to be submitted along with all the test certificates from manufacturer.

21.0 Conformity with Statutory Acts, Rules and Standards

21.1 The installation shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities applicable to the installations. But if the specifications and drawings call for a higher standard of material and/or workmanship than those required by any of the above Regulations and Standards, then the specifications and drawings shall take precedence over the said regulations and standards.

21.2 However, if the drawings or specifications required something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.

21.3 Indian Electricity Act and Rules : All electrical works in connection with installations of the system shall be carried out in accordance with the provision of the Indian Electricity Act, 1910 and the Indian Electricity Rules 1956, both amended upto date.

21.4 CPWD Specification :The Electrical installation work shall conform to CPWD General specifications for Electrical Works Part I

(Internal) I and Part II (External) latest issues , both amended upto date.

21.5 Indian Standard : The system / components shall conform to relevant Indian Standards wherever they exist and to the latest National Building Code-1983.

21.6 Nothing in these specifications shall be construed to relieve the Contractor of his responsibility for the design, manufacture and installation of the equipment with all its accessories in accordance with applicable Statutory Regulations and safety codes in force.

22.0 Completion Drawings (As Built Drawings)

22.1 On completion of the work and before issue of certificate of virtual completion, the Contractor shall submit to the Engineer completion plan drawn to a scale in tracing cloth with ink indicating the following, along with three blue print copies of the same:

- a. Run and size of conduits, inspection boxes, junction boxes and pulls boxes
- b. Number of size of conductors in each conduit
- c. Location and rating of sockets and switches controlling the light and power outlets
- d. Location and details of main & sub distribution boards, distribution boards indicating the circuit number controlled by them
- e. Type of fitting viz. fluorescent, pendants, brackets, bulkhead etc., including their rating & type of lamp, fans and exhaust fans
- f. A complete wiring diagram as installed and schematic drawings showing all connections for the complete electrical system
- g. Location of telephone outlets, junction boxes and sizes of various conduits and number & sizes of wire drawn
- h. Layout of telephone cables

- i. Location of all earthing stations, route and size of all earthing conductors, manholes etc.
- j. Layout and particulars of cables & sub mains
- k. Schematic drawing for telephone system
- l. Layout of conduits for computer outlet points
- m. Layout and details of fire detection & alarm system consisting of manual call points, fire alarm hooters, smoke & heat detector, FDA control panel including details of conduits and number of wires drawn
- n. Layout and details of lightning protection system
- o. Insulation tests and earth test results
- p. PA System drawings
- q. Fire System drawings
- r. Disc Antenna drawings
- s. Equipment drawings
- t. Cable route layout of HT, LT & other cables
- u. External lighting drawing with road layout

23.0 Confirmation of Quantities

23.1 All quantities indicated in BOQ are tentative which may vary as per site conditions. Contractor has to verify quantities before procuring the material. No payment shall be payable for quantity brought to site but not used.

24.0 Terms of Payment (Only for items of major electrical equipments)

For purposes of estimating the contract value of work executed for certificate of payment under clause 32(d) of section II the following norms shall be followed.

- a. 80% of BOQ rate on receipt of equipment against receipt of complete material at site & test certificates in accordance with clause 33(l) of SCC.

- b. 10% of BOQ rate on erection and installation of equipment.
- c. 10% after successful completion of all works including all testing, commissioning & taking over.

25.0 Training of Personnel

The Contractor shall arrange to train the Employer's personnel prior to provisional take over of the project for the following:

- a) Lift
- b) Telephone Exchange
- c) All other Equipments like DG sets, pumps, panels etc.
- d) Adjustment of setting for controls and protective devices
- e) Preventive maintenance
- f) Operation of all electrical panels including their interconnectivity and interlocking scheme
- g) Fire detection system

26.0 Completion Certificate

26.1 On completion of the installation, a certificate shall be furnished to the Engineer, by the Contractor, countersigned by the licensed supervisor under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local authority. On the basis of this certificate, the Contractor shall arrange for inspection of installation by the concerned local authorities.

26.2 The Contractor shall be responsible at his own cost for getting the installation duly approved by the authorities concerned.

27.0 Check List

27.1 The Contractor shall provide to the Engineer 4(four) copies of a comprehensive maintenance checklist and shall paste a copy of it in the Substations & Plant Room. The checklist shall be a list of each piece of equipment in this Contract, and shall provide a space

for each of the next fifty-two weeks to record the maintenance provided to and status of various equipment. Each month, at the time of inspection, the Contractor shall certify on this check list that he has examined each piece of equipment and that, in his opinion, it is operating as intended by the manufacturer, and that all necessary tests have been performed.

28.0 Repairs

All equipment that requires repairing shall be immediately serviced and repaired during the maintenance period. All parts and labours shall be furnished at no extra cost to the Engineer.

29.0 Safe Custody and Storage

Safe custody of all machinery and equipment dismantled, shifted & supplied by the Contractor shall be his own responsibility till the final taking over by the Employer. The Contractor should, therefore, employ sufficient staff for watch and ward at his own expenses. The Employer may, however, allow the Contractor to use the building space for temporary storage of his equipment, if such space is ready and available.

30. Testing and Commissioning

The Contractor shall pay for and arrange without any extra cost, all necessary balancing and testing equipment, instruments, materials, accessories, power, water, fuel and the requisite labour for testing. Any defects in materials and/or in workmanship detected in the course of testing shall be rectified by the Contractor entirely at his own cost, to the satisfaction of the Engineer. The installation shall be tested again after removal of defects and shall be commissioned only after approval by the Engineer. All tests shall be carried out in the presence of the Engineer or the Engineer's representative.

31. Operation and Running of entire system

The contractor shall pay for and arrange for operation & running of entire electrical system including DG sets, lifts and other equipment for a minimum period of one month after satisfactory completion of work as desired by Engineer. Cost of operation & running of entire system including required material e.g fuel, consumables, tools & tackles, requisite manpower etc. shall be deemed to be included in the contract price and nothing extra shall be paid.

32. Layout of all services , operating and maintenance instructions. DO's and Don't's etc

for all the plant rooms, AHU's machine rooms, sub stations, pump room, toilets, control panels etc must be equipped with coloured layout of services for the each floor . Operation and maintenance manual of the respective services, Do's and Don't's for all the plants, machinery & services to be installed with every individual units.

(D) RELATING TO HVAC WORKS AND SPECIALIZED EQUIPMENTS & SYSTEMS/SERVICES

1.0 General

1.1 The following additional specific conditions and specifications shall be read in conjunction with General conditions of Contract, Specific Conditions of Contract and Technical Specifications. If there are any provisions in these additional specific conditions and specifications which are at variance with the provisions in the above mentioned documents, the provisions in these additional specific conditions and specification shall take precedence.

2.0 Scope of Contract

2.1 The scope of works covers supply, installation testing and commissioning of HVAC Works and Specialized Equipments & Systems/Services like Building Management System, Surveillance System (CCTV), Door Interlock System, Sterilizers, Steam Generation system etc. complete in all respect as per approved drawings and specifications

3.0 Stores and Materials

3.1 The contractor shall provide everything necessary for the proper execution of the work according to the approved designs and drawings and technical Specifications.

4.0 Supply of Equipment

4.1 The contractor shall submit the designs, drawings, technical details, catalogues, fabrication drawings, installation drawings etc. for every equipment and system to the Engineer for approval. No equipment or material shall be delivered without prior approval of the Engineer.

4.2 At the time of delivery, the contractor shall submit manufacturers test certificates for equipments and materials.

4.3 The contractor shall submit the Factory Gate passes/ Challans from manufacturer's factory/works clearly bearing the batch numbers/serial number/lot number for identification and date of despatch.

5.0 Shop Drawings

5.1 The Contractor shall within 60 days of signing of the contract prepare and submit to the Engineer for approval, 3 sets of detailed shop drawings of HVAC system and other specialized systems and services, equipment details, fabrication

drawings, installation drawings etc. as per specifications and as required by the Engineer. The contractor shall arrange for proof checking of the drawings from accredited and approved agency at no extra cost.

5.2 These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics, and capacity of all items of equipment, as also details of all related items of work by other disciplines.

5.3 If the Engineer makes any amendment in the above drawings, the Contractor shall supply two fresh sets of drawings with the amendments duly incorporated, along with the drawings on which corrections were made. After final approval has been obtained from the Engineer, the Contractor shall submit a further six sets of shop drawings for the exclusive use of and retention by the Engineer.

5.4 The shop Drawings shall be submitted for approval sufficiently in advance of planned delivery and installation of any material, to allow Engineer ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to failure to produce shop drawings in time.

5.5 Approval rendered on shop drawings shall not be considered as a guarantee of measurements or of building conditions. Where drawings are approved, said approval does not mean that drawings have been checked in detail nor does it in any way relieve the Contractor from his responsibility of furnishing materials or performing work as required by the Contract.

6.0 Completion Drawings

6.1 Following "AS BUILT" drawings shall be submitted by the contractor on completion of the work in 4 sets.

- a. Plant installation drawings giving complete details of the entire equipments including foundations.
- b. Ducting drawings showing all sizes, damper locations and sizes of all air outlets and intakes, for all floors.
- c. Electrical drawings showing cable sizes, equipment capacities, control components and control wiring.
- d. Schematic control drawings giving detailed sequence of operation and notes to explain the operation of the control circuit.

- e. Piping drawings showing all pipe sizes, valves and fittings.
- f. Schematic drawings of all specialized systems and services
- g. Any other drawings to be supplied as per instructions of the Engineer.

The Drawings shall be cross checked and approved by the Engineer before acceptance.

7.0 Operation and Service Manuals

7.1 The contractor shall submit 4 sets of operation and service manuals in respect of the HVAC System and Specialized Equipments and Systems.

Following minimum details shall be furnished:

- i) Detailed equipment data as approved by the Engineer.

- ii) Trouble shooting
- iii) Operation Instructions
- iv) Servicing and Maintenance instruction.
- v) Approved test readings.

The contractor shall also submit four (4) sets of technical literature on all automatic controls and complete technical literature on all equipment and materials.

8.0 Inspection at Contractor's Premises

8.1 The Engineer and his representatives shall at all reasonable time have free access to the contractor's premises/works. The contractor shall give every facility to the Engineer and his Representative and necessary help for inspection and examinations and test of the materials and workmanship.

8.2 The Engineers's Representative shall have full powers to inspect drawings of any portion of the work or examine the materials and workmanship of the plant at the contractor's works or at any other place from where the material or equipment is obtained. Acceptance of any material or equipment shall in no way, relieve the contractor of his responsibility for meeting the requirement of the specifications.

8.2 All the expenditures incurred for inspection and testing of equipments and materials at the contractors/manufacturers premises shall be borne by the contractor and shall be deemed to have been included in the quoted rates.

9.0 Sub - Contracting

The contractor shall subcontract part of the works only with the written approval of the Engineer but subcontracting of any works shall not relieve the contractor from the responsibility of supplying the equipments/materials and giving the performance of the HVAC system and Specialized Equipments and Systems/Services as per the approved design conditions and the overall responsibility of the contractor for compliance with the contract terms does not alter by subcontracting.

10.0 Material Submittals

The contractor shall submit submittals for all equipment and machinery for the written approval of the Engineer before placing orders. The material submittals shall comprise of at least the following :

- a. Manufacturer's technical catalogues and brochures giving technical data about performance and other parameters.
- b. Manufacturers drawings/ sketches showing construction, dimensional and installation details.
- c. Rating charts and performance curves clarifying rating of equipment selected and proposed.

11.0 Samples and Prototypes

The contractor shall submit samples of items such as grilles/ diffusers, pipes, valves, insulation, controls , sensors and/ or any other parts or equipment as required by the Engineer for prior approval in writing before placing the order. The contractor shall also construct prototype or samples of work as laid down in the contract or as instructed by the Engineer. Such samples and prototypes after approval shall be retained by the Engineer and shall serve as the standards to be achieved in final construction.

12.0 Testing and Commissioning

12.1 Upon completion of installations, all the equipments and systems shall be tested for their operation, capacities,

performance etc. Relevant Standards and Specifications shall be followed.

The complete HVAC system shall be put for a run test for two days and all the operating parameters shall be checked and tested for satisfactory operation.

12.2 The initial tests for the HVAC works and other equipments and system shall include but not be limited to the following :

- a. To operate and check the proper functioning of all electrically operated components viz., compressor motor, pumps, blowers, air handling units, rotating machine, fans, boilers, etc.
- b. To operate and check the proper functioning of all electrical panels, switch gears, safety and other controls.
- c. To adjust and balance air, water, steam and gas quantities to provide the designed flow rates by adjusting valves, dampers, diverters etc.
- d. To check the systems against leaks in different circuits, alignment of motor, 'V' Belt adjustments etc.
- e. To check the vibration and noise levels of the equipment.
- f. Setting of all control and all such other tests which are essential for smooth functioning of the plant.

All adjustments should be made prior to these tests so that proper conditions/working are achieved during this testing.

12.3 The Contractor shall pay for and arrange without any extra cost, all necessary balancing, testing and measuring equipment, instruments, materials, accessories, power, water, fuel and the requisite labour for testing and commissioning. Any defects in materials and/or in workmanship detected in the course of testing shall be rectified by the Contractor entirely at his own cost, to the satisfaction of the Engineer. The installation shall be tested again after removal of defects and shall be commissioned only after approval by the Engineer. All tests shall be carried out in the presence of the Engineer or the Engineer's Representative.

13.0 Taking Over

13.1 After completion of the installation of the HVAC System and other specialized equipments and systems and upon satisfactory passing all the tests and validation, the

contractor shall notify the Engineer and same shall be taken over by the employer.

13.2 Final Performance and capacity Test and Validation

13.2.1 The installation as a whole shall be balanced and tested upon completion, and all relevant information, including the following shall be submitted to the Engineer.

13.2.1 Air volume passing through each unit, duct, grilles, apertures.

13.2.2 Pressure in each room/zone as per the design and Differential pressure readings across each filter, fan and coil, and through each pump.

13.2.3 Static pressure in each air duct.

13.2.4 Electrical current readings, in amperes of full and average load running, and starting, together with name plate current of each electrical motor.

13.2.5 Continuous recording over a specified period, of ambient wet and dry bulb temperatures under varying degrees of internal heat loads and use and occupation, in each zone of each part of the building.

13.2.6 Daily records should be maintained of hourly readings, taken under varying degrees of internal heat load and use and occupation, of wet and dry bulb temperatures, upstream "on-coil" of each cooling coil. Also suction temperatures and pressures for each refrigerating unit. The current and voltage drawn by each machine.

13.2.7 Any other readings shall be taken which may subsequently be specified by the Engineer.

13.2.8 Performance testing of the equipments/systems and complete A/C plant and HVAC system to check the following parameters with respect to design as minimum.

- Performance and Capacities of Chillers
- Performance and Capacities of Air Handling Units
- Performance and Capacities of Pumps
- Performance and capacities of Exhaust Blowers
- Room inside temperatures and RH
- Air quantity at each outlet

- Air Changes in each room/zone with respect to the designed condition
- Pressure in each room/zone with respect to designed conditions
- Operation of electrical panels and its switchgears
- Testing of power cabling, earthing etc.

- Operation of Volume Control Dampers, Fire Dampers, Isolation Dampers etc.
- Filter Integrity / DOP test for all HEPA and Fine Filters
- Operation of all valves and controls
- Operation of Control Desk/Panel
- Any other test deemed required by the Engineer to check the performance of the HVAC equipments and system

In addition to the above testing, final performance and capacity tests of the HVAC System shall also be carried out during the defects liability period as follows :

- a. Peak summer/ monsoon test during the period from 15th may to 31st July. The installations should be able to maintain the specified inside conditions within the tolerance limits permitted in the contract.
- b. Peak winter test during the period from 1st December to 15th February. The installations should be able to maintain the specified inside conditions within the tolerance limits permitted in the contract.
- c. During the performance testing, the critical parameters such as temperature, relative humidity, relative pressure etc. shall be tested and the capacities of various equipments shall be tested.

If the contractor is unable to give peak summer/monsoon and winter test of the HVAC system during this period, the defect liability period for the HVAC system shall be extended till the satisfactory completion of the above tests

14.0 Operation of Plant

14.1 The user shall have the right to operate the equipments and systems, if in operating condition, whether or not such equipments, have been accepted as complete and satisfactory. Repairs and alterations shall be made at such

time as directed by the Engineer. In special circumstances user may have to use the plant to Air condition some areas even before the completion of whole work. The contractor shall Co-operate fully under such circumstances.

15.0 Guarantee and Defects Liability Period

15.1 All the equipments including HVAC System and Specialized Equipments & Systems shall be guaranteed for its performance and against any manufacturing defect. This guarantee shall be valid for the complete defect liability period.

15.2 The contractor shall guarantee that all equipments and materials shall be free from any defect due to the defective materials and bad workmanship or any other cause and that the equipment shall work satisfactorily and that the performance and efficiencies of the equipment shall be not less than the guaranteed values. Any parts found defective during the guarantee/defect liability period shall be replaced by the contractor at his own expense. The services of the contractor's personnel, if requisitioned during this period for such work, shall be made available free of any cost to the Employer.

15.3 If the defects are not remedied within a reasonable time mentioned in the written notice, the Employer may proceed to do so at the contractors risk and expenses without prejudice to any other rights. Joint inspection report shall also be deemed as written notice for this purpose.

16.0 Measurement of Works

16.1 The works shall be measured from time to time only for the purpose of making interim payments in the monthly Running Bills of the contractor. The works shall be measured in accordance with the units specified/approved and the Price Breakups approved by the Engineer.

16.2 The Engineer may from time to time intimate to the contractor that he requires the works to be measured and the contractor shall forthwith attend or send a qualified agent to assist the Engineer or the Engineer's Representative in taking such measurements and calculations and to furnish all particulars or give all assistance required by either of them. Should the contractor not attend or neglect or omit to send such agent, then the measurements of the works,

carried out by the Engineer or his Representative shall be taken to be the correct measurements of the works, in accordance with the standard method of measurements, as in prevalent use.

The contractor or his representative may at the time of measurement take such notes and measurements as he may require. The contractor shall submit Running bills supported by detailed measurement sheets.

17.0 Variation in Quantities

17.1 The quantities, if any, given in the BOQ are only for the purpose of guidance to the bidders. The work shall be carried out on "Turnkey Basis" as per the Design and Detailing finalized and approved.

18.0 Maintenance

18.1 The contractor shall carry out routine servicing and maintenance of the HVAC System and Specialized Equipments & Systems during the operation and maintenance period. The contractor shall carry out all routine and special maintenance of the equipments and systems and attend to any defects that may arise during operation.

19.0 Performance Guarantee

19.1.1.1 The contractor shall submit a performance guarantee certificate that the equipments and the complete systems shall maintain the operating parameters within +/- 5 % of the specified parameters. The Contractor shall also guarantee that the capacity of various components as well as the whole system covered under scope of work, approved designs and technical data etc. shall not be less than the specified capacities. The guarantee of the specific equipment supplier alone with regard to the performance of the system shall not be acceptable. However, this does not alter the overall responsibility of the contractor for compliance with the contract terms and conditions.

20.0 Painting

20.1 All equipment and ancillary items such as pipes, supports etc., will be painted in approved manner, using standard colour scheme as approved by the Engineer.

21.0 Safe Custody and Storage

21.1 Safe custody of all machinery and equipments supplied by the contractor shall be his own responsibility till the final taking over by the Employer. He should, therefore, employ sufficient staff for watch and ward at his own expenses. The Employer may, however, allow the contractor to use the plant room/other rooms, etc., for temporary storage of his equipment if such spaces are ready and available.

22.0 Terms of Payment

For purposes of certificate of payment under clause 5.0 Specific Conditions of Contract (Volume-I, Section-V) the following norms shall be followed for items/works covered under this section.

- a. 50% of BOQ contract rates on receipt of equipments/items at site and after inspection and passing.
- b. 40% of BOQ contract rates on erection and installation of equipment.
- c. 5% after successful completion of running tests and taking over.
- d. 5% after successful final performance testing of the equipment/system or successful completion of defect liability period wherein all defects pointed out have been satisfactorily removed, whichever is later.

However after taking over of the equipment/system, the above 5% shall be released on submission of Bank Guarantee of equal amount from any National/Scheduled bank in the format acceptable to the Engineer and valid atleast till the completion of defect liability period.

23.0 Training of Personnel

The contractor shall arrange to train the Employer's personnel on the following aspects of the HVAC System and other specialized equipments and systems :

- a) Operation of HVAC Plant and all other equipments and systems.
- b) Gas charging and pumping down of the system.
- c) Adjustments of settings for controls and protective devices.
- d) Servicing and Preventive maintenance.
- e) Disassembling and assembling of equipment/ system parts including identification and replacement of worn out parts.

FORM OF AGREEMENT

This Agreement made the _____ day of _____ 2013 _____ between *National Research Centre on Equines (NRCE), Hisar- Haryana for the Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3)Laboratory & associated works on "Turnkey Basis" at National Research Centre on Equines (NRCE), Hisar- Haryana in compliance with CDC, USA guidelines as minimum and its maintenance during the defect liability period* (hereinafter called "The Employer") represented by M/s HSCC (India) Limited; E-6(A), Sector-1, NOIDA (U.P)- 201301 who enters into this Agreement of the one part and M/s (hereinafter called "The Contractor") of the other part.

Whereas the Employer is desirous that certain works should be executed by the Contractor, viz _____ ("the Works") and has accepted a Bid by the Contractor for the execution and completion of the works and the remedying of any defects therein.

Now this Agreement witnessed as follows :

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz :
 - (a) The Letter of Award;
 - (b) The said Bid;
 - (c) The General Conditions of Contract;
 - (d) Prequalification document
 - (e) Instructions to Tenderers and Specific Conditions of Contract;
 - (f) The Specification;
 - (g) The Drawings;
 - (h) The Priced Bill of Quantities;
 - (i) Any other relevant documents referred to in this Agreement or in the aforementioned documents
3. 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 respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects

therein the Contract Price or only such other sums as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

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

Signed, Sealed, and Delivered by the Said

Binding Signature of [HSCC] for and on behalf of NRCE-HISAR

Binding Signature of Contractor

In the presence of

Witness (1) :

Witness (2) :

ANNEXURE - B

PROFORMA FOR PERFORMANCE BANK GUARANTEE

(On a stamp paper of appropriate value from any Nationalised Bank or Scheduled Bank)

To,

M/s HSCCdia) Ltd.,
Plot No. 6(A), Block E, Sector 1,
NOIDA - 201 301.

Dear Sir,

In consideration of the *National Research Centre on Equines (NRCE), Hisar-Haryana for Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3) Laboratory & associated works on "Turnkey Basis" at National Research Centre on Equines (NRCE), Hisar- Haryana in compliance with CDC, USA guidelines as minimum and its maintenance during the defect liability period* which expression shall include his successor and assignees represented by his Consultant, M/s. HSCC(India) Ltd., Plot – 6 (A), Block - E, Sector - I, Noida, Uttar Pradesh - 201 301 (hereinafter called HSCC) having awarded to M/S _____ (hereinafter referred to as the said Contractor or 'Contractor' which expression shall wherever the subject or context so permits include its successors and assignees) a Contract No _____ in terms inter alia, of the HSCC Letter No. _____ dated _____ and the General Conditions of Contract and upon the condition of the Contractor's furnishing Security for the performance of the Contractor's obligations and discharge of the Contractor's liability under and in connection with the said Contract upto a sum of Rs. _____ (Rupees _____ only) amounting to _____ percent of the total Contract value.

1. We, _____ (hereinafter called 'The Bank' which expression shall include its successors and assignees) hereby jointly and severally undertake to guarantee the payment to the Employer in rupees forthwith on demand in writing and without protest or demur or any and all moneys payable by the Contractor to the Employer in respect of or in connection with the said Contract inclusive of all the Employer's losses and damages and costs, (inclusive between attorney and client) charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by the Employer to the Bank with reference to this guarantee upto an aggregate limit of Rs. _____ (Rupees _____ only).
2. We _____ Bank Ltd. further agree that the Employer shall be sole judge of and as to whether the said Contractor has

committed any breach or breaches of any of the terms and conditions of the said

Contract and the extent of loss, damage, cost, charges and expenses caused to or suffered by or that may be caused to or suffered by the Employer on account thereof and the decision of the Employer that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by the Employer from time to time shall be final and binding on us.

3. The Employer shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other Security in respect of the Contractor's obligations and liabilities hereunder or to vary the Contract or the work to be done there under vis-a-vis the Contractor or to grant time or indulgence to the Contractor or to reduce or to increase or otherwise vary the prices of the total Contract value or to release or to forbear from enforcement of all or any of the Security and/or any other Security(ies) now or hereafter held by The Employer and no such dealing(s) reduction(s) increase(s) or other indulgence(s) or arrangements with the Contractor or release or forbearance whatsoever shall absolve the bank of the full liability to the Employer hereunder or prejudice the rights of the Employer against the bank.
4. This guarantee shall not be determined or affected by the liquidation or winding up, dissolution, or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all monies payable to the Employer in terms thereof.
5. The bank hereby waives all rights at any time inconsistent with the terms of this guarantee and the obligations of the Bank in terms hereof shall not be anywise affected or suspended by reason of any dispute or disputes having been raised by the Contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to the Employer in terms hereof.
6. The amount stated in any notice of demand addressed by the Employer to the Bank as liable to be paid to the Employer by the Contractor or as suffered or incurred by the Employer on account of any losses or damages or costs, charges and/or expenses shall be conclusive evidence of the amount so liable to be paid to the Employer or suffered or incurred by the Employer as the case may be and shall be payable by the Bank to The Employer in terms hereof.

7. This guarantee shall be a continuing guarantee and shall remain valid and irrevocable for all claims of the Employer and liabilities of the Contractor arising upto and until midnight of_____.
8. This guarantee shall be in addition to any other guarantee or Security whatsoever that the Employer may now or at any time anywise may have in relation to the Contractor's obligations/or liabilities under and/or in connection with the said Contract, and the Employer shall have full authority to have recourse to or enforce this Security in preference to any other guarantee or Security which the Employer may have or obtain and no forbearance on the part of the Employer in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its full liability hereunder.
9. It shall not be necessary for the Employer to proceed against the said Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding that any Security which The Employer may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the said bank hereunder be outstanding or unrealised.
10. We, the said Bank undertake not to revoke this guarantee during its currency except with the consent of the Employer in writing and agree that any change in the constitution of the said Contractor or the said bank shall not discharge our liability hereunder.
11. We_____ the said Bank further that we shall pay forthwith the amount stated in the notice of demand notwithstanding any dispute/difference pending between the parties before the arbitrator and/or that any dispute is being referred to arbitration.
12. Notwithstanding anything contained herein above, our liability under this guarantee shall be restricted to Rs._____ (Rupees_____) and this guarantee shall remain in force till_____ and unless a claim is made on us within 3 months from that date, that is before _____ all the claims under this guarantee shall be forfeited and we shall be relieved of and discharged from our liabilities there under.

Dated_____ day of _____ 20

For and on behalf of Bank.

Issued under seal :

PROFORMA FOR BID SECURITY BANK GUARANTEE

(To cover payment of Bid Security and Conditions of Contract)

(On a stamp paper of appropriate value from any Nationalised Bank or Scheduled Bank)

To

M/s HSCC (India) Ltd.,
Plot No. 6(A), Block E, Sector 1,
NOIDA - 201 301.

Dear Sir,

In consideration of your agreeing to accept Bank Guarantee for Rs.

.....
(Rupees) in
lieu of payment from M/s
having its /their registered office at

.....
(hereinafter called the Bidder) towards Bid Security in respect of your Tender no.

.....
..... calling for Tender for

.....
at and for due fulfilment of the terms and
conditions of the said Tender, we hereby undertake and agree to indemnify and
keep you indemnified to the extent of Rs (Rupees
.....
.....).

In the event of any loss or damages, costs, charges or expenses caused to or
suffered by you by reason of any breach or non observance on the part of the
Bidder of any terms and conditions of the said Tender, we shall on demand and
without cavil or argument, and without reference to the Bidder, irrevocably and
unconditionally pay you in full satisfaction of your demand the amounts claimed
by you, provided that our liability under this guarantee shall not at any time
exceed Rs
(Rupees).

This guarantee herein contained shall remain in full force and till you finalise the
Tender and select the Tender as per your choice and it shall in the event of the
said Bidder being selected and entrusted with the said work, continue to be
enforceable till the said Bidder executes the Agreement with you and
commences the work as stipulated under the terms and conditions of the said
Tender have been fully and properly carried out by the said Bidder and
accordingly discharges the guarantee.

We also agree that your decision as to whether the Bidder has committed any
breach or non observance of the terms and conditions of the said Tender shall be
final and binding on us.

We under take to pay the Consultant any money so demanded by the Consultant notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceedings pending before any Court or Tribunal relating thereto, our liability under this present being absolute and equivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such a payment.

This guarantee shall continue to be in full force and effect for a period of 180 days from the date of submission of Bid.

We shall not revoke this guarantee during its currency except with your previous consent in writing. This guarantee shall not be affected by any change in Constitution of our bank or of the Bidder firm. Your neglect or forbearance in the enforcement of the payment of any money, the payment whereof is intended to be hereby secured or the giving of time for the payment hereto shall in no way relieve us our liability under this guarantee.

Dated this day of

Yours faithfully,

For

Signature & seal of the Bank (Authorised Signatory)

ANNEXURE – D

APPENDIX TO TENDER

Important Clause	Clause No.	Volume	Remarks
Amount of Performance Security	10.1	I	5% of the Contract Price
Minimum amount of third party Insurance	23.2	I	Rs. 500000=00 for Any incident, no. of incidents Unlimited.
Amount of Liquidated damages	47.1	I	0.5% of Contract price per week of delay
Limit of Liquidated Damages	47.1	I	5% of Contract Price
Defect Liability Period	49.1	I	12 Months
Percentage of Retention	33 (g)	II	5% of Contract Price
Programme of work and updated progress reports	39.6	III	Programme updated monthly, progress reported weekly
Time of Completion	43.1 / 1.4	II / III	Within Twelve calendar month
Mobilization Advance	60.7/33 (a) (b), (C), (g)	II/III	Deleted

ANNEXURE - E

PROFORMA FOR RETENTION MONEY BANK GUARANTEE
(On a stamp paper of appropriate value from any Nationalised Bank or Scheduled Bank)

To,

M/s HSCC (INDIA) Ltd.,
Plot No. 6(A), Block E, Sector 1,
NOIDA - 201 301.

Dear Sir,

In consideration of *National Research Centre on Equines (NRCE), Hisar-Haryana* for the *Construction, testing, commissioning and, validation of Bio-safety level 3 (BSL-3)Laboratory & associated works on "Turnkey Basis" at National Research Centre on Equines (NRCE), Hisar- Haryana in compliance with CDC, USA guidelines as minimum and its maintenance during the defect liability period* which expression shall include his successor and assigns represented by his Consultant M/s. HSCC (INDIA) Ltd., Plot - 6 (A), Block - E, Sector - I, Noida, Uttar Pradesh - 201 301 (hereinafter called HSCC) having awarded to _____ (hereinafter referred to as the said Contractor or 'Contractor' which expression shall wherever the subject or context so permits include its successors and assigns) and the General Conditions of Contract and upon the condition of the contractor's furnishing guarantee for the retention of the contractor's obligations and discharge of the contractor's liability under and in connection with the said contract upto a sum of Rs. _____ (Rupees _____ only) amounting to 2.5% of the total contract value.

1. We, _____ (hereinafter called 'The Bank' which expression shall include its successors and assigns) having its branch office at _____ (a Company under the provisions of the Companies Act 1913 hereby jointly and severally undertake to guarantee the payment to the Employer in rupees forthwith on demand in writing and without protest or demur or any and all moneys anyway payable by the contractor to the Employer under in respect of or in connection with the said contract inclusive of all the Employer's losses and damages and costs, (inclusive between attorney and client) charges and expenses and other moneys anyway payable in respect of the above as specified in any notice of demand made by the Employer to the Bank with reference to this guarantee upto an aggregate limit of Rs. _____ (Rupees _____ only).
2. We _____ Bank Ltd. further agree that The Employer shall be sole judge of and as to whether the said contractor has committed any breach or breaches of any of the terms and conditions of the said contract and the extent of loss, damage, cost, charges and expenses caused to or suffered by or that may be caused to or suffered by

The Employer/HSCC on account thereof and the decision of The Employer that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by The Employer from time to time shall be final and binding on us.

3. The Employer shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Contractor's obligations and liabilities hereunder or to vary the contract or the work to be done thereunder vis-a-vis the Contractor or to grant time or indulgence to the Contractor or to reduce or to increase or otherwise vary the prices of the total contract value or to release or to forbear from enforcement of all or any of the security and/or any other security(ies) now or hereafter held by The Employer and no such dealing(s), reduction(s), increase(s) or other indulgence(s) or arrangements with the Contractor or release or forbearance whatsoever shall absolve the bank of the full liability to The Employer hereunder or prejudice the rights of The Employer against the bank.
4. This guarantee shall not be determined or affected by the liquidation or winding up, dissolution, or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all monies payable to The Employer in terms thereof.
5. The bank hereby waives all rights at any time inconsistent with the terms of this guarantee and the obligations of the Bank in terms hereof shall not be anywise affected or suspended by reason of any dispute or disputes having been raised by the Contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to The Employer in terms hereof.
6. The amount stated in any notice of demand addressed by The Employer to the Bank as liable to be paid to The Employer by the Contractor or as suffered or incurred by The Employer on account of any losses or damages or costs, charges and/or expenses shall be conclusive evidence of the amount so liable to be paid to The Employer or suffered or incurred by The Employer as the case may be and shall be payable by the Bank to The Employer in terms hereof.
7. This guarantee shall be a continuing guarantee and shall remain valid and irrevocable for all claims of The Employer and liabilities of the contractor arising upto and until midnight of_____.
8. This guarantee shall be in addition to any other guarantee or security whatsoever that The Employer may now or at any time anywise may have in relation to the Contractor's obligations/or liabilities under and/or in connection with the said contract, and The Employer shall have full authority to have recourse to or enforce this security in preference to any other guarantee or security which The Employer may have or obtain and no forbearance on the part of The Employer in enforcing or requiring enforcement of any other security shall have the effect of releasing the Bank from its full liability hereunder.
9. It shall not be necessary for The Employer to proceed against the said Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding that any

security which The Employer may have obtained or obtain from the contractor shall at the time when proceedings are taken against the said bank hereunder be outstanding or unrealised.

10. We, the said Bank undertake not to revoke this guarantee during its currency except with the consent of The Employer in writing and agree that any change in the constitution of the said contractor or the said bank shall not discharge our liability hereunder.
11. We _____ the said Bank further that we shall pay forthwith the amount stated in the notice of demand notwithstanding any dispute/difference pending between the parties before the arbitrator and/or that any dispute is being referred to arbitration.
1. Notwithstanding anything contained herein above, our liability under this guarantee shall be restricted to Rs. _____ (Rupees _____) and this guarantee shall remain in force till _____ and unless a claim is made on us within 3 months from that date, that is before _____ all the claims under this guarantee shall be forfeited and we shall be relieved of and discharged from our liabilities thereunder.

Notwithstanding anything contained herein,

- a) Our liability under this bank guarantee shall not exceed Rs. _____ (Rupees _____).
- b) This bank guarantee shall be valid up to _____
- c) We are liable to pay the guarantee amount or any part thereof under the Bank Guarantee only & only if you serve upon us as a written claim or demand on or before _____.

Dated _____ day of _____ 20

For and on behalf of Bank.

Issued
under
seal :