

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
NEW DELHI**

**TENDER**

**FOR**

**PROVIDING**

**OPERATION & MAINTENANCE OF INSTITUTIONAL CAMPUS**

**AT**

**NATIONAL CANCER INSTITUTE (NCI)  
BADSA, JHAJJAR, HARYANA**

- NIT / PQ
- ITB & GCC
- Terms & Conditions of Contract
  - SCC
- Technical Specifications

**Volume - I**

**CONSULTANT**

**HSCC (INDIA) LTD**

**(A wholly owned subsidiary of NBCC)**

**Plot No. 6-A, Block-E, Sector-1, NOIDA (U.P.) – 201 301**

**PHONE: 0120-2540153      FAX: 0120-2542447**

**URL: <http://www.hscltd.co.in>**

**Tender No. HSCC/O&M/NCI-Jhajjar/Instit-Camp/2020**

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, NEW DELHI**

**NOTICE INVITING e-TENDER**

**Dated: 11.02.2020**

Online item rate bids are invited by HSCC (India) Limited on behalf of Director, AIIMS, New Delhi from eligible applicants who fulfill qualification criteria as stipulated in Vol.-I (NIT/PQ) document for the following works **(1.) Tender No. HSCC/O&M/NCI-JHAJJAR/Instit-Camp/2020** - “Operation & Maintenance of Institutional Campus at NCI, AIIMS, Jhajjar” Estimated project cost: Rs.20.83 Crore. Completion period: 36 Months. **(2.) Tender No. HSCC/O&M/NCI-JHAJJAR/Resi-Camp/2020** - “Operation & Maintenance of Residential Campus at NCI, AIIMS, Jhajjar” Estimated project cost: Rs.11.04 Crore. Completion period: 36 Months. Further details are available in detailed NIT and Tender Documents available online from 18.02.2020 on HSCC website [www.hsccltd.co.in](http://www.hsccltd.co.in), e-tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC) and CPP portal. Last Date of submission of Bids is 04.03.2020.

Corrigendum to this publication, if any, would appear only on said websites and not be published.

**DGM (Civil)**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES  
ANSARI NAGAR, NEW DELHI**

**NOTICE INVITING e-TENDER – Detailed**

**Tender No. HSCC/O&M/NCI-JHAJJAR/Instit-Camp/2020**

Dated: 11.02.2020

Online item rate bids are invited by HSCC (India) limited on behalf of Director, AIIMS, New Delhi through e-tendering from eligible contractors/firms for the providing Operation & Maintenance Services for the following works:

<b>Name &amp; description of work</b>	<b>Estimated cost (Rs.)</b>	<b>Completion period of work (months)</b>	<b>Last date to fill/upload the tender through e-Tendering.</b>	<b>Bid Security amount (in Rs.)</b>
OPERATION & MAINTENANCE OF INSTITUTIONAL CAMPUS AT NCI, AIIMS, JHAJJAR	20.83 Crores	36 calendar months	<b>04.03.2020</b> upto <b>15:00</b> hrs. & Opening at 15:30 hrs.	30.83 Lakhs

The bidder would be required to register at HSCC e-tender portal <http://www.tenderwizard.com/HSCC>. The bid document is available online from **18.02.2020**. For submission of the bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities. The bidders are required to submit (a) Original non refundable Demand Draft of Rs.5,000/- (Rs. Five thousand only) as cost of bid, in favour of “*HSCC (India) Ltd.*” payable at Noida/Delhi (b) Original bid security in approved form Vol. I of Tender with the office of “DGM (Civil), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P.) Pin201301”, before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.

The documents to be uploaded online are listed at **Enclosure VI**.

Complete set of Tender Documents comprising of Volumes- I & II has been made available at e-tender portal <http://www.tenderwizard.com/HSCC> Interested applicant contractors/firms may like to attend the pre bid meeting which will be held at 11:00 hrs at Corporate office of HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P.) Pin201301 on 24.02.2020.

AIIMS/HSCC reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever.

Prospective bidders are advised to regularly scan through HSCC e-tender portal <http://www.tenderwizard.com/HSCC> & HSCC website [www.hsccltd.co.in](http://www.hsccltd.co.in) as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

**DGM (Civil), HSCC (India) Ltd.  
For & On Behalf of Director, AIIMS, New Delhi.**

## INSTRUCTIONS TO THE BIDDERS

1. Sealed offers under two bids system in the prescribed forms are invited from eligible tenderers for providing Operation and Maintenance services detailed in this bid document.
2. The amount of earnest money deposit (EMD) shall be **Rs.30.83 Lacs (Rupees Thirty Lacs & Eighty Three Thousand Only)** in the form of DD/Pay Order from a scheduled bank drawn in favor of HSCC (India) Ltd. payable at New Delhi/ Noida or Bank Guarantee in favor of “HSCC (India) Ltd.” as per Enclosure-III, having validity for **six months** or more from the last date of receipt of tenders or any extension thereof. The Bank guarantees should be irrevocable and operative for a period of six months or more from the last date of receipt of tenders or any extension thereof.
3. Tender form shall be complete in all respect. Incomplete tenders or tenders without E.M.D shall be treated as invalid.
4. Last date of submission of tender is 04.03.2020 upto 15.00 Hrs
5. Date and time of opening of tender is 04.03.2020 at 15.30 Hrs.
6. Each and every page of the tender documents should bear the stamp and signature of the authorized representative. **Format I & II enclosed shall be filled without exception.** The tenderer shall also enclose the latest Income Tax Clearance Certificate and proof of VAT/works Contract Tax Registration/GST Registration where applicable.
7. A power of attorney in favor of person signing the bid should also be submitted.
8. The rates for each and every item shall be quoted in Figure and words. In case of any discrepancy in rates, the rates written in words shall prevail.
9. The envelope containing tender document shall be sealed and bear the name of work and the name and address of the tenderer.
10. The Competent Authority of AIIMS/ HSCC (I) Ltd., reserves the right to accept or reject any tender or all tender without assigning any reason.
11. Conditional tenders are liable to be rejected.
12. The site for the work is available and can be seen on any working days during office hours by contacting HSCC/NCI AIIMS, Badsha, Jhajjar, Haryana. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A Bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The Bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a Bid by a Bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc., if any, will be issued to him by the Employer and local conditions and other factors having a bearing on the execution of the work.
13. **The tender for the work shall remain open for acceptance for a period of one hundred twenty days (120 days) from the date of opening of tender,**

14. These instructions shall form a part of the contract document.
15. The EMD of unsuccessful tenderers shall be refunded within one month after the award of work to the successful tenderer.
16. Rates quoted shall be firm and fixed and are inclusive of cost of manpower, material, machinery, tools and plant consumable etc., complete and include all taxes (including GST), duties and levies, insurance etc. The successful Bidder would be required to establish **its office within the site of the work** in the space provided by the NCI AIIMS, Badsha, Jhajjar, Haryana.

**17. Eligibility criteria:**

The applicant should meet the following minimum criteria for prequalification:

1. The Experience should be in the name of bidding company and not in the name of subsidiary/ associate/ group company etc.
  2. Experience of having successfully completed works during the last seven years ending previous day of last date of submission of tender :
    - A. Having work experience of operation / Maintenance of building with associated services such as Civil, Electrical & HVAC etc.
      - i. One similar completed work (as mentioned below at “a”) of costing not less than amount equal to 80% of one year estimated cost i.e. 6.94 Cr., each work having value of **Rupees Five Crores Fifty Five Lacs Only.**
      - ii. Two similar completed work (as mentioned below at “a”) of costing not less than amount equal to 60% of one year estimated cost i.e. 6.94 Cr., each work having value of **Rupees Four Crores Sixteen Lacs Only.**
      - iii. Three similar completed work (as mentioned below at “a”) of costing not less than amount equal to 40% one year estimated cost i.e. 6.94 Cr., each work having value of **Rupees Two Crores Seventy Seven Lacs Only.**
- a) **“Similar Works”** shall mean a work comprising operation & Maintenance of Institutional Campus with associated services such as Civil, Electrical, HVAC works of costing not less than 6.94 Cr. annually.

A certificate from client for completion of similar works along with completion certificate must be uploaded by the bidder for each work order along with the application.

Own works/ work under the same management/ own certification of the bidders shall not be considered for prequalification.

3. The tenderer should have substantially in house manpower to cover requirements of Formats III.
4. **Average Annual financial turnover during the last 3 financial years ending 2018-19 should be at least 100% of estimated cost (copies of balance sheets signed by CA to be submitted by the Tenderer).**
5. **Profit / loss:** The Company should have a positive Net Worth and should have occurred loss in not more than two (02) years in last Five years ending FY 2018-19. This should be duly certified by the Chartered Account.
6. **Solvency Certificate:** Solvency of the amount equal to 40% of the estimated cost of the work.
7. The value of executed works shall be brought to current costing level by enhancing the actual value of work at **simple rate of 7% per annum; calculated from the date of completion to the last date of receipt of applications for tender.**
8. The O&M work includes a number of specialized Electrical/ Mechanical/Other services to be executed by engaging Specialized agencies as provided for in CPWD works Manual 2019/ approved makes specified in Technical Specifications

**Some of the Specialized Services are:-**

- STP/ WTP/ETP
  - HVAC
  - Electrical works Including Building Management System, Lifts, Nurse Call System, External Lightning, Fire-Detection System, 11 KV Sub-Station etc.
9. This being a composite tender, the Bidder must associate with himself agencies eligible for specialized services for which an affidavit/undertaking as per format enclosed at **Enclosure – VIII** should be submitted along with the Technical Bid.
  10. **Submission of bids:** Proposals should be submitted in three separate envelopes namely-**Bid Security/EMD (Part A), Technical Bid (Part B) and Financial Bid (Part C).**

**I-TECHNICAL PACKAGE (Tender Fee & Bid Security/EMD) - Part A :**

S.No	Name of Document	Reference Volume of Tender	Mode of Submission
01	Original Non-refundable Demand Draft of Rs. 5,000/- (Tender Fee) in favour of HSCC (India) Ltd payable at Noida/Delhi	Vol.- I	In Original & Copy Online
02	Original bid security / EMD	Vol.- I	In Original & Copy Online
03	AFFIDAVIT on the Non-Judicial Stamp Paper of Rs. 100/- as per the format attached at Enclosure-VII.	Vol.- I	In Original & Copy Online

Above document to be submitted in the office of “DGM (Civil), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P) Pin 201301”; before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.

**II-TECHNICAL PACKAGE - Part B :**

<b>S. No</b>	<b>Name of Document</b>	<b>Reference Volume of Tender</b>	<b>Mode of Submission</b>
1.	Letter of Application /Form of Bid	Vol.- I	Online
2	All amendment(s)/addendum(s)/ Corrigendum(s) /Clarification(s) issued, if any, duly authenticated by digital signature	Vol.- I	Online
3	Brief Description of the Firm as per Format I enclosed	Vol.- I	Online
4	Documents regarding constitution of Bidder including copy of Certificate of Registration.	Vol.- I	Online
5	Experience of carrying out works of Similar Nature as per Format II enclosed.	Vol.- I	Online
6	Copies of Works Contract Tax/VAT registration/GST Registration/License or undertaking in this regard that the bidder will get registered with the relevant authorities in case the work is awarded to them in the state where work is to be executed in India.	Vol.- I	Online
7	Power of attorney in favour of person signing the bid	Vol.- I	Online
8	In-house manpower to cover requirements of Formats III.	Vol.- I	Online

**III-FINANCIAL PACKAGE - Part C :**

<b>S. No</b>	<b>Name of Document</b>	<b>Reference Volume of Tender</b>	<b>Mode of Submission</b>
1	Financial bid (Bill of Quantities – Volume- II)	Vol II	Online

**The Contractor must ensure to fill up price against each item of BOQ .**

Please note that the price should not be indicated in any of the documents submitted except financial bid (Price bid). Non-compliance shall entail rejection of the Bid. Any addition, modification, alteration etc if observed in any of the bid documents at any stage the bid shall be summarily rejected.



11. **Evaluation of Technical Bids:** The Envelope No.1 shall be opened first and checked for the presence of the requisite EMD and Tender Document Fee (in case of tender documents downloaded from the website). The Technical Bid of bidders, whose EMD is found in order shall be opened and will be evaluated by the HSCC(I) Ltd. to ascertain the best-evaluated bid for the complete work/services. The Bidders should take care to submit all the information sought in prescribed formats.
  - a. Firm's relevant experience and strength – Profile of agency, registration details, experience of similar works, annual turnover, total manpower employed.
  - b. Qualification/Related experience.
12. **Financial Bid:** The financial bid of the tenderers, whose technical bid is found to be suitable, will be opened in the presence of the tenderers, who choose to attend the opening of financial bid. Minimum two-day notice will be given to tenderer for this purpose.
13. **Award of work:**
  - a. The selection of the agency will be at the sole discretion of the HSCC/AIIMS, New Delhi who reserve the right to accept or reject any or all the tenders without assigning any reason.
  - b. The contract for the Annual Operation and Maintenance shall be awarded to the qualified responsive tenderer who has quoted lowest.
  - c. Upon evaluation of offers the notification on award of contract will be intimated to the successful tenderer.

**TECHNICAL BID (PART A)**

**Format I**

**BRIEF DESCRIPTION OF THE FIRM**

(With an outline of the experience of the firm for similar works during last three years)

- a) Name of the firm.
- b) Year of registration.
- c) Type of firm (Individual/Proprietary/Limited Company or any other)
- d) In house facilities available in following fields.

**A. For Construction**

S.No.	Fields	Manpower with more than 10 years' experience	Manpower with 5 to 10 years' experience	Manpower with lesser than 5 years' experience
1.	Civil Engineering works			
2.	Pipe work & water supply etc.			
3.	Electrical works			
4.	HVAC System			
5.	Fire-Fighting works			
6.	Mechanical Work			
7.	Horticulture			

**B. For Maintenance**

S.No.	Fields	Manpower with more than 10 years' experience	Manpower with 5 to 10 years' experience	Manpower with lesser than 5 years' experience
1.	Civil Engineering works			
2.	Pipe work & water supply etc.			
3.	Electrical works			
4.	HVAC System			
5.	Fire-Fighting works			
6.	Mechanical Work			
7.	Horticulture			

**Provide documents in support of the details provided in the above format, failing which the authenticity of the information may not be accepted**

## Format II

### EXPERIENCE OF COMPANY

Experience of relevant and similar work of Construction /Maintenance of Mechanical works / PHE System/ Electrical works/ Ventilation System/ Horticulture, construction, pipe laying/annual Repair and Maintenance completed during last three years preceding January, 2020 and ongoing works). Use separate sheet for each work.

1.	Project title & Location:	
2.	Name of the Client and Address:	
3.	Describe area of Participation (Specific Work done/Services rendered by the applicant)	
4.	Period of Work Done/Services rendered for the project	
5.	Total cost of work/AMC cost	
6.	Date of start of the work and the present status	
7.	Any other details	

**NOTE:**

**Supporting documents like certificates from the client in support of each of the above projects to be furnished.**

**Format III**  
**MANPOWER DEPLOYMENT SCHEDULE**

The following minimum skilled manpower is to be deployed by the contractor on daily basis in shift mentioned below against each:

S.N.	Designation	Number of person				
		G shift	A Shift	B Shift	C Shift	Total
	<b>Civil, Plumbing &amp; Fire</b>					
1	Supervisor(Over All)		2	2	2	6
2	Mason(Skilled)	2				2
3	Carpenter	1	1	1	1	4
4	Misc. Skilled Labour		2	2	2	6
5	Plumber		2	2	2	6
6	Helper		6	6	6	18
7	Sewer-Man		2	2	2	6
8	Computer Operator		2	2	2	6
9	Painter	2				2
10	Operator for Pump Room		2	2	2	6
11	Helper for Pump Room		1	1	1	3
12	Sweeper for Pump Room	1				1
13	Operator for STP Room		1	1	1	3
14	Helper for STP Room		1	1	1	3
15	Sweeper for STP Room	1				1
16	Operator for ETP Room		1	1	1	3
17	Helper for ETP Room		1	1	1	3
18	Sweeper for ETP Room	1				1
2	<b>HVAC Works</b>					
	J.E./ Supervisor (Mech.)	1				1
	Operator cum maintenance staff for AC Plant		2	2	2	6
	Maintenance Staff for building		2	2	2	6
	Maintenance Electrician		2	2	2	6
	Helper		2	2	2	6
3	<b>ELECTRICAL Works</b>					
	A.E. (Electrical)	1				1
	Electrician cum DG operator for operation of 11 KV ESS		2	2	2	6
	Technician Access control/CCTV/PA/FDA/Telephone		1	1	1	3
	BMS operator		1	1	1	3
	Helper		2	2	2	6
	Lift operator	6	10	10	2	28
	Lift Technician		1	1	1	3
4	<b>HORTICULTURE WORKS</b>					
	Head Mali	1				
	Mali	10				
	<b>TOTAL</b>	<b>27</b>	<b>49</b>	<b>49</b>	<b>41</b>	<b>166</b>

**NOTE:-**

i) Only licensed / certified electricians/operators/plumbers shall be deployed. Preferably the other skilled worker deployed shall also be licensed/certified/ITI certificate Holder.

ii)The above mentioned man power is bare minimum which contractor has to deploy at site, however if the system demands more than the contractor has to deploy the more manpower as per the requirement within the quoted rates beyond the daily roster as per format III.

iii)All the above staff of the contract shall wear uniform and badges identifying their category and name in English and local language.

iv)The Contractor has to provide Biometric attendance details of the manpower deployed during the month. The Contractor at his own cost shall make arrangements for Biometric System.

v) Minimum manpower as detailed in Format-III and as per BOQ to be provided. In case of absence of manpower deductions in terms of Contract shall be done.

- General (G) Shift (9.00AM to 5.00PM)
- Morning (A) Shift (6.00AM to 2.00PM)
- Second (B) Shift (2.00PM to 10.00PM)
- Night (C) Shift (10.00PM to 6.00AM)

In addition to the above the following Technical Representatives are required to be deployed by the Contractor during execution of works. The overall quoted price shall be inclusive of following additional minimum technical manpower to be deployed during execution of works & no reimbursement of any sort shall be paid on account of this. However recovery shall be made in the event of not fulfilling the said provision with the rates stipulated below.

### Requirement of Technical Representative(s) and recovery Rate

Requirement of Technical		Minimum Experience (Yrs.)	Designation Technical Staff	Rates at which recovery shall be made(Rs.)
Qualification	Number(of Major+ Minor Component)			
Graduate Engineer	<b>1</b>	10(and having experience of one similar nature of work	Project Manager(Overall) of Civil Background	30000 per month
Graduate Engineer or Diploma Engineer	<b>1</b>	5 or 10 respectively	Electrical	25000 per month
Graduate Engineer or Diploma Engineer	<b>1+1</b>	2 or 5 respectively	HVAC	15000 per month
Graduate Engineer or Diploma Engineer	<b>1+1</b>	2 or 5 respectively	Electrical	15000 per month

NOTE. The contractor will maintain attendance records of the staff, which will be checked by the Engineer-in-charge or his representative of the work. In case of absence of any staff as per the manpower requirement given above recovery shall made at the following rates:

- i) Skilled labour @ Rs. 1,000/- per day per person.
- ii. Semi-skilled labour @ Rs. 800/- per day per person.
- iii. Un-skilled labour @ Rs. 700/- day per person.
- iv. Technical Representative @ 3000/- per day per person.

**Form A – Form of Bid and Appendix**

**FORM OF BID**

**Name of the Work:**     **OPERATION & MAINTENANCE OF INSTITUTIONAL CAMPUS AT  
NCI, AIIMS, JHAJJAR**

To

**Director AIIMS, New Delhi,  
C/o DGM (Civil),  
HSCC (India) Ltd.,  
E-6(A), Sector 1,  
Noida – 201301**

**Sub :**   **Submission of Proposal**

Having visited the Site, ascertained the Site conditions and examined the General Conditions of Contract as well as Specific Conditions of Contract, Notice Inviting Bids, Instructions to Bidders etc. and addenda for the above project, we the undersigned, are pleased to submit our technical and financial Bid along with relevant documents.

1. We acknowledge that the Appendix forms an integral part of the Bid.
2. While preparing this Bid, we have gathered our own information and conducted our own inquiry/survey to our satisfaction and we did not rely solely on the information provided in the Bid Documents. We shall not hold AIIMS /HSCC responsible on any account in this regard.
3. We undertake, if our Bid is accepted, to commence the works within the stipulated time and to complete the whole of the works comprised in the Contract within the stipulated time calculated from the start date
4. If our Bid is accepted, we will furnish a bank guarantee as Performance security for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with as given in the General Conditions of the Contract.
5. We are aware that in the event of delay in execution of the Project, beyond the agreed timelines due to reasons attributable to us, liquidated damages shall be recovered from us.
6. Our Bid is valid for your acceptance for a period of 120 days from the last date of submission of the Bid as per the Bid Documents or any extension thereto.
7. We agree to the Conditions of Contract and Particular Conditions of Contract and the terms and conditions mentioned in the Bid Documents.
8. We declare that the submission of this Bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related to the award of this Contract. We further confirm and declare that no agency commission or any payment, which may be construed as an agency, commission has been, or will be, paid and that the Bid price does not include any such amount. We acknowledge the right of AIIMS New Delhi, if it finds anything to the contrary, to declare our Bid to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
9. We understand that you are not bound to accept the lowest or any Bid you may receive.
10. If our Bid is accepted, we understand that we are to be held solely responsible for the due performance of the Contract.
11. We enclose;
  - a. All documents as per the checklist

b. DD/Bank guarantee for Rs \_\_\_\_\_ (Rupees \_\_\_\_\_ only) issued by \_\_\_\_\_ (name of the bank) valid until \_\_\_\_\_ towards EMD.

- Note :
- i. The Appendix forms part of the Bid
  - ii. Bidders are required to fill up all the blank spaces in this form of Bid and Appendix.

Dated this.....day of.....**2020**

Signature .....

Name..... in the capacity of .....

duly authorized to sign Bids for and on behalf of.....

Address .....

.....

.....

Witness – Signature .....

Name .....

Address .....

.....

.....



**Enclosure-I**

**COMPLAINT REGISTRATION FORM**

Date  
Time  
Nature of complaint

Complainant: \_\_\_\_\_  
Signature : \_\_\_\_\_

Complaint attended.

Date

Time

From

To

Certified that the complaint has been satisfactorily attended.

Contractor

Complainant

Date

To be submitted along with running bills.

**MAINTENANCE COMPLAINT REGISTER**

S.No.	Date & Time	Complainant or Location	Nature of complaint	Complaint attended by whom	Signature of Contractor	Remarks

**FORMAT FOR EMD/BID SECURITY**

(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 **Six Months from the last 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 ..... 2020

Yours faithfully,

For

Signature & seal of the Bank (Authorised Signatory)

**PROFORMA FOR PERFORMANCE 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 -201301

Dear Sir,

In consideration of the AIIMS New Delhi (hereinafter called 'Employer') which expression shall include his successor and assignees represented by his Consultant, M/s. HSCC (India) Ltd., Plot No. 6(A), Block – E, Sector - 1, 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 \_\_\_\_\_ 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 anywise 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 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.
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 \_\_\_\_\_ 2020

For and on behalf of Bank.

Issued under seal :

**CONTRACT AGREEMENT FORMAT**

This Agreement made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_ at between AIIMS, New Delhi/HSCC (*hereinafter* called "The Employer") represented by M/s HSCC (India) Ltd 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 :

1.	Notice Inviting Tender & Instructions to Tenderers	
2.	General Conditions of Contract	
3.	Particular conditions of Contract along with Enclosure I, II, III & IV	
4.	CPWD Specifications correction slip issued up to January 2020	

3. In consideration of the payments to be made by the HSCC (India) Ltd. acting as 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 with the provisions of the Contract in all respects.
4. The Employer hereby covenants to pay the Contractor through HSCC (India) Ltd. in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

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

Signed, Sealed, and Delivered by the Said

\_\_\_\_\_

Binding Signature of HSCC (India) Ltd. for and on behalf of AIIMS, New Delhi.



Binding Signature of Contractor \_\_\_\_\_

In the presence of

Witness (1) :

Witness (2) :

**CHECK – LIST****CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE BID  
TECHNICAL PACKAGE - Part A**

<b>S.No</b>	<b>Name of Document</b>	<b>Reference Volume of Tender</b>	<b>Mode of Submission</b>
01	Original Non-refundable Demand Draft of Rs. 5,000/- (Tender Fee) in favour of HSCC (India) Ltd payable at Noida/Delhi	Vol.- I	In Original & Copy Online
02	Original bid security / EMD	Vol.- I	In Original & Copy Online
03	AFFIDAVIT on the Non-Judicial Stamp Paper of Rs. 100/- as per the format attached (Annexure -VII)	Vol.- I	In Original & Copy Online

Above document to be submitted in the office of “DGM (Civil), HSCC (India) Ltd., Plot no.E-6(A), Sector-1, Noida (U.P) Pin 201301”; before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.

**II-TECHNICAL PACKAGE - Part B**

<b>S. No</b>	<b>Name of Document</b>	<b>Reference Volume of Tender</b>	<b>Mode of Submission</b>
1.	Letter of Application	Vol.- I	Online
2	All amendment(s)/addendum(s)/ Corrigendum(s) /Clarification(s) issued, if any, duly authenticated by digital signature	Vol.- I	Online
3	Brief Description of the Firm as per Format I enclosed	Vol.- I	Online
4	Documents regarding constitution of Bidder including copy of Certificate of Registration.	Vol.- I	Online
5	Experience of carrying out works of Similar Nature as per Format II enclosed.	Vol.- I	Online
6	Copies of Works Contract Tax/VAT/GST registration/License or undertaking in this regard that the bidder will get registered with the relevant authorities in case the work is awarded to them	Vol.- I	Online
7	Power of attorney in favour of person signing the bid	Vol.- I	Online
8	In-house manpower to cover requirements of Formats III.	Vol.- I	Online

**III-FINANCIAL PACKAGE - Part C :**

<b>S. No</b>	<b>Name of Document</b>	<b>Reference Volume of Tender</b>	<b>Mode of Submission</b>
1	Financial bid (Bill of Quantities – Volume- II)	Vol II	Online

**Note:** - All documents as above to be submitted on line. In addition (a) Original non-refundable Demand Draft of Rs.5,000/- (Rs. Five thousand only) as cost of bid, in favour of “ HSCC India Limited “ payable at Noida/Delhi (b) Original Bid Security Rs.30.83 Lacs. (Rupees Thirty Lakh & Eighty Three thousand Only) in the form of DD/Pay Order or Bank Guarantee from a scheduled bank drawn in favour of HSCC(India) Ltd. payable at New Delhi/ Noida to the office of DGM (Civil), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P) Pin 201301, before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared nonresponsive.

On the Non-Judicial Stamp Paper of Rs.100/-

**AFFIDAVIT**

I / We (Name of Person / Persons who presenting the affidavit) M/s..... (Name of Contractor's Firm / Company)..... (executing as a company /firm ) who fulfill all the formalities who filling the affidavit works as a firm / Company, by this affidavit certify / certified that **HSCC ( India ) LTD., Noida** by inviting tender information Tender No. .... for (Name of work) .....for Dated..... in the capacity of inviting to the Tenders in tender documents, regarding the following information in certificates / documents presented, in that I / we personally agreed that we given all the information, documents & certificates are true to our belief and I / we are fully responsible as :-

- (1) It is to certify that all the information given in this affidavit are true and correct.
- (2) that I / we presented by us,
  - (a) Amount submitted for Processing fees and EMD in the form of Demand Draft & BG and relevant Documents are true, and certified & corrected by the Bank.
  - (b) Information given regarding with the Financial Qualifications & Annual Turnover is true & correct.
  - (c) Information given regarding with the deferent Physical Qualification is true.
  - (d) Information regarding Work in Hand is true.
- (3) I / We have not been **Black Listed / Debarred** by Govt. of India / any Government of State Govt. / Department of State Govt.

(4) that, My / Our Firm's / Company's No relative / any nearest relative is working in this firm.

**OR**

Nearest relative works as follows:-

Name ..... Post ..... Present Post-Establishment

(5) that, the **No Criminal Case** has been registered or ongoing by any court against me / our / firm.

Certified by Public Notary  
With their Seal & Sign

Signature  
with seal

UNDERTAKING

We do hereby undertake to engage a specialised agency after approval of HSCC (India) Ltd. for undertaking the execution of works of (\_\_\_\_\_ Name of the project \_\_\_\_\_) whose minimum qualification shall be as under:

- (i) Average Annual Financial Turnover during the last three financial years, i.e., 2016-17, 2017-18 & 2018-19, should be at least 30% of the estimated price of the works
- (ii) Experience of having successfully completed similar works during last 5 years ending last day of month previous to the one in which applications are invited should be either of the following:
  - a. Three similar completed works costing not less than the amount equal to 40% of the estimated cost .  
or
  - b. Two similar completed works costing not less than the amount equal to 60% of the estimated cost.  
or
  - c. One similar completed work costing not less than the amount equal to 80% of the estimated cost.
- (iii) We shall be solely responsible for successful execution of the work.

**Authorized Signatory of bidder**

,

G.C.C, SCC & TECHNICAL SPECIFICATIONS  
2019

## CLAUSES OF CONTRACT

### CLAUSE 1

#### Performance Guarantee

(i)The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case guarantee amount is less than Rs.1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.

(ii)The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.

(iii)The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the Director AIIMS, New Delhi is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

(a)Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.

(b) Failure by the contractor to pay Engineer-In-Charge any amount due either as agreed by Contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.

(iv)In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Director AIIMS, New Delhi.

### CLAUSE 1 A

#### Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running and final bill till the sum deducted will

amount to security deposit of 5% of the tendered value of the work. Such deductions will be made and held by Government by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by Government on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.

The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. 5 lac subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lac. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of clause 2 and clause 5.

In case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.

**Note-1:** Government papers tendered as security will be taken at 5% (five per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

**Note-2:** Government Securities will include all forms of Securities mentioned in Rule No. 274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

**Note-3:** Note 1 & 2 above shall be applicable for both clause 1 and 1A

## **CLAUSE 2**

### **Compensation for delay**

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the



authority specified in schedule 'F' (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in Clause 5 or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified.

#### Compensation for delay of work

- (i) With maximum rate 1% (one percent) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. If scheduled completion of work is more than one year.
- (ii) With maximum rate 1% (one percent) to 2% (two percent) (maximum) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. if scheduled completion of work is more than six months and upto one year
- (iii) With maximum rate 2% (two percent) to 5% (five percent) (maximum) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. if scheduled completion of work is up to six months.

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the accepted Tendered Value of work or of the Tendered Value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. With-holding of this amount on failure to achieve a milestone shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

#### **CLAUSE 2A**

##### **For Maintenance Works estimated cost upto Rs.25 Lacs (Modified OM No. DG/CON/307 dt. 19.11.2019)**

If the contractor fails to maintain the required progress to complete the work and clear the site on or before the contract period he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' may decide on the amount of accepted Tendered Value of the work for every completed day/month (as determined) that the work remains incomplete in the following manners.

- (i) If there is no hindrance, compensation shall be levied if work is incomplete.

(ii) If site is not available there will be no compensation

(iii) If there is partial hindrance then engineer-in-charge will compare amount of work executed in available hindrance free time w.r.t. total time and total work. Compensation will be levied if actual work executed is less than as calculated on pro rata basis.

Compensation for delay of work:

(i) With maximum rate 1% (one percent) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. If scheduled completion of work is more than one year

(ii) With rate 1% (one percent) to 2% (two percent) (maximum) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. If scheduled completion of work is more than six month and up to one year

(iii) With rate 2% (two percent) to 5% (five percent) (maximum) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. If scheduled completion of work is upto six month.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10 % of the accepted Tendered Value of work. In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on stipulated date of completion.

This is without prejudice to right of action by the Engineer in Charge under clause 3 for delay in performance and claim of compensation under that clause.

In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule F. The compensation for delay, if not decided before the determination of contract, shall be decided after determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government.

### **CLAUSE 3**

#### **When Contract can be determined**

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

(i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.

(ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.

(iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.

(iv) If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.

(v) If the contractor shall offer or give or agree to give to any person in Government service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for Government.

(vi) If the contractor shall enter into a contract with Government in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.

(vii) If the contractor had secured the contract with Government as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.

(viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

(ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.

(x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

(xi) If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or

otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Director, AIIMS New Delhi shall have powers:

(a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.

(b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

### **CLAUSE 3A**

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract. In case contractor wants to close the contract, he shall give notice to the department stating the failure on the part of department. In such eventuality, the Performance Guarantee of the contractor shall be refunded within following time limits:

(i) If the Tendered value of work is up to Rs.45 lacs: 15 days.

(ii) If the Tendered value of work is more than Rs.45 lac and up to Rs.2.5 Crore: 21 days.

(iii) If the Tendered value of work exceeds Rs.2.5 Crore: 30 days.

### **CLAUSE 4**

#### **Contractor Liable to pay compensation even if action not taken under CLAUSE 3**

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the

amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

## **CLAUSE 5**

### **Time and Extension for Delay**

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the work shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the Government without prejudice to any other right or remedy available in law.

**5.1(i)** As soon as possible but within 7 (seven) working days of award of work and in consideration of

(a) Schedule of handing over of site as specified in the Schedule 'F'

(b) Schedule of issue of drawings if applicable as specified in the Schedule 'F'

The Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 7 (seven) working days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents.

(ii) In case of non-submission of work programme by the contractor the program approved by the Engineer-in-Charge shall be deemed to be final.

(iii) The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.

(iv) The contractor shall submit the Time and Progress Chart and progress report using the

mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery as per Schedule "F" to be decided by the NIT approving authority shall be made on per week or part basis in case of delay in submission of the monthly progress report.

**5.2** If the work(s) be delayed by:-

- (i) Force majeure, or
- (ii) Abnormally bad weather, or
- (iii) Serious loss or damage by fire, or
- (iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- (vi) Any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control. Then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.

**5.3** In case the work is hindered in the opinion of the contractor, by the Department for any reason/event, for which the Department is responsible, the contractor The authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the milestones for completion of work. Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages.

**5.4** Request for rescheduling of Mile stones or extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms i.e. Form of application by the contractor for seeking rescheduling of milestones or Form of application by the contractor for seeking extension of time (Appendix -XVI) respectively to the authority as indicated in Schedule 'F'. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired.

With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which

these details should be available without causing any delay in execution of the work. A recovery as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised programme.

**5.4.1** In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Engineer -in-Charge shall finalize/ reschedule a particular mile stone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 21 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the contractor for extension of time E-in-C after affording opportunity to the contractor may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.

**5.5** In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.

#### **CLAUSE 5A**

#### **For Maintenance Works estimated cost upto Rs.25 Lacs (Modified OM No. DG/CON/307 dt. 19.11.2019)**

The time allowed for execution of the work as specified in the Schedule 'F' shall be the essence of the Contract i.e. the contract period will not be extended. The execution of the work shall commence from such time period as mentioned in schedule 'F'. If the contractor commits default in commencing the execution of the work as aforesaid the performance guarantee shall be forfeited by the Engineer-in-Charge and shall be absolutely at the disposal of the Government without prejudice to any other right or remedy available in law.

#### **CLAUSE 6**

#### **Measurements of Work Done**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done. All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.

If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative,

the Engineer-in- Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.

The contractor shall give, not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

## **CLAUSE 6A**

### **Computerized Measurement Book**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.



All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerised MBs. This should be done before the corresponding bill is submitted to the Division Office for payment.

The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department i.e. HSCC/ESD NCI, Jhajjar. The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the "bill. Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-

Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

#### **CLAUSE 7**

No payment shall be made for work, estimated to cost Rs. Two lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. two lac, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asstt. Engineer together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract. Pending consideration of

extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt. Engineer to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bills to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor a simple interest @ 10% (ten percent) per annum shall be paid to the Government from the date of expiry of prescribed time limit which will be compounded on yearly basis.

### **Payments in composite Contracts**

In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.

## **CLAUSE 8**

### **Completion Certificate**

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

## **CLAUSE 8A**

### **Contractor to keep site clean**

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done: without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in- Charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days' notice in writing to the contractor.

## **CLAUSE 9**

### **Payment of final bill**

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified here in under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized representative / Assistant Engineer, complete with account of materials issued by the Department and dismantled materials.

(i) If the Tendered value of work is up to Rs. 45lac : 2 months

(ii) If the Tendered value of work is more than Rs.45 lac and up to Rs. 2.5Crore : 3 months

(iii) If the Tendered value of work exceeds Rs. 2.5Crore : 6 months

If the final bill is submitted by the contractor within the period specified above and delay in payment of final bills is made by the dept. After prescribed time limit a simple interest@ 5% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor is found to be in order. If the contractor or his authorized representative does not remain present at the time of such measurement after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurement recorded in his absence by the Engineer-in- Charge or his representative shall be deemed to be accepted by the contractor. If for any reason the Contractor or his authorized representative is not available and the work of recording measurement is suspended by the Engineer- in- Charge or his representative, the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account.

## **CLAUSE 9A**

### **Payment of Contractor's Bills to Bank**

Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co- operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorization in the form of a legally

valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by Government or his signature on the bill or other claim preferred against Government before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities visa-vis the Director AIIMS, New Delhi.

#### **CLAUSE 10 B**

##### **Secured Advance on Materials**

The contractor, on signing an indenture in the form to be specified by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to 75% of the assessed value of any materials or an amount not exceeding 75% of the material element cost in the tendered rate of the finished item of the work, whichever is lower, which are in the opinion of the Engineer-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

#### **CLAUSE 10 CC**

##### **Payment due to Increase/Decrease in Prices/ages(excluding materials covered under clause 10 CA) after Receipt of Tender for Works**

If the prices of materials (not being materials supplied or services rendered at fixed prices by the department in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. No such compensation shall be payable for a work for which the stipulated period of completion is equal to

or less than the time as specified in Schedule F. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:-

(i)The base date for working out such escalation shall be the last stipulated date of receipt of tenders including extension, if any.

(ii)The cost of work on which escalation will be payable shall be reckoned as below:

(a)Gross value of work done up to this quarter: (A)

(b)Gross value of work done up to the last quarter: (B)

(c)Gross value of work done since previous quarter (A-B): (C)

(d)Full assessed value of Secured Advance (excluding materials Covered under Clause 10CA) fresh paid in this quarter: (D)

(e)Full assessed value of Secured Advance (excluding materials Covered under Clause 10CA) recovered in this quarter: (E)

(f)Full assessed value of Secured Advance for which escalation Payable in this quarter (D-E): (F)

(g)Advance payment made during this quarter: (G)

(h)Advance payment recovered during this quarter: (H)

(i)Advance payment for which escalation is payable in this Quarter(G-H): (I)

(j)Extra items/deviated quantities of items paid as per Clause 12

Based on prevailing market rates during this quarter:

Then,  $M = C + F + I - J$

$N = 0.85 M$

$W = N$

(iii)Components for materials (except cement, reinforcement bars, structural steel, POL or other materials covered under clause 10 CA) labour, etc. shall be pre-determined for every work and incorporated in the conditions of contract attached to the tender papers included in Schedule 'F'. The decision of the Engineer-in-Charge in working out such percentage shall be binding on the contractors.

(iv)The compensation for escalation for other materials (excluding cement, reinforcement bars, structural steel, POL or other materials covered under clause 10 CA) shall be worked as per the formula given below:-

Adjustment for civil component / electrical component of construction 'Materials'

$V_m = W \times X_m \times (M_I - M_{I0} / 100) M_{I0}$

$V_m$  = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

W = Cost of Work done worked out as indicated in sub-para (ii) of Clause 10CC.

Xm = Component of 'materials' (except cement, structural steel, reinforcement bars POL and other materials covered under clause 10CA) expressed as percent of the total value of work.

MI= All India Wholesale Price Index for civil component/electrical component of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/Group Items for the period under consideration as published by Economic Advisor to Govt. of India, Ministry of Industry & Commerce and applying weightages to the Individual Commodities/Group Items. (In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost, shall be considered.)If updated stipulated date of completion as calculated on pro- rata basis does not cover full calendar month then indices will be considered or restricted to previous month.

MIo= All India Wholesale Price Index for civil component/electrical component\* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/Group Items valid on the last stipulated date of receipt of tender including extension, if any, as published by the Economic Advisor to Govt. of India, Ministry of Industry & Commerce and applying weightages to the Individual Commodities/Group items.

\*Note: relevant component only will be applicable.

(v)The following principles shall be followed while working out the indices mentioned in para (iv) above.

(a) The compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The dates of preparation of bills as finally entered in the Measurement Book by the Assistant Engineer/ date of submission of bill finally by the contractor to the department in case of computerized measurement books shall be the guiding factor to decide the bills relevant to the quarterly interval. The first such payment shall be made at the end of three months after the month (excluding the month in which tender was accepted) and thereafter at three months' interval. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.

(b) The index (MI/FI etc.) relevant to any quarter/period for which such compensation is paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to date of completion after the quarter covered by the last such instalment of payment, is less than three months, the index MI and FI shall be the average of the indices for the months falling within that period.

(vi)The compensation for escalation for labour shall be worked out as per the formula given below:-

$$VL = W \times \frac{\text{-----}}{100} \times \frac{\text{-----}}{Ll_0}$$

VL: Variation in labour cost i.e. amount of increase or decrease in rupees to be paid or recovered

W: Value of work done, worked out as indicated in sub-para (ii) above.

Y: Component of labour expressed as a percentage of the total value of the work,

LI: Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration. (In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to updated stipulated date of Completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost, shall be considered.) of quarter previous to the quarter pertaining to updated stipulated date of Completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost, shall be considered.)

Llo: Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension, if any.

(vii)The following principles will be followed while working out the compensation as per sub-para (vi) above.

(a) The minimum wage of an unskilled male mazdoor mentioned in sub-para (vi) above shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to the place of work and the period of reckoning.

(b) The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials is paid under this clause. If such revision of minimum wages takes place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent quarters;

(c) Irrespective of variations in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled adult male Mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.

(viii)In the event the price of materials and/or wages of labour required for execution of the work decrease/s, there shall be a downward adjustment of the cost of work so that such price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein before stated under this Clause 10CC shall mutatis mutandis apply, provided that:

(a) no such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is equal to or less than the time as specified in Schedule 'F'.

(b) The Engineer-in- Charge shall otherwise be entitled to lay down the procedure by which the provision of this sub-clause shall be implemented from time to time and the decision of the Engineer-in-Charge in this behalf shall be final and binding on the contractor.

(ix)Provided always that:-



(a)Where provisions of clause 10CC are applicable, provisions of clause 10C will not be applicable but provisions of clause 10CA will be applicable.

(b)Where provisions of clause 10CC are not applicable, provisions of clause 10C and 10CA will become applicable.

Note: Updated stipulated date of completion (period of completion plus extra time for extra work for compensation under clause 10C and 10CC)

The factor of 1.25 taken into account for calculating the extra time under clause 12.1 for extra time shall not be considered while calculating the updated stipulated date of completion for this purpose in clause 10C, clause 10CA, and clause 10CC.

## **CLAUSE 11**

### **Work to be Executed in Accordance with Specifications, Drawings, Orders etc.**

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

## **CLAUSE 12**

### **Deviation/Variations Extent and Pricing**

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

The completion cost of any agreement for Maintenance works including works of up gradation,

aesthetic, special repair, addition/ alteration shall not exceed 1.25 times of Tendered amount. Any further deviation beyond this limit upto 1.5 times of tendered amount shall be approved by the authority mentioned in schedule 'F' with recorded reason and in exceptional case, Competent Authority shall have full power to approve the deviation beyond 1.50 times of tendered amount with recorded reason and take suitable corrective action.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows:

(i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus

(ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

#### 12.2. Deviation, Extra Items and Pricing

In the case of Extra Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/below quoted contract amount. Payment of Extra items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.

#### **Deviation, Substituted Items**

In the case of Substitute Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/ below quoted contract amount. Payment of Substitute in case of non- schedule items (Non-DSR items) shall be made as per the prevailing market rate.

In the case of contract items, which exceed the limits laid down in schedule F, the contractor shall be paid rates at Agreement rate/Market rate whichever is lower.

12.3. In case of decrease in the rates prevailing in the market of items for the work in excess of the limits laid down in Schedule F, the Engineer-in- Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

12.4. For the purpose of operation of Schedule "F", the following works shall be treated as works relating to foundation unless & otherwise defined in the contract:

(i) For Buildings: All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower.

(ii) For abutments, piers and well staining: All works up to 1.2 m above the bed level.

(iii) For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs/ tanks and other elevated structures: All works up to 1.2 metres above the ground level.

(iv)For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 metres above the ground level.

(v)For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.

(vi)For Roads, all items of excavation and filling including treatment of sub base.

12.5.Any operation incidental to or necessarily has to be in contemplation of tenderer while quoting filing tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

### **CLAUSE 13**

#### **Foreclosure of contract due to Abandonment or Reduction in Scope of Work**

If at any time after acceptance of the tender or during the progress of work, the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope the Engineer-in-Charge shall give notice in writing to that effect to the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure.

(i)Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.

(ii)Government shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however Government shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by Government, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor. Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.

(iii)Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The contractor shall, if required by the Engineer- in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Government as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Government from the contractor under the terms of the contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus minimum 60 days beyond that. Wherever such a fresh Performance Guarantee is furnished by the contractor the Engineer-in-Charge may return the previous Performance Guarantee.

#### **CLAUSE 14**

##### **Carrying out part work at risk & cost of contractor**

If contractor:

(i)At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 working days in this respect from the Engineer-in-Charge; or

(ii)Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 working days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

(iii)The Engineer- in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

(a)Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or

(b)Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor.

The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by Government in completing the part work/part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Government as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

#### **CLAUSE 15**

##### **Suspension of Work**

(i)The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:

(a)On account of any default on the part of the contractor or;

(b)For proper execution of the works or part thereof for reasons other than the default of the contractor; or

(c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineering-in-Charge.

(ii)If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

(a)The contractor shall be entitled to an extension of time equal to the period of every such suspension Plus 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;

(b)If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in- Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by Government or where it affects whole of the works, as an abandonment of the works by Government, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by Government, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

## **CLAUSE 16**

### **Action in case Work not done as per Specifications**

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the Department or any organization engaged by the Department for Quality and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorized subordinates in charge of the work or to the Director AIIMS, New Delhi or his subordinate officers or the officers of the organization

engaged by the Department for Quality Assurance, that any work has been executed with unsound, imperfect, or unskilful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except roadwork) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in schedule 'F' may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

#### **CLAUSE 17**

##### **Contractor Liable for damages, defects during defect liability period**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

#### **CLAUSE 18**

##### **Contractor to Supply Tools & Plants etc.**

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in schedule F. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

#### **CLAUSE 18 A**

##### **Recovery of Compensation paid to Workmen**

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, Government is obliged to pay compensation to a workman employed by the contractor, in execution of the works, Government will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Government under sub-section (2) of Section 12, of the said Act, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this contract or otherwise. Government shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to Government full security for all costs for which Government might become liable in consequence of contesting such claim.

#### **CLAUSE 18 B**

##### **Ensuring Payment and Amenities to Workers if Contractor fails**

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, Government is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to



time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, Government will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Government under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, Government shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Government to the contractor whether under this contract or otherwise Government shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the Government full security for all costs for which Government might become liable in contesting such claim.

## **CLAUSE 19**

### **Labour Laws to be complied by the Contractor**

The contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. **The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.** The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

## **CLAUSE 19A**

No labour below the age of fourteen years shall be employed on the work.

## **CLAUSE 19 B**

### **Payment of wages**

(i)The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

(ii)The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

(iii)In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not

paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

(iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys 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-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.

(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/ 43884-91, dated 31-12-1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.

(v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.

(vi) The contractor shall indemnify and keep indemnified Government against payments to be made under and for the observance of the laws aforesaid and the C.P.W.D. Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.

(vi) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

(vii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

(viii) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

#### **CLAUSE 19C**

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D. Safety Code framed from time to time and shall at his own expense

provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

#### **CLAUSE 19 D**

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) The number of labourers employed by him on the work,
- (2) Their working yours,
- (3) The wages paid to them,
- (4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- (5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to Government, a sum as decided by the authority mentioned in Schedule F for each default or materially incorrect statement. The decision of the Divisional Officer shall be final in deducting from any bill due to the contractor, the amount levied as fine and be binding on the contractor.

#### **CLAUSE 19 E**

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the Central Public Works Department and its contractors.

#### **CLAUSE 19 F**

Leave and pay during leave shall be regulated as follows: -

1. Leave:

(I) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,

(II) in the case of miscarriage - upto 3 weeks from the date of miscarriage.

2. Pay :

(i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.

(ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

### 3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix -I and II, and the same shall be kept at the place of work.

### **CLAUSE 19 G**

In the event of the contractor(s) committing a default or breach of any of the provisions of the Central Public Works Department, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and' Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in- Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in- Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

### **CLAUSE 19 H**

The contractor(s) shall at his/their own cost arrange appropriate accommodation for his/ their labour employed which should have proper doors windows, ventilation, water supply, drainage, & sanitary installation etc.

#### **CLAUSE 19 I**

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE/JE will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.

#### **CLAUSE 19J**

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the Executive Engineer whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Superintending Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

#### **CLAUSE 19K**

##### **Employment of skilled/semi-skilled workers**

The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi- skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

For work costing more than Rs. 10 Crores, and uptoRs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen.

For work costing more than Rs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in coordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. The cost of such training as stated above shall be borne by the Government. The necessary space and workers shall be provided by the contractor and no claim what so ever shall be entertained.

#### **CLAUSE 20**

##### **Minimum wages Act to be complied with**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.

#### **CLAUSE 21**

##### **Work not to be sublet. Action in case of solvency**

The contract shall not be assigned or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of Government in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the Director AIIMS, New Delhi shall have power to adopt the course specified in Clause 3 hereof in the interest of Government and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

#### **CLAUSE 22**

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

#### **CLAUSE 23**

##### **Changes in firm's Constitution to be intimated**

Where the contractor is a partnership firm, the previous approval in writing of the Engineering-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

#### **CLAUSE 24**

##### **Life Cycle cost**

The contractor shall be responsible for safety, quality and soundness of the buildings including structural elements beyond maintenance period. The contractor shall have obligation to rectify such defects minimum up to 5 (five) years from the date of completion of work. The defects have to be rectified within a reasonable time not exceeding three months after issue of notice by Engineer-in-Charge.

#### **CLAUSE 25**

##### **Settlement of Disputes & Arbitration**

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

(i) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Executive Engineer in writing, who shall refer the disputes to Dispute Redressal Committee (DRC) within 15 days along with a list of disputes with amounts claimed if any in respect of each such dispute. The Dispute Redressal Committee (DRC) give its decision within a period of 60 days extendable by 30 days by consent of both the parties from the receipt of reference from Director AIIMS, New Delhi. The constitution of Dispute Redressal Committee (DRC) shall be as indicated in Schedule 'F'. Provided that no party shall be represented before the Dispute Redressal Committee by an advocate/legal counsel etc.

The DRC will submit its decision to the concerned Director AIIMS, New Delhi for acceptance. Director AIIMS, New Delhi in a time limit of 30 days from receipt of DRC decision will convey acceptance or otherwise on the said decision if the Dispute Redressal Committee (DRC) fails to give its decision within the aforesaid period or the Director AIIMS, New Delhi fails to give his acceptance in the aforesaid time limit or any party is dissatisfied with the decision of Dispute Redressal Committee (DRC) Director AIIMS, New Delhi the neither party may within a period of

30 days from the receipt of the decision of Dispute Redressal Committee (DRC), Director AIIMS, New Delhi or on expiry of aforesaid the time limits available to DRC/Director AIIMS, New Delhi may give notice to the Engineer-in-charge of the work or if there be no Engineer-in-charge, the Director AIIMS, New Delhi for appointment of arbitrator on prescribed proforma as per Appendix XV under intimation to the other party.

It is a term of contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.

The Director AIIMS, New Delhi shall in such case appoint the sole arbitrator or one of the three arbitrators as the case may be within 30 days of receipt of such a request and refer such disputes to arbitration. Wherever the Arbitral Tribunal consists of three Arbitrators, the contractor shall appoint one arbitrator within 30 days of making request for arbitration or of receipt of request by Engineer-in-charge to Director AIIMS, New Delhi for appointment of arbitrator, as the case may be, and two appointed arbitrators shall appoint the third arbitrator who shall act as the Presiding Arbitrator. In the event of

- a. A party fails to appoint the second Arbitrator, or
- b. The two appointed Arbitrators fail to appoint the Presiding Arbitrator, then the Director AIIMS, New Delhi shall appoint the second or Presiding Arbitrator as the case may be.

(ii) Disputes or difference shall be referred for adjudication through arbitration by a Tribunal having sole arbitrator where **claimed** amount is **Rs. 20 Crore** or less.

Where **claimed** Value is more than **Rs. 20 Crore**, Tribunal shall consist of three Arbitrators as above. The requirements of the Arbitration and Conciliation Act, 1996 (26 of 1996) and any further statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall be applicable.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed, if any, in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the decision of the Director AIIMS, New Delhi on the finding / recommendation of DRC.

It is also a term of this contract that any member of the Arbitration Tribunal shall be a Graduate Engineer with experience in handling public works engineering contracts, and further he shall have earlier worked at a level not lower than Chief Engineer/ equivalent (i.e. Joint Secretary level of Government of India). This shall be treated as a mandatory qualification to be appointed as arbitrator.

Parties, before or at the time of appointment of Arbitral Tribunal may agree in writing for fast track arbitration as per the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015.

Subject to provision in the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015 whereby the counter claims if any can be directly filed before the arbitrator without any requirement of reference by the appointing authority. The arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each



dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000/-, the arbitrator shall give reasons for the award.

It is also a term of the contract that fees payable to arbitral tribunal shall be as approved by Director AIIMS, New Delhi, OM issued vide no.2/2006/SE(TLC)/CSQ /137 dated 19-11-2019 (or its latest amendment as approved by DG, CPWD). This fee shall be shared equally by parties.

The place of arbitration shall be as mentioned in Schedule F. In case there is no mention of place of arbitration, the arbitral tribunal shall determine the place of arbitration.

The venue of the arbitration shall be such place as may be fixed by the Arbitral Tribunal in consultation with both the parties. Failing any such agreement, then the Arbitral Tribunal shall decide the venue.

#### **CLAUSE 26**

##### **Contractor to indemnify Govt. against Patent Rights**

The contractor shall fully indemnify and keep indemnified the Director AIIMS, New Delhi against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against Government in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom provided that the contractor shall not be liable to indemnify the Director AIIMS, New Delhi if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

#### **CLAUSE 27**

##### **Lump sum Provisions in Tender**

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

#### **CLAUSE 28**

##### **Action where no Specifications are specified**

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

## **CLAUSE 29**

### **Withholding and lien in respect of sum due from contractor**

Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineering- Charge or the Government shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer- in-Charge or the Government shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the Government or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or Government will be kept withheld or retained as such by the Engineer-in-Charge or Government till the claim arising out of or under the contract is determined by the arbitrator(if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the Government shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

(ii)Government shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for Government to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Government to the contractor, without any interest thereon whatsoever.

(iii)Provided that the Government shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Executive Engineer or Executive Engineer on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Executive Engineer or the Executive Engineer.

## **CLAUSE 29A**

### **Lien in respect of claims in other Contracts**

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Government or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or Government or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the Government or with such other person or persons. It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Government will be kept withheld or retained as such by the Engineer-in-Charge or the Government or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

### **CLAUSE 30**

#### **Unfiltered water Supply**

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

(i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.

(ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

### **CLAUSE 31**

#### **Hire of Plant & Machinery**

The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work

### **CLAUSE 32**

#### **Employment of Technical Staff and employees Contractors Superintendence, Supervision, Technical Staff & Employees**

(i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule 'F'. Even of the

contractor (or partner(s) in case of firm/ company) is himself / herself an Engineer, it is necessary on the part of the contractor to employ principal technical representative / technical representative(s) as per stipulation in Schedule 'F'. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/checked measurements/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-In-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every on account bill final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

(ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

### **CLAUSE 33**

#### **Levy/Taxes payable by Contractor**

(i) GST, Building and other Construction Workers Welfare Cess or any other tax, levy or Cess in respect of input for or output by this contract shall be payable by the contractor and Government shall not entertain any claim whatsoever in this respect except as provided under Clause 38

(ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Government of India and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor

### **CLAUSE 34**

#### **Conditions for reimbursement of levy/taxes if levied after receipt of Tenders**

(i) All tendered rates shall be inclusive of any tax, levy or cess applicable on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.

However, effect of variation in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule F.

(ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Government and/or the Engineer-in-Charge and shall also furnish such other

information/document as the Engineer-in-Charge may require from time to time.

(iii)The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, or variation or repeal of such tax or levy or cess give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

### **CLAUSE 35**

#### **Termination of Contract on death of contractor**

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer in Charge on behalf of the President of India shall have the option of terminating the contract without levy compensation to the contractor.

### **CLAUSE 36**

#### **If relative working in AIIMS, Jhajjar then the contractor not allowed to tender**

The contractor shall not be permitted to tender for works in the AIIMS, Jhajjar (Division in case of contractors of Horticulture/Nursery categories) responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of the Executive Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted Officer in the AIIMS, Jhajjar. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department. If however the contractor is registered in any other department, he shall be debarred from tendering in AIIMS, Jhajjar for any breach of this condition.

NOTE: By the term “near relatives” is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

### **CLAUSE 37**

#### **No Gazetted Engineer to work as Contractor within one year of retirement**

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor’s service, as the case may be.

### **CLAUSE 38**

#### **Theoretical conception of Material**

(i)After completion of the work and also at any intermediate stage in the event of Non reconciliation of materials issued theoretical quantity of materials used in the work shall be calculated on the basis and method given hereunder: -

(a)Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in the Schedule of Rates mentioned in Schedule 'F'. In case any item is executed for which standard constants for the consumption of cement or bitumen are not available in the above mentioned schedule/statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.

(b)Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter wise, section wise and category wise separately.

(c)Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheets shall be taken as quantity actually required and measured plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheets it shall be 10%), such determination & comparison being made diameter wise & category wise.

(d)For any other material as per actual requirements.

Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F' for non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.

(ii) The said action under this clause is without prejudice to the right of the Government to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

### **CLAUSE 39**

#### **Compensation during warlike situations**

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Divisional Officer upto Rs.2,00,000/-- and by the next higher officer concerned for a higher amount. The contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the

Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. (Air Raid Precaution) Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work. In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Divisional Officer.

#### **CLAUSE 40**

##### **Apprentices Act provisions to be complied with**

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

#### **CLAUSE 41**

##### **Release of Security deposit after labour clearance**

Release of Security Deposit of the work shall not be refunded till the contractor produces a clearance deposit after labour certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due

### **PROFORMA OF SCHEDULES**

**(Refer standard clauses of contract of CPWD)**

<b>Schedule A</b>	<b>Schedule of Quantities(BOQ)</b>	<b>Attached as Volume-II, Bill of Quantities</b>
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Schedule B	Schedule of materials to be issued to the contractor	NIL
Schedule C	Tools and Plants to be arranged by the contractor	List Enclosed as per Annexure-I
Schedule D	Extra Schedule for specific requirements/ document for the work, if any	NIL
Schedule E	Refer to General condition of contract	
	Name of work	<b>PROVIDING OPERATION &amp; MAINTENANCE SERVICES For CIVIL, HVAC, ELECTRICAL&amp;WORKS INCLUDING 11 KV SUBSTATION, LIFTS, BMS, NCS AND STREET LIGHTNING ETC. FOR NATIONAL CANCER INSTITUTE (INSTITUTIONAL CAMPUS) BADSA, JHAJJAR, HARYANA.</b>
	Estimated cost of work	206243847.32
	Earnest Money	30.62 Lakh (To be returned after receiving the performance Guarantee)
	Performance Guarantee	5% of tendered value
	Security Deposit	5% of tendered value
Schedule F	General Rules & Directions	
	Officer Inviting Bid	Chief General Manager, HSCC(India) Limited on behalf of Director, AIIMS, New Delhi.
	Authority executing the agreement on behalf of the Director, AIIMS, New Delhi	Officer nominated by HSCC(India) Ltd.
	Accepting Authority	Director, AIIMS, New Delhi or his assignee
	Engineer-In-Charge	For 1 <sup>st</sup> yr: Chief General Manager, HSCC(India) Ltd or any other nominated by Managing Director, HSCC(India) Ltd to act as Engineer-In-Charge from time to time. For 2 <sup>nd</sup> & 3 <sup>rd</sup> Year: Executive Engineer for Civil NCI AIIMS, Jhajjar
	Standard schedule of rates	DSR-2018/Market rate
	Department	Client/ESD, NCI AIIMS Jhajjar/HSCC/or its authorized representative
	Standard CPWD contract form GCC 2019 CPWD form	Modified & corrected up to last date of receipt of Tender
<b>CLAUSES OF CONTRACT</b>		
CLAUSE 1	(i)Time allowed for submission	15 Days

	of Performance Guarantee, program Chart (Time and progress) and applicable labourlicences, registration with EPFO, ESIC or proof of applying thereof from the date of issue of letter of acceptance.	
	(ii)Maximum allowable extension with late fee @0.1% per day of performance guarantee amount beyond the period (provided in i) above	<b>15 Days</b>
<b>CLAUSE 2</b>	Authority for fixing compensation under Clause 2	<b>Not Applicable</b>
	Whether Clause 2A shall applicable	<b>Not Applicable</b>
<b>CLAUSE 5</b>	(5.I)Number of days from the date of issue of letter of acceptance for reckoning date of start	<b>15 Days</b>
	<b>(5.IV) Authority for deciding Extension of Time</b>	<b>Director, AIIMS, New Delhi.</b>
<b>Clause 6, 6A</b>	<b>Clause Applicable 6 or 6A</b>	<b>6A</b>
<b>Clause 7</b>	Gross work to be done together with net payment/ adjustment of advances for material collected, if any since the last such payment for being eligible to interim payment.	<b>Not Applicable</b>
<b>Clause 10CC</b>	Schedule of component of other Materials, Labour, POL etc. for price escalation Component of Civil (except materials covered under clause 10 CA)/Electrical Value of work.	<b>30%</b>
	Component of Labour	<b>70%</b>
<b>CLAUSE 12</b>	<b>Deviation limits beyond</b>	<b>50%</b>

	<b>which clauses revision of material</b>			
<b>CLAUSE 16</b>	<b>Competent Authority for deciding reduced rates</b>		<b>Director HSCC or any other officer of equivalent or higher level appointed by Managing Director, HSCC.</b>	
<b>CLAUSE 18</b>	List of mandatory machinery tools & plants to be arranged by the contractor		<b>As per Annexure-I &amp; Directions of Engineer-In-Charge</b>	
<b>CLAUSE 25</b>	Reviewing Authority		<b>Director HSCC or any other officer appointed by Managing Director, HSCC for 1<sup>st</sup> Yr.</b>	
	Appealing Authority		<b>SE NCI AIIMS for 2<sup>nd</sup> &amp; 3<sup>rd</sup> Year</b>	
	Constitution of Dispute		<b>Director, AIIMS, New Delhi</b>	
	Redressal Committee		<b>Chairman</b>	
			<b>Member</b>	
			<b>Member</b>	
			<b>To be appointed by AIIMS, New Delhi</b>	
<b>CLAUSE 32</b>	Minimum requirement of Technical representatives & monthly recovery rates			
<b>Requirement of Technical</b>		Minimum Experience (Yrs.)	Designation Technical Staff	Rates at which recovery shall be made(Rs.)
Qualification	Number(of Major+ Minor Component)			
Graduate Engineer	<b>1</b>	10(and having experience of one similar nature of work	Project Manager(Overall) of Civil Background	30000 per month
Graduate Engineer or Diploma Engineer	<b>1</b>	5 or 10 respectively	Electrical	25000 per month
Graduate Engineer or Diploma Engineer	<b>1+1</b>	2 or 5 respectively	HVAC	15000 per month
Graduate Engineer or Diploma Engineer	<b>1+1</b>	2 or 5 respectively	Electrical	15000 per month

## ANNEXURE – I

List of T&P to be available at contractors / maintenance office at AIIMS- Jhajjar site round the clock (24 hrs. x 365 days)

1. Earth resistance tester – 01 no.
  2. Insulation tester – 01 no.
  3. Tong tester (range: upto 600V & 200Amp) – 06 nos.
  4. Multimeter (range: upto 600V & 200Amp) – 04 nos.
  5. Hand blower / vacuum cleaner - 01 nos.
  6. Drill machine carpentry- 04 nos.
  7. Hammer drill machine - 04 nos.
  8. Stone cutter / Grinder / Cutting wheel / Chase cutting machine – 05 nos.
  9. Hydraulic crimping tool kit (range: upto 400sqmm) - 01 no.
  10. Insulating gloves (upto 3.3kV) – 03 sets
  11. Crimping tool kit for LV works- 01 no.
  12. Self- supporting ladder (4ft.) - 03 nos.
  13. Ladder (20 ft.) - 02 nos.
  14. Welding machine – 01 no.
  15. Welding gloves / welding goggles- 02 sets
  16. Gas welding torch & cutting torch (complete set) – 01 no.
  17. Brazing torch– 01 no.
  18. Gauge manifold– 01 no.
  19. Pipe cutter – 01 no.
  20. All types of cutting wheels – as required at site.
  21. Bench vice – 02 nos.
  22. Concrete breaker – 01 no.
  23. Safety belts – 12 nos.
  24. Measuring tapes (range upto 5meter) - 02 nos.
  25. Measuring tapes (range upto 30meter) - 02 nos.
  26. A Maintenance Vehicle at site equipped with necessary equipment required for maintenance purpose.
- ❖ All required consumables (i.e. drill bits, grinder blades etc.) will be provided by the contractor through-out the contract period.
  - ❖ Quantity / list of T&P may vary as per site requirement.

**NOTE: The above list is bare is indicative & is a bare minimum requirement. However contractors are advised to provide necessary equipments in required number so that quality of work does not suffer due to shortage of equipment.**

**APPENDIX- I**  
**Notice for appointment of Arbitrator [Refer Clause 25]**

To,  
The Director  
AIIMS, New Delhi

Dear Sir,

In terms of clause 25 of the agreement, particulars of which are given below, I/we hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

- 1.Name of applicant
- 2.Whether applicant is Individual/Prop. Firm/Partnership Firm/Ltd. Co.
- 3.Full address of the applicant
- 4.Name of the work and contract number in which arbitration sought
- 5.Name of the Division which entered into contract
- 6.Contract amount in the work
- 7.Date of contract
- 8.Date of initiation of work
- 9.Stipulated date of completion of work
- 10.Actual date of completion of work (if completed)
- 11.Total number of claims made
- 12.Total amount claimed
- 13.Date of intimation of final bill (if work is completed)
- 14.Date of payment of final bill (if work is completed)
- 15.Amount of final bill (if work is completed)
- 16.Date of request made to SE for decision
- 17.Date of receipt of SE's decision
- 18.Date of appeal to you
- 19.Date of receipt of your decision.

Specimen signatures of the applicant (only the person/authority who signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

Statement of claims with amount of claims.

Yours faithfully,

(Signatures)

## **SPECIAL CONDITIONS OF CONTRACT**

PROVIDING OPERATION & MAINTENANCE SERVICES FOR HVAC & ELECTRICAL WORKS INCLUDING 11 KV SUBSTATION, LIFTS, BMS, NCS AND STREET LIGHTNING ETC. FOR NATIONAL CANCER INSTITUTE, (HOSPITAL CAMPUS) BADSA, JHAJJAR, HARYANA.

1. Payment Clause: Payment will be made on monthly basis after submission of monthly ESI & PF deposition proof/ challans along with the running bill documents (except for 1st RAB). No Running Account Bill shall be paid till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board {The Building and Other Construction Workers (Regulation and Conditions of Service) Act, 1996}, whatever applicable are submitted by the contractor to the Engineer-In-Charge at the time of start of work.
2. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible at own cost for arranging /maintaining all materials, tools /plants. Submission of a bid by a bidder implies that he has read contract documents and has made himself aware of the scope /specifications of the work to be done.
3. The Competent authority (Director, AIIMS, New Delhi) does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
4. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
5. The competent authority on behalf of Director, AIIMS, New Delhi reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
6. The contractor shall not be permitted to bid for works in the AIIMS, Delhi responsible for award and execution of contracts, in which his near relative is posted as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the AIIMS, Delhi. Any breach of this Condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
7. No Engineer of gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
8. The bid for the works shall remain open for acceptance for a period of 180 days from the date of opening of bids.

9.This notice inviting bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

The Notice Inviting bid, all the documents including conditions, specifications if any, forming part of the bid as uploaded at the time of invitation of bid and rate quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

### **ADDITIONAL CONDITIONS OF CONTRACT**

#### **PART - (A):**

1. PROVIDING OPERATION & MAINTENANCE SERVICES FOR HVAC & ELECTRICAL WORKS INCLUDING 11 KV SUBSTATION, LIFTS, BMS, NCS AND STREET LIGHTNING ETC. FOR NATIONAL CANCER INSTITUTE, (HOSPITAL CAMPUS) BADSA, JHAJJAR, HARYANA.

2.For all items of Civil & Electrical; CPWD specifications with correction slips up to the date of receipt of tender shall be followed. For the items which are not covered under CPWD specifications; the special conditions / B.I.S. specifications shall apply. In this regard the decision of Engineer-in- charge shall be final.

3.Wherever any reference is made of any Indian Standard, it shall be taken as reference to the latest edition with all amendments / revision issued thereto up to the date of receipt of tenders.

4.Unless otherwise specified, the agreement rates for all items of work of the schedule of quantities are for all heights, depths, leads and lifts involved in the execution of work.

5.Electric connection for general purpose at the service centre already exists. Bills for the electricity consumed shall be paid by the contractor, in case additional load is required for some purpose same shall be arranged by the agency. In case of failure of power supply the contractor shall make his own arrangement of generators.

6.Other agencies working at site will also simultaneously execute the work entrusted to them and the contractor shall offer necessary co-operation wherever required to other agencies.

7.On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound to follow all such restrictions and adjust the program for execution accordingly, for which nothing extra shall be paid.

8.The work shall be carried out in a manner complying in all respects with the requirements of relevant bye laws of the local bodies, labour laws, minimum wages act, workmen compensation act and other statutory laws enacted by Central Govt. as well as State Govt.

9.All malba/rubbish/silt/waste, garbage etc. generated due to any operation from buildings/houses/hostels and other open spaces whatsoever shall be disposed-off on daily basis by the contractor to the specified common disposal point. After the collection of full truck load of the said malba (approx.. 4.5 cubic metres), the same shall be disposed-off by the contractor to the authorized municipal dhalao/ dumping ground and nothing extra shall be paid on this account. In case of non- removal/disposal in the specified period, a Compensation of Rs. 1000/- (Rupees One Thousand only) per day shall be recovered from the contractor.

10.No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall not be allowed to erect any temporary set up for staff in the campus.

11. No claims of the labours shall be entertained by the Department including that of providing employment, regularization of services etc.

12.The contractor shall depute required staff for civil / electrical works having requisite experience. The contractor shall furnish an undertaking about the staff deputed once at site of work that he will not replace them before the period of two year or date of completion whichever is earlier without the consent of Engineer-in-charge. On Sundays supervisor shall be present at Service Centre.

However, in case of emergency, all the staff shall have to be present even on odd-hours/holidays/Sundays as and when required by the site staff. For any staff on leave substitute staff shall be provided by the contractor without any extra cost.

13. Complaint Register, Attendance Register and other records will have to be produced with each RA bill or when asked to do so by the Engineer-in-charge or his authorized representative.

14. When a register gets completed, it will be handed over to the concerned J.E. / A.E. It will not be returned to the contractor and the same will remain the property of the department.

15. All required register will be issued by Engineer-in-charge duly marked in chronological order but the contractor will have to arrange all such registers/stationery etc. Nothing extra shall be paid on this account.

16. The contractor will have to arrange all the required Computer, furniture etc. at his own cost pertaining to his job and he will take all these things back only after the expiry of the agreement for which nothing extra shall be paid.

17. The contractor shall take immediate action to attend any complaint assigned to him through site order book/verbal instructions from Engineer-in-charge or on telephones from occupants. In all cases he shall attend the complaints in the specified duration as mentioned below: -

**(a) Emergent complaints- Complaints of emergent nature of plumbing and electrical system like no water drain blocked etc. shall have to be attended immediately within 6 hours.**

**(b) Normal complaints- Complaints relating to the trades of mason, carpenter / painter shall have to be attended within 72 hours.**

**In case of failure to meet these deadlines a lump sum amount of Rs. 1,000/- (Rupees One thousand only) per complaint per day will be recovered from RA bills.** One default shall be treated as one complaint. This shall be without prejudice to other remedies available to Engineer-in-charge under this contract to take action against the contractor as per Clause 14 of Conditions of Contract.

18. The personnel and laborers engaged by the contractor under this contract shall wear neat and clean uniforms as approved by the Engineer-in-charge along with name badges. An identity card duly countersigned by Engineer-in-charge or his representative shall be issued to each personnel by the contractor to have proper identifications. The character and antecedents of the staff employed by the contractor shall be got verified from the police by the contractor.

19. The Contractor's supervisor who is present at the site round the clock in shifts on all working days shall carry mobile telephone(s) to enable the Engineer-in-charge to have easy and quick communication. Nothing extra shall be paid to the contractor on this account and his quoted rates for various items under this contract will be inclusive of this obligation.

20. The contractor shall have registration with Employee's Provident Fund commissioner and Employee's state Insurance Corporation for safe guarding interest of his workmen. He shall obtain all other necessary approvals from statutory bodies as per law in vogue.

21. All T&P, Scaffoldings, Instruments/Meters for Maintenance, Consumable and Contingent Articles required for execution of the work shall be arranged by the contractor including welding machine, drill machine (hammer & carpentry), tong tester, earth tester, insulation tester, grinding / cutting machine (Stone & wood) etc. along with all the consumable accessories in sufficient number as required.

22. Staff employed by the contractor should be well behaved, Polite & courteous. Any complaint against staff on behavior should be taken very seriously and such staff should be removed by the contractor immediately from the site and replacement shall be provided immediately.

23. For the Purpose of categorization of staff as skilled, semi-skilled and unskilled, the Beldars shall be taken as unskilled, the Wireman / Lift operator shall be taken as semi-skilled and the Mason/Plumber/ Welder/ Electrician and carpenter shall be taken as skilled.



The recruitment of all contractor's staff and increased or reduction of staff should be as per actual necessity at site with the prior approval of Engineer-In-Charge only.

24.All dismantled material will be removed from site by contractor after verification of measurement of the same by Junior Engineer (J.E).

25.The contractor shall make all safety arrangement required for the labour engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise shall remain with the contractor. The department shall not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the department.

26.Contractors shall be fully responsible for any damages caused to govt. property or allottee's property by his or his labour in carrying out the work and shall be rectified by the contractor at his own cost.

27.Chases, Holes and Drilling works etc. shall be done using power operated tools.

28.For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation in accordance with the scale of non-conformity and the period for which this non-conformity continues. However the total amount of this compensation for the whole contract shall not exceed 10% of the tendered value of this contract. This shall be without prejudice to other remedies available to Engineer-in-charge under this contract to take action against the contractor.

29..Each worker shall maintain a complaint diary and get the feedback recorded from the allottee's regarding attending the complaint. In case, it is found that the complaint has been attended unsatisfactorily, it will be considered as unattended. List of such complaints shall be submitted to the Engineer-in-Charge or his representative on daily basis.

30.The contractor or his supervisor at the service centre shall maintain complaint register for recording the complaints.

31.Required Space will be handed over to the contractor free of cost by the department; for receiving the complaints and for the engineer engaged by him.

32.The agency shall restore back the premises and other articles provided by the department to the department at the time of closure of the contract.

33.In the case of discrepancy between the schedule of quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:-

i.Description of schedule of quantities

ii.Additional specifications and special conditions, if any.

iii.Contract clauses of General conditions of contract for Central P.W.D. works.

iv.CPWD specifications.

v.Architectural drawings.

vi.Indian standards specifications/BIS.

vii.Sound engineering practice.

Any reference made to any Indian standards specifications in these documents, shall imply to the latest version of that standard, including such revisions/amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.

34.Stores & bins as available shall be handed over to the contractor for storing the material.

35.The contractor will maintain attendance records of the staff, which will be checked by the Junior Engineer/Assistant Engineer/ Engineer-in-charge of the work. In case of absence of any staff as per the manpower requirement given in Format-III, recovery shall be made at the following rates as

i.Skilledlabour @ Rs. 1,000/- per day per person.

ii.Semi-skilled labour @ Rs. 800/- per day per person.

iii.Un-skilled labour @ Rs. 700/- day per person.

iv. Technical Representative @ 3000/- per day as

The monthly running bills of contractor will be proceed after submission of monthly ESI and PF deposition proof/ Challans only.

36. The contractor and /or his authorized agent should see the site order/complaint book every day and get the compliance of instruction given by the JE/AE/Engineer-in-charge as per time schedule.

37. All the malba or rubbish obtained from dismantling or otherwise during the execution of the work shall be brought down through the staircase and shall not be thrown to the ground directly from first floor or second floor etc. this shall be carried and stacked properly to the specified common disposal point on the same day and site shall be left clear as per the instructions of the Engineer-in-charge. A compensation of Rs. 100/- shall be recovered from the contractor for each complaint/default.

38. The contractor will not pitch up tents for laborers, materials and his stores etc.,

39. No permanently / temporary huts / structures shall be constructed by the contractor at the site of work or at any government land / premises. Such structures, if any, found at the site or at AIIMS, Jhajjar land shall be demolished and removed at the cost of the agency without any notice.

40. Any damage to the building structure, fittings or any other articles etc. done by the contractor or his workman during the execution of the work shall be made good by the contractor at his own cost.

41. The contractor shall clear the site properly after the completion of the work.

42. The labour engaged for attending complaints shall carry necessary tool kit, container (Tasla), required for mixing any cement sand or other material and should carry with water bottle and waste bag for collection of minor rubbish material if received during attending the complaints, so that the site of work shall remain neat and clean.

43. Major and Minor complaint shall be decided by the Engineer-in-charge or his representative. The decision of Engineer-in-charge shall be final & binding.

44. The Agency shall be solely responsible for compliance to the provisions of various Labour and industrial laws, such as, wages, allowances, compensations, EPF, Bonus, Gratuity, ESI etc. relating to personnel deployed by it at AIIMS, Jhajjar site or for any accident caused to them and the institute shall not be liable to bear any expense in this regard. The Agency shall make payment of wages to workers engaged by it by the stipulated date (before 7th of every month) irrespective of any delay in settlement of its bill by the AIIMS, Jhajjar for whatever reason. The Agency shall also be responsible for the insurance of its personnel. The Agency shall specifically ensure compliance of various Laws / Acts, including but not limited to with the following and their re- enactments / amendments / modifications:

- a. The Payment of Wages Act 1936
- b. The Employees Provident Fund & MP Act 1952
- c. The Contract Labour (Regulation) Act, 1970
- d. The Payment of Bonus Act, 1965
- e. The Payment of Gratuity Act, 1972
- f. The Employees State Insurance Act, 1948
- g. The Employment of Children Act, 1938
- h. The Motor Vehicle Act, 1988
- i. Minimum Wages Act, 1948

45. The contractor shall take full responsibility for the adequate, stability and safety of all site operations and methods of working.

#### **46. Insurance Policies**

a) Contractor may take Contractor's All Risk Policy and Third Party Insurance or other insurance policies from a first class Insurance Company in the joint name of the Contractor and CLIENT and keep it valid against all loss or damages to the Works, Materials, Equipment, Persons and

Properties from whatever cause arising for which he is responsible under the term of contract, other than the expected risks, and in such manner that the client and Contractor are covered for the period as stipulated for entire duration including the Defects Liability Period and for any loss or damage occasioned by the contractor in the course of any operations carried out by him for the purpose of Complying with the obligations.

b) In the event of the Insurance Policies are taken and kept valid by the contractor, whenever claims need to be made for any matter or thing in respect of the insurance covers under the insurance Policies, it shall be the responsibility of the Contractor to lodge such claims and to follow up and obtain the payments for the claims from the Insurance Companies. Should the Client suffers any losses and/or damages in connection with the works and the Contractor is unable or unwilling to get such losses and/or damages recompensed by the insurance companies, the Client shall recover the amounts in respect of such losses and/or damages from the Contractor by way of deductions made from any money that may be payable or that may become payable to the Contractor.

c) Irrespective of whether the Insurance Policies referred under sub-clause above are taken by the Contractor or not and whether the Policies are kept valid or not notwithstanding anything stated in the sub-clause as above of this clause, the Contractor shall indemnify the Client from all the compensations and claims that may arise due to loss and damages to the works, materials equipment, persons and properties on account of Contractor's operations at site during the period and also Defects Liability period and the Contractor shall be responsible, liable and bound to the Client to compensate or make good or replace the loss or damage arising out of any whatsoever as directed by the Client.

47. Breach of Terms and Conditions: Noncompliance of any terms and conditions enumerated in the contract shall be treated as breach of contract. Or In Case of breach of any terms and conditions as mentioned above, the Competent Authority, will have the right to reject the bid at any stage without assigning any reason thereof and nothing will be payable by AIIMS, New Delhi in that event the EMD shall also stands forfeited.

48. Termination of Contract: AIIMS, Delhi would have the right to terminate the contract by giving one month's notice before the expiry of the term, in case the work performance is not up to the standard, or in case there is any violation of AIIMS, Delhi rules & regulations, or if there is any lapse in compliance of any labour legislation, or if there is any incident of indiscipline on the part of the Tenderer or his staff and the agreement may be terminated by either party by giving one month's notice to the institution. The decision of AIIMS, Delhi's management in this regard would be final and binding on the Tenderer. In such an event, AIIMS, Delhi shall have the right to engage any other tenderer to carry out the task.

49. Arbitration: The Arbitration shall be held in accordance with the provision of the Arbitration and conciliations Act, 1996 and the venue of arbitration shall be at Jhajjar. The decision of the Arbitrator shall be final and binding on the both parties. Further, may refer Clause- 25 of GCC.

50. Dispute Settlement: It is mutually agreed that all differences and disputes arising out of or in connection with this agreements shall be settled by mutual discussions and negotiations if such disputes and differences cannot be settled and resolved by discussions and negotiations then the same shall be referred to the sole Arbitrator appointed by the Director, AIIMS, New DELHI whose decision shall be final and binding on both the parties. The contract shall be governed by laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/ processing. Further, may refer Clause- 25 of GCC.

51. Guidelines issued by Hon'ble National Green Tribunal in O.A. No. 21 of 2015 and O.A. No.95 of 2014 in the matter of Vardhaman Kaushik V/s. Union of India & other and Sanjay Kulshreshtha V/s Union of India & ORS: Air Pollution of Dust from Construction and Demolition activity reg.

issued vide letter No. DPCC/EIA/Ref-001 to 172/NGT-21/2015/225-408 dt. 17/04/2015 shall be complied by the Bidders. Further, may refer Clause- 25 of GCC.

**PART - (B) :**

- 1.The material shall be as per CPWD specifications with up to date correction slip and ISI specifications wherever mentioned and as per Annexure-II (List of approved makes).
- 2.In the event of any variation between CPWD specifications and that in the IS Code the former shall take precedent over the later. In the event of variation between the nomenclature of item as per schedule of quantities and specifications, the former shall prevail.
- 3.Material will be supplied by the contractor within 3 days after giving the requirement otherwise penalty (per day basis) shall be recovered from contractor's bill after giving notice. The same shall be on per day basis as finalized by Engineer-in-charge.
- 4.The sample of all the items shall have to be got approved by the Contractor from the Engineer-in-Charge before the supply commences, the approval of sample shall be only in respect of workmanship and finish, and shall be without prejudice to the right of Engineer-in- Charge to get random samples tested out of the actual lot received as per additional conditions.
- 5.The contractor shall if required furnish the manufacturer's certificate that the material supplied satisfy the requirements of the relevant specifications.
- 6.The Engineer-in-Charge shall be at liberty to test respective sample (s) of each item of schedule of quantity in any approved laboratory as decided by him. The sample for testing shall be provided by the contractor. If the test proves satisfactory and the material is accepted, the testing charge in respect of satisfactory test shall be borne by the department. All other expenditure required to be incurred for making available the sample, conveyance and packing etc, shall be borne by the contractor himself. In case any sample of particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specifications and the rejected lot shall only be returned to the contractor after fresh lot is supplied. Testing charges in respect of failed sample will be borne by the contractor himself.
- 7.Rejected materials shall have to be removed by the contractor at his own cost within a week of the instructions of doing so. Also go down rent as decided by Engineer-in-Charge shall be charged by the department.
- 8.In case of any dispute regarding rejection of quantity of materials the decision of Engineer-in-Charge shall be final and binding upon the contractor.
- 9.Conditional tenders are liable to be summarily rejected.
- 10.The rates shall be quoted only in the schedule of quantities attached with the tender and nowhere else i.e. letter heads etc.
- 11.The contractor is specifically required to quote only one rate against each item. The rate Quoted for any item of material shall conform to the prescribed specifications.
- 12.The quantities are approximate and are liable to change up to any extent on either side. The Engineer-in-Charge reserves right to order deviation from the quantities mentioned in the tender. The contractor shall supply the additional quantity on the rates quoted in the tender documents irrespective of deviation limit mentioned elsewhere in the agreement. The contractor shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which he might have derive from the execution of supply in full as mentioned in tender but which did not derive any consequence of the full supply of material mentioned in tender not having been ordered.
- 13.The contractor shall himself arrange for raw materials required by him. No recommendation letter shall be issued by the department/office.

14.If the supplies are not commenced and completed as per schedule of supply. Supplies will be, arranged from other agencies at the quoted cost of the new supplier without giving any notice to that effect, and the expenditure thus made shall be recovered from the contractors bill/deposit.

15.The supply shall be made at AIIMS maintenance store at Service Centre or any other location under the jurisdiction of AIIMS, Jhajjar.

16.The make of material shall be same as that of actually installed/fixed at site. In case of any dispute the decision of Engineer-in-Charge shall be final with regards to make/brand of material.

17.For materials used in this work, the record shall be maintained at site in a standard Performa to watch quality and consumption of the material as per Q.C.T.A. circular No.1 of 1995 with up to date modifications.

18.The Complaint Service /Enquiry Center will operate in full Round the Clock on all working days except Sundays and Gazette Holidays. Additional arrangements shall be made for registration and attending emergent complaints related to Civil/Electrical/HVAC/Horticulture services on Sundays & Gazette holidays & also on all days and shall be well equipped with the following:

Telephone facility.

Furniture.

Computerized system.

19. Diesel for Operating DG set to be supplied free of cost by AIIMS Jhajjar. Log book to be maintained by the contractor & to be submitted duly certified by client.

20. Water and electricity shall be made available free of cost at nearby source of work. The contractor has to make his own arrangement for use of the same including drawing temporarily lines etc. The responsibility for following relevant rules, regulations and laws in this regard shall be entirely that of the contractor

21. The following facilities shall be made available to the agency:-

A Suitable Space for use as Complaint/Service Centre by the Contractor.

All furniture etc required for contractor's staff shall be arranged by the contractor at his own cost.

Electricity/Water connection

The Contractor shall restore back the premises and other articles provided by the Employer to the contractor at the time of closure of the contract in good condition.

22. Retention Money

Retention money @ 10 % (ten percent) shall be deducted from each monthly bill subject to the maximum of 5% (Five Percent) of the contract price after approval by engineer. 1/3 of retention money will be released after one month of successful completion of each year of O&M.

23.Horticulture

The garden, lawns, potted plant etc. shall be taken over after listing out the same. The same shall be maintained for the contract period. During this period, all inputs like manure, replacement of plant, watering, clearing weeds, trimming, housekeeping etc. including all material labour and tools, replacement plants etc. shall be provided so that the garden is maintaining in a neat and healthy condition. The same shall be handed back to AIIMS at the end of the contract period. A Nursery shall be developed by the contractor at the site & Space at site shall be provided by client for development of the same.

24.Fire Fighting and Alarm System:-

The systems, equipment's etc. shall be taken over recording the details of the fire fighting and alarm system and their running conditions. During the operation period, the same shall be maintained by the Contractor providing all material, labour and T&P etc. required. The same shall be maintained to the satisfaction of the concerned statutory authorities and clearances obtained from them as per requirements. The systems shall be handed over in the same conditions as it was taken over, normal wear and tear accepted.

25. Contractor shall inform to the client regarding the expiry of Licenses & Statutory NOCs. The necessary statutory payments shall be borne by the Client/User Department for its renewal.
26. At the end of the Contract Period, the equipment/system shall be handed over back to NCI, Jhajjar in the condition in which they were taken over, normal wear and tear accepted.
27. The rates in the bid shall be for complete items of work inclusive of all taxes including GST, ESI, PF, 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 etc.

## TECHNICAL SPECIFICATION: ELECTRICAL WORKS

The agency will be responsible for operation/ maintenance of following electrical items/ works:

- Maintenance of Internal Electrification works including all light fixtures, switches, Power Points (5A, 15A Sockets & 20A Industrial Sockets), MCB Distribution Boards, MCBs, Ceiling Fans, Wall Bracket Fans, Exhaust Fans, Wiring, Cabling etc. complete
- Maintenance of External Lighting including External Poles, Light Fixtures, Control Box, Cabling, feeders pillars, bollard light fixtures, gate light (post top lanterns) etc. complete
- Operation and maintenance of 1250 KVA Diesel Generator Sets- 6 Nos. numbers with Synchronization Panel.
- Operations and maintenance of 26 Passenger-12 Nos & 2 Nos. for Animal House Building, 20 Passenger-11 Nos, 16 Passenger-2 Nos, 8 Passenger-4 Nos, Good Lifts(2000kg)-4 Nos.
- Operation and maintenance of Transformer (2.5 MVA – 9 nos)
- Operation and maintenance of 7 panel Board of 1250 A-1 HT Panel & 10 Panel Board of 1250 A-1 HT Panel . Operation and maintenance of LT Panel-1 having 8 no. ACB in comer of 5000 A, 5 no. bus coupler of 5000 A.LT Panel-2 having 4 no. ACB in comer of 5000 A, 2 no. bus coupler of 5000 A.The ACBs are EDO, microprocessor based O/L, S/C, E/F & instantaneous trip, and different out goings in the form of ACB &MCCB as installed at site.
- Operation and maintenance of Capacitor Panel: 1000 KVAR with APFC relay-9 Nos, capacitors, timers, MCCBs etc complete as installed at site
- Operation of other MV panels as installed at site at different locations.
- Maintenance of Fire Alarm System installed in different buildings including FDA panel, manual call points.
- Material required for the minor maintenance of all the items will be arranged by the Contractor. Nothing will be paid for such minor material.
- Tools and tackles to carry out the maintenance will be provided by the contractor.
- Printed log books to be provided by the contractor.
- The contractor should keep all the equipment's in good working condition.
- If something gets damaged i.e. civil work etc during the maintenance work, Contractor has to rectify the same at his own cost.
- Special items used for the upkeep of Electrical Sub-Station will paid on actual.
- For DG set 'B' checks included in AMC, however other components will be paid on actual.
- For the lifts AMC one Technician will reside in premises round the clock.
- Following Tools and tackles to carry out the maintenance will be provided by the contractor.

Plier all type, Test Lamp, Tong Tester, Multi meter, Magger, Screw driver set all types, Spencer set all type, Phase Tester, Phase sequence Tester, Drill machine including Hammer drill. Etc. or any other tools tackles required for successful maintenance of electrical work shall also be arranged by the contractor.

Scope of the work as mentioned below is the minimum expected from the contractor in order to keep the equipment's in good working condition:

### 1. Fire Detection and Alarm System.

**1.1. Work to be done on daily basis:**

1. Checking of battery
2. General check-up of the entire system
3. Checking of current & voltage of the panel
4. General checking of all Manual Call points.
5. Replacement of defective parts in the fire panels.

**1.2 Work to done on half yearly basis:**

1. Checking of functioning of entire FDA system.
2. Checking of MCP against proper functioning.
3. Replacement of defective parts in the panel

**1.4 Work to be done on yearly basis**

- a. Replacement of battery if required.
- b. All the checks as mentioned in half yearly basis.
- c. Any other checking required as per manufacturer's recommendations

**2.0 D.G SETS.**

**2.1 Work to be done on daily basis:**

1. Specific gravity, water level and voltage of batteries.
2. Cleaning of battery terminal, if required
3. Running of DG sets at least for 5 minutes every day in winter season
4. Checking of oil level in day tank
5. Physical inspection of DG set & AMF panel
6. Lub oil level in the DG set.
7. General cleaning of DG set if required.
8. General inspection of cooling towers, pumps etc.
9. Temperature of inlet & out let water in CT.
10. Ph of CT water.

**2.2** A log Book is to be maintained on regular basis by the contractor duly signed by Engineer Incharge/His representative. The log book should contain minimum following data entry or as specifies by the manufacturer.

1. Specific Gravity of battery
2. Voltage of battery
3. Electrical parameter of the DG set like Current, voltage, frequency, p.f, KW, KWh, KVA etc
4. Diesel level in day tank
5. lub oil level.
6. Running hours of the DG set



7. Water temperature.
8. Room temperature
9. Noise level
10. Lub oil pressure
11. Consumption of diesel

**2.3 Work to be done on monthly basis:**

1. 'B'/ 'C' checks as per manufacturers instructions.
2. Cleaning of strainers in the fuel line.
3. Watering of earth pits.

**2.4 Work to be done on half yearly basis:**

1. Safety checks of the DG sets
2. Operation of all the relays
3. Checking of electrical panels
3. Checking & cleaning of contacts of ACB, relays etc.
4. Checking of safety interlocks
5. Checking of functionality of relay and calibration if required.
6. Checking of insulation resistance
7. Checking of earth resistance.
8. Cleaning of cooling tower
9. Tighten the blades of cooling tower.
10. Any other checking required as per manufacturer's recommendations

**2.5 Work to be done on yearly basis:**

- 1 Repeat half yearly work
- 2 Change the battery, if required.
- 3 Any other checking required as per manufacturer's recommendations

**3.0 ELECTRICAL INSTALLATION OF SUBSTATION:**

**3.1 Work to be done on daily basis:**

General inspection of HT panel, transformers and related equipments including the following:

1. Level of oil in conservator of the transformer
2. Colour of silica gel in the breather of the transformer.

**3.2 Work to be done on yearly basis**

1. The dielectric strength of the transformer oil to be checked once in a year.
  2. Function/ tripping through the relays to be checked once in a year.
- 3.3 A log Book is to be maintained on regular basis for **HT sub-station** duly signed by the Engineer. The log book should contain minimum following data entry:
- 1 HT voltage
  - 2 Current
  - 3 Frequency
  - 4 Winding temperature of transformer
  - 5 Level of the oil in the conservator of the transformer
  - 6 Colour of the silica gel in the breather of the transformer
  7. Remarks
- 3.4 A separate log Book is to be maintained on regular basis for **LT panel** duly signed by contractor and Engineer of the client. The log book should contain minimum following data entry to be filled up **on hourly basis**:
1. Total current on incomer
  2. Voltage on incomer
  3. Current of different out going feeders in R, Y & B phase
  4. Power Factor
- 3.4 Work to be done on half yearly basis:**
1. Safety checks of the Panels
  2. Operation of all the relays
  3. Checking of electrical panels
  4. Checking & cleaning of contacts of ACB, relays etc.
  5. Checking of safety interlocks
  6. Checking of functionality of relay and calibration if required.
  7. Checking of insulation resistance
  8. Checking of earth resistance.
  9. Any other checking required as per manufacturer's recommendations
  10. Watering of earth pits
- 3.5 Work to be done on yearly basis:**
1. Repeat half yearly work.
  2. Through cleaning of panels after arranging the shut down of the panels.
  3. Any other checking required as per manufacturer's recommendations

<b>RESPONSE TIME FOR ELECTRICAL WORKS.</b>
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A	Evacuation of person from the lift	10 min
B	Minor nature of complaints like replacement/ repairing of tubelight, choke, power points, light points , switch, indicators of panels, socket, MCB, electronic regulators, capacitors of ceiling fans etc.	3 Hrs
C	Medium rectification works like street light replacement, Circuit breaker maintenance etc.	4 Hrs
D	Major rectification works like rewinding of motors, ceiling fans replacement, D G set maintenance, lift maintenance, FDA , PA system and specialised auditorium services	24 Hrs or as specified by the manufacturer

**SPECIFICATIONS FOR OPERATION OF HVAC SYSTEM, AND ALLIED  
ACCESSORIES INSTALLED at NCI JHAJJAR HOSPITAL BLOCK**

**1.0 LIST OF MAJOR EQUIPMENTS OF THE HVAC PLANT AND SYSTEMS AT NCI  
Jhajjar (Hospital Block)**

Sl. No	Item	Unit	Make	Quantity
1	WATER CHILLING UNITS. 900 TR	NOS	Carrier	6.00
2	WATER CHILLING UNITS. 150 TR	NOS	Carrier	3.00
3	Plant Room Manager			
4	For Plant Room- 1(HVAC PLANT ROOM)	LOT	Carrier	1.00
5	For Plant Room- 3(Animal House)	LOT	Carrier	1.00
6	Primary chilled water pumps 2160 USGPM	NOS	Xylem	6.00
7	Primary chilled water pumps 360 USGPM	NOS	Xylem	3.00
8	Secondary Pumps & Variable Speed Pumping System			
8.1	1250 USGPM For Hospital Block A	NOS	Xylem	4.00
8.2	1500 USGPM For Hospital Block B	NOS	Xylem	3.00
8.3	1200 USGPM For Hospital Block C (Clinical Research)	NOS	Xylem	4.00
8.4	790 USGPM For OPD Block	NOS	Xylem	4.00
8.5	760 USGPM For Admin and Research Block	NOS	Xylem	3.00
8.6	730 USGPM For Basic Science research and PCT Block	NOS	Xylem	3.00
8.7	360 USGPM Animal house	NOS	Xylem	3.00
9	Condenser water Pumps Water flow rate=2700 USGPM	NOS	Xylem	6.00
10	Hot water Pumps Water flow rate=400 USGPM	NOS	Xylem	4.00
11	Hot water Pumps Water flow rate=250 USGPM	NOS	Xylem	2.00
12	COOLING TOWER (CTI Certified) 1250 TR capacity , 2700 usgpm (min 04 cells in each)	NOS	Bell	5.00
13	Hot Water Generator For Hospital Block and Clinical Research Capacity : 400 KW	NOS	Khokhar	4.00
14	Hot Water Generator For Admin & research, OPD, BSR & PCT Block Capacity : 350 KW	NOS	Khokhar	3.00

15	Hot Water Generator For Animal House Capacity : 250 KW	NOS	Khokhar	2.00
16	AIR HANDLING UNITS for All Blocks	NOS	Edgetech	155.00
17	AIR HANDLING UNITS for Animal House	NOS	Zeco	4.00
18	CEILING SUSPENDED UNITS	NOS	Edgetech	6.00
19	VAV Boxes	NOS	Ruskin Titus	220.00
20	FAN COIL UNITS	NOS	Zeco	13.00
21	Ventilation Fan Sections	NOS	Kruger	4.00
22	VRV/ VRF System for Research Associate Hostel Outdoor Unit	NOS	Carrier	22.00
23	VRV/ VRF System for Research Associate Hostel Indoor Unit	NOS	Carrier	105.00
24	VRV/ VRF System for Research Associate Hostel Cassete Unit	NOS	Carrier	22.00
25	VRV/ VRF System for Research Associate Hostel TFA Unit	Nos.	Carrier	7.00
26	Inline Fans	Nos.	Ostberg	156.00
27	Propeller fan	Nos.	Usha/Crompton	43.00
28	Tube Axial Flow	Nos.	Kruger/Swent	93.00
29	Centrifugal/Vane Axial Fans	Nos.	Kruger/Swent	161.00
30	EXPANSION TANK 5000 Ltr	Nos.	Anergy	3.00
31	CONDENSER WATER PIPING	RMT	Jindal Hissar/SAIL	1450.00
32	Pot strainer with drain valve 600 mm dia.	Nos.	Sant	1.00
33	Suction Guide 300 mm	Nos.	Rapid Cool	42.00
34	Chilled water Piping	RMT	Jindal Hissar/SAIL	17400.00
35	DRAIN PIPING GI	RMT	Jindal Hissar	2250.00
36	Air-conditioning ducting covered with different thickness of insulation boards Aluminum sheet etc& its accessories like galvanized sheet metal fire dampers with solenoid valves & outlets, air grilles etc	LOT		01
37	Pan type Humidifier 9KW	Nos.	Khokhar	25.00
38	Piping (MS) network for water circulation, insulated with polyurethane insulation along with necessary fitting i.e. bends, tees, reducer flanges, butterfly valves, balancing valves, non return valves, gate valves & Y-strainers etc.and expansion tanks.	LOT		01
39	AIR- CONDITIONING PANELS	Nos	Siemens/Khokhar	316.00

## **2.0 SCOPE OF WORK FOR HVAC**

The Scope of work as mentioned below are the minimum expected from the contractor. Any other work required for operation in proper way as per the operation and maintenance manuals of respective equipments and as per good engineering practices will be required to be done under this scope of work. Ensure the safety of the equipments and personals using it.

Successful bidder will make Performa for recording the following minimum work schedule / parameters and show to HSCC/ Client to ensure proper accomplishment of these tasks.

The scope of work shall include but not limited to smooth running, Operation and Maintenance of Heating Ventilation and Air conditioning systems (HVAC) as given in brief as above in 1.0. This shall include smooth running of the plants in three shift (or as specified), starting up of the plants, changeovers, shutdowns, inspection and record keeping, checking of refrigerant, Air distribution, purging operations, adjusting fresh air, operating pumps, valves, cooling towers, operation of individual Air Handling Units (AHU), Ceiling Suspended Units (CSUs), FCUs, motor control centers etc., inspection of filters/coils and their cleaning, topping up of oil, water, preventive maintenance & cleaning of all the equipments etc. in the systems as per the normal operating standards as specified by the manufacturer and as directed by Engineer-In-Charge to maintain operating conditions of the systems.

### **A. WORK TO BE DONE ON EVERY DAY BASIS:**

1. The readings of the suction and discharges pressure, oil pressure, oil & gas level, suction and discharges pressure of pumps, Voltmeters & Ammeters etc shall be checked and recorded in the LOG-BOOK (provided by contractor as per Formats) on hourly basis. Necessary corrective actions are to be taken if the readings are not normal.
2. To check all the electrical motors and their bearings for abnormal noise / heating and to take necessary action if found abnormal.
3. To check the water level in the make-up water tank in the Cooling Towers and check functioning of float valve. See proper function of the Cooling Towers. Chemical dosing, water hardness checking, chloride checking and recording with remedial / corrective actions.
4. To drain out water and clean the AC Plant Room / Cooling Towers/AHU's etc as and when required / scheduled.
5. The inside ambient conditions i.e. DB, WB & RH of all the AHU's shall be recorded on hourly basis. Filters of the AHU's/ Fresh Air inlet etc are to be cleaned regularly as per schedule. The FINE/ HEPA Filters installed at different places are to be given special attention.
6. The temperature of each room shall also be measured for any corrective action and these are to be recorded in log-book.
7. To keep the machine rooms equipment such as chilling plant area, AHU's, Exhaust fans neat and clean including their room floor, wall ceiling etc. in an orderly manner.
8. Any other work required by the equipment manufacturer/supplier/client for proper functioning.
9. All the complaints shall be attended within stipulated time after receiving it by phone / SMS or in complaint register format and rectified in totality to the entire satisfaction of the complainant and engineer or his representative. However complaint related to any emergency work has to be attended immediately without loss of time.

**B. WORK TO BE DONE ON WEEKLY BASIS:**

1. To check the refrigeration system.
2. To clean all the strainers and the filters of the Cooling Towers.
3. To check the lugs/thimbles/ terminal points of the electrical motor, switches, starters single phase preventors and the indication lights .etc
4. To check the alignment / looseness of all the belts driven equipment and rectify if required.
5. Filters of AHU's/ Fresh Air inlet etc. are to be cleaned regularly as per services maintenance schedule.
6. Check water distribution.
7. Check float valve operation in water tank and expansion tank.
8. Check and clean air filters.
9. Check belt tension and alignment.
10. Check pump gland.
11. Check solenoid valve.
12. Clean water strainers.

**C. WORK TO BE DONE ON MONTHLY BASIS:**

1. To check the gland / seal, coupling of Pumps and Cooling Towers.
2. To check the solenoid valve, safety controls Mechanical, Electrical/ Electronics and the inter-locking of the various equipments.
3. To check and clean the nozzles of the Cooling Towers and to clean the basin and sump of Cooling Towers. Look for water escaping from sides or from overflow and take remedial measures.
4. Blow out motor dust.
5. Check all settings and test operation of all safety controls.
6. To check the Drain pan of AHUs and clean.

**D. WORK TO BE DONE AFTER EVERY THREE MONTH:**

1. To check and lubricate (if required) the bearing of the motors and keep the proper record.
2. To check the foundation bolts of the Pumps and motors and to take the necessary action if required.
3. To check and reset the relays and controls, and to maintain the proper record. Carry out servicing of the main switches/ACBs as required. To tighten all screws, nuts, bolts of the Electrical Power / control system.
4. Check the quantity of Air flow from various out lets in each Room/ Area as per drawing and do adjustments of dampers etc as and when required.

**E. WORK TO BE DONE HALF YEARLY:**

1. Clean water strainer in chilled water circuit.
2. Check the overload by measuring the amperage, check anti-recycle timer and operation of the electrical interlock, and voltage across the compressor terminal.
3. To tighten the clamps of cooling tower blades.
4. Cleaning of starters of all motors during winter shutdown.
5. De-scale water tubes in condensers.
6. Check the functioning of all controls and reset if requires.

7. Clean the cooling tower fills.
8. Check all strainers.
9. Clean cooling coil fins.

**F. WORK TO BE DONE YEARLY:**

1. Check dampers operation for freeness in operation clean and lubricate.
2. Check for obstructions loose boards fallen insulation on air ducts.
3. Check all wirings for loose contacts and rectify.
4. Clean baskets of pot strainers and “Y” strainers for AHU’s.
5. Drain all water from pipe lines and fill fresh water. Do not keep water lines without water.
6. Change the oil in oil sump. Change filters and check oil temperature controls.
7. Inspect starter contracts are shield, transformer, and motor terminals, check connection in starter, tighten motor terminal control circuit terminals.
8. Inspect, calibrate and adjust all safety and operating controls including low temperature and high- pressure cut outs, motor protector, oil pressure control, and fan temp control to original specifications.
9. Chemical cleaning of cooling coils twice in a year during winter shutdown after six months.
10. Meggar all the motors & electrical panels during winter shutdown.
11. Calibration of all temperature gauges, pressure gauges, RTDs and sensors and submitting of certificates for record.
12. Cleaning the evaporator if required.

**H. Special Requirements:**

Where ever required specialized filters have been used in the inlet air systems of the HVAC Plant. Special maintenance and cleaning has to be done on it. These filters have to be changed (filters included in scope) as per schedule/ system requirement, as and when required.

At a minimum, the following tests should be performed:-

1. Hepa Filter Media
2. Filter Frame Leak Test
3. Air flow velocities, Air changes, Pressure differential.

It is recommended these tests be performed by a qualified technician who is the familiar with the methods.

After the initial certification and recommendations these tests of calibration/ Validation shall be re-certified at a minimum on an annual basis and the contractor will submit the calibration/validation reports to HSCC /Client for record.(for HEPA Filters only)

- I. LOG-BOOK** for recording of parameters related to HVAC systems shall be provided and maintained by the contractor showing the complete working done on the HVAC systems and it should be made available to the engineer-in-charge of HSCC.

- J. All maintenance materials** such as Lube oil, Refrigerant / Gas, oil filter, fuel filter, electric contactor, indicating lamps, HRC fuse, relays and all spares of chillers, AHU’s different



type of Air filters, water chemicals, water testing chemicals etc shall be provided by the contractor for the HVAC Plant system. All spares parts and materials used shall be genuine and of same make and type as installed and a minimum quantity of spares, refrigerants and materials for routine maintenance shall be kept at site to minimize time of maintenance. The contractor has to keep all equipment well maintained of whole HVAC Plant system so as to give proper output at all times.

- K. Tools and equipments** required for proper operation for whole systems with their allied accessories etc. shall be provided by the contractor.
- L. Deployment of manpower:-** As per manpower deployment schedule i.e. FORMAT III. The manpower should be technically qualified and well experienced to operate the systems and attend to the related works of these systems. Any other manpower required shall also be made available by the contractor for proper functioning and will be in the scope of contractor. Proper supervision of contractor's senior engineers has to be provided to oversee the whole work for the smooth operation and maintenance services as and when required but at least monthly which shall be recorded in the Log-Book.
- M. Qualification of Manpower:-**The contractor should deploy the manpower as per the following qualifications:-
- a) Supervisor diploma in mechanical / HVAC with 3 years experience in operation and maintenance of HVAC system.
  - b) Operator cum mechanic ITI in 'Air-conditioning and refrigeration' or Mechanical with min 3 years Experience in this filed.
  - c) Electrician ITI in electrician with min 3 years experience in same field.
  - d) Helper – with 1 years experience in relevant field.
- N.** The HVAC Plant systems, which are installed, will be required to run in three shifts (including Saturdays, Sundays and Public holidays etc) depending upon requirements.
- O.** Care shall be taken so that the HVAC Plant systems do not lead to major breakdown. If any breakdown takes place the whole component has to be replaced/ rectified to bring it to the original condition immediately.
- In the event of any breakdown, the same will be rectified immediately as per response time failing which such rectifications will be done at the risk and cost of the contractor including all incidental expenses at actual without any justification of items. Engineer In-charge decision shall be final.
- P. List of Spares/ consumables which are to be kept in stock by the contractor at Site.**
- 1. HRC Fuses of all the rating required.
  - 2. Contactors and relays.
  - 3. V-belt of various sizes as per site requirement.

4. Indicators Lamp including holders for various electrical panels/D Bs etc.
5. Grease and lubricating oil required for lubrication of mechanical parts of the equipments.
6. A minimum stock of the various size/ rating filters and HEPA-filters.
7. A minimum stock of the refrigerant is to be kept at site.
8. Different sizes of ball bearings for the motors, blowers etc to be kept at site.
9. Lugs/thimbles/brass compression glands/cable jointing kits etc required for the cables of any size.
10. CTC/contact cleaning compounds required for cleaning of contacts periodically.
11. Handle/Knobs of the switch fuse/fuse switch units.
12. Toggles switches of the panels.
13. Important motors of different sizes for AHUs in critical areas to be kept as spare or as decided by HSCC / Client.
14. Pressure gauges / temperature gauge.
15. RTDs, Pressure transducers and various Sensors.
16. Water testing and treatment chemicals for maintenance of water quality in both the water circuits.

**NOTE:** This list of consumables/ spares can be extended based on experience during operation and maintenance services as per site requirements.

**Q.** Bidder has to maintain the equipments installed at site in good working conditions. In case the equipments / component get defective same shall be repaired /replaced in accordance with performance standards/specified response time mentioned in the contract. Also entire installation shall be handed to the new agency in good working condition when directed by Client / Engineer. The details of items to be repaired /replaced under this scope of HVAC works are indicated as below. Engineer In-charge decision will be final:-.

Sl.	Name of Equipment/Capacity.	Repairable Items	Replacement items wherever required
1.	Chiller Machines	Motor rewinding, Compressor repair	Electrical cards, Sensors, solenoid valves, flow switch, Gas pump, Refrigerant and oil, display cards, connectors, RTD, pressure sensor, temp sensor, oil level sensor, fuses, contactors, relays, SPP, fasteners, safety controls and safety valves, Insulation, switchgears, refrigerant piping and fittings, .
2.	Condenser pumps	Motor rewinding.	Seal, bearing, coupling, Impeller, connection plate, fuses,

			contactor, relays, SPP, fasteners, vibration isolators, pressure gauge, painting.
3.	Chilled water pumps (primary)	Motor rewinding, strainers, Insulation	Seal, bearing, coupling, Impeller, connection plate, fuses, contactor, relays, SPP, fasteners, vibration isolators, pressure gauge, painting.
4.	Chilled Water Pump with VFD (Secondary)	Motor rewinding, strainers, Insulation	Seal, bearing, coupling, Impeller, connection plate, fuses, contactor, relays, VFD Cards ,SPP, fasteners, vibration isolators, pressure gauge, painting.
5.	Cooling Towers (1250 TR)	Motor rewinding, strainers, fan balancing,	Fan blades, bearings, gear box, Sprinkler, Fills, Nozzles, float valves, treatment chemicals, water hardness and chloride checking kit, Isolator switch, fasteners, gear Oil, lubrication oil, painting.
6.	Air handling Units.( Double skin/ unitary/ CSU )	Motor rewinding, VCD, Fire Damper.	Fan blades, valves, actuators, Shaft, bearing, cooling coil, V – belts, double skin filter, VFD, VCD, canvass connection, nut bolt, thermostat, control wiring, fresh air damper, bird screen , louvers, mixing / diverting / modulating valve, humidifier element, humidistat, geysersstat, contactor , strip heaters, fasteners, vibration isolators, suspension arrangement.
7.	FCU	Motor winding	Motor, shaft, cooling coil, solenoid valves, actuators, thermostat, control wiring, fasteners.

8.	Hot water Generators.	Any contact point.	Element, Electric circuit, Switch thermostats, safety valves, ammeter, voltmeter, control relays, contactors, painting.
9.	Propeller/ Inline / Centrifugal / Axial/ventilation/ smoke extraction fans.	Motor rewinding, fan Balancing	Capacitors, mounting plate, Fan blades, louvers, bird screens, shaft, bearing , V – belt, damper, fda interlocking relays, contactors, starters, pulley, painting, FDA system interlocking relays, actuator and control panel.
10.	AC Panel, MCC PANELS, Starter Panels, Control console	ACBs	Push buttons, Contactors, fuses, lugs, relays, thermal over load relays, indicator lamp, holder, connector, SPP, compression gland, cables and jointing kit of various sizes, CTs, voltmeter, ammeter, selector switch, TPN FCU, MCCB, control wiring, door handle, knob, door lock arrangement, Insulators, screws, fasteners, flexible cables, control wiring, door gaskets.
11.	Air-conditioning duct complete with all accessories		All the required works with spares such as damper, VCD, grilles, diffusers, air registers, vanes, GSS sheets.
12.	Piping network complete with expansion tanks		All the required works with spares, valves ,Strainers, pressure gauges, temp gauges, RTDs, Butterfly , ball valve, and balancing valves, NRVs, Y-strainers, air vents, pressure gauges, temperature gauges, hangers, supports, flanges, gaskets, bends, Tee, reducers, welding works , patch painting

**Note: The items mentioned above (s.no.1 to12) are just indicative. However, the contractor**

**has to repair / replace items which are required for operation & maintenance of equipments in working condition without any extra cost.**

**The contractor shall ensure proper temperature in air-conditioned space as per season (Summer / Winter/Monsoon), periodical maintenance and cleaning of grilles/diffusers at all floors/cooling towers/AHU filters, AHU rooms etc and periodical painting of all equipments pipe lines etc as per requirement or as directed by Engineer –in-charge.**

- S) The Contractor will submit the detailed preventive maintenance schedules in accordance with the above mentioned guidelines, within one Week of award of contract, for the approval of Engineer-In-Charge. The approved schedule has to be followed in true spirit and deviation, if any, will be decided by the Engineer-in-Charge.

Operational requirement, in brief, includes plant start up, plant change over, plant shut down, routine inspection, record keeping, checking and adjusting the air distribution system as per normal optimum operating standards as specified by manufacturer and as directed by Engineer-in-charge.

#### **Additional S.C.C for HVAC system**

1. The bidders are required to visit the site to see the actual installations for themselves to assess the quantum of work involved before submitting the tender. Once the tender is submitted, it will be presumed that the bidder has seen and understood the complete work involved for each of the system.
2. **DELETED**
3. **Applicable Law:**
  - 3.1 The contract shall be interpreted in accordance with the Laws of the Union of India. Contractor shall be solely responsible for compliance of all labour laws, payment of fair wages/ salaries and allowances to his personnel that might become applicable under any new act, law or order of Government of State / Centre. HSCC/Client shall have no liability whatsoever in any manner.
  - 3.2 Minimum wages act to be complied with - The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time and rules framed hereunder and other labour laws affecting contract labour that may be brought into force from time to time.
4. **Penalty clause applicable:**
  - a) If the standby unit (in part or full) of HVAC system of any building fails, the contractor shall repair the unit within 48 hours time and make the same ready for operation. For the purpose of penalty clause, one unit will comprise of the compressor, condenser, chiller,

cooling water pump and chilled water pump. If the contractor fails to repair the standby unit within 48 hours, the following penalty will be imposed:-

- 1% of the monthly HVAC charges of corresponding item of schedule of rates quoted by the contractor will be deducted for delay of each day beyond 48 hours of breakdown.

While the standby unit is not available and if any other running unit of the same system (in part or full) fails, the following penalty will be imposed:

- 2% of the monthly HVAC charges of corresponding item of schedule of rates quoted by the contractor will be deducted for failure of working unit per day including the day of failure.

For not maintaining the prescribed temperature & humidity limits:

- For First 24 hours at the rate of 0.5% per day of the monthly HVAC charges of corresponding item of schedule of rates quoted by the contractor.

- Beyond 24 hours at the rate of 1% per day of the monthly HVAC charges of corresponding item of schedule of rates quoted by the contractor.

Minimum stock of refrigerant: If the contractor fails to keep the minimum stock of refrigerant as required for the HVAC systems, the following penalty will be imposed:

- 1% of the total monthly HVAC charges quoted by the contractor will be deducted for a shortfall of every cylinder per week or part thereof. However, this penalty will not be charged for periods less than one week.

**b) FOR MANPOWER:**

A minimum of 06 nos. of manpower in plant room and floors shall be available in the shift operations and maintenance failing which the following penalty will be imposed:

1% per week per person absentee of the total monthly HVAC charges payable for the month beyond one week of absentee. However the total maximum penalty imposed, during the month, under all above clauses shall be restricted to the total monthly charges payable, which shall be inclusive of charges towards HVAC systems.

However, total penalty charged on account of all of the above shall not be more than 5% of the total contract value.

5. The contractor shall make his own arrangement for tools and tackles, refrigerant, testing equipments like gas leakage detection torch, vacuum pumps, charging unit etc, and all other materials/tools including spares, filters and lubricants required for the completion of maintenance work of HVAC systems.
6. The routine maintenance jobs are to be carried out during the timings from 09:00 Hrs. to 18:00 Hrs. on all working days. However, permission may be granted for extending the timings for specific task on the request of the contractor.

7. The responsibility of HSCC / Client will be to make 3 phase power available up to MCC panel. To rectify the control circuit or wiring problem related to the main panel / control console desk / instrument panel of HVAC systems will be responsibility of the contractor. The necessary follow-ups with the agencies will be in the scope of contractor.
8. The contractor will be responsible to run the units as required failing which penalty as specified in the relevant penalty clause will be imposed. In case of non-availability of spares which are to be procured and kept at site by the contractor, penalty clause will be applicable.
9. In case, any fault, such as burning of electrical motor or compressor seizure/damage etc the contractor will have to make good the losses either by repair or by replacement as the case may be. HSCC / Clients decision shall be binding on the contractor in this regard.
10. On the expiry of the contract, the contractor will have to handover all the HVAC system with associated accessories in good running condition, with all equipments charged with refrigerant/ lubricants up to the required/specified operating pressure/level failing which the same will be performed by HSCC / Client on its own or through any other agency and the cost of the same, including transportation charges, overheads etc., will be deducted from the pending bills/security deposit of the contract.
11. If any part of HVAC system is not attended with in stipulated period of breakdown, HSCC / Client will be at liberty to repair the said part from any other agency or by its own and the amount spent on such repair work, including transportation charges, overheads, etc. will be deducted from the bill of the contractor. This will be in addition to the imposition of Penalty to the contractor as specified in the Penalty Clause.

**12. SCOPE OF WORK IN GENERAL**

Besides above, the contractor will attend to all break downs promptly within the prescribed time limits, failing which the Contractor is liable to attract Penalty as described in the Penalty Clause. All the technical details regarding air conditioning unit, operation details, procedures of maintenance or any other clarification, can be taken from Engineer-in charge as and when required.

13. Contractor shall maintain records and log sheets in the format as specified by Engineer-in-charge .Log book / log sheet shall be arranged by the contractor at his own cost.

**14. Scope of supply:**

The contractor shall supply equipments/ spares/ refrigerants and lubricating oils for the central HVAC systems plants installed and package air conditioners. The electric power supply and water required for the running of the air conditioning systems will be supplied by HSCC / Client free of cost.

The scope of supply for contractor shall include but not limited to supply of all the spares, refrigerant, consumables, water treatment chemicals, test equipments, tools & tackles, manpower and any other item required to run/maintain the HVAC system.

The contractor shall always maintain a min stock of SPARES, CONSUMABLES, CHEMICALS, Refrigerant at site as per maintenance manuals of respective equipments and as directed by Engineer-In-charge.

Any other item not specifically mentioned above but required to complete the jobs in totality shall be in the contractor's scope of supply.



**APPROVED MAKE LIST FOR THE WORK**

**LIST OF APPROVED MAKES : CIVIL WORKS**

<b>S.No</b>	<b>Material</b>	<b>MANUFACTURERS</b>
1	Doors & Windows fixtures/ Fittings	Dorma, Godrej, Ozone, Austavisio N
2	Door Closer / Floor spring	Ozone, hettich, Dorma, Godrej,
3	Aluminium Sections.	Hindalco, Jindal, BALCO, Alom
4	Clear Glass/ Clear Float Glass/ Toughened Glass	Saint Gobain(SG), Modi, Asahi, Glaverbel
5	Laminates	Formica, Decolam, Century, Marino, Greenlam
6	Synthetic Enamel Paints	Berger, Asian, ICI , Nerolac, Shalimar
7	Oil Bound Distemper	Berger, Asian, ICI , Nerolac, Shalimar
8	Cement Paint	Snowcem plus, Berger, Nerolac, Asian, ICI
9	Plastic Emulsion Paint	Berger, Asian, ICI , Nerolac, Shalimar
10	Other Paints/Primers	Berger, Asian, ICI , Nerolac, Shalimar
11	OPC 43 Grade Cement (Conforming to IS 8112)*	ACC, Ultratech or equivalent as approved by Engineer
12	Reinforcement Steel*	SAIL, ,RashtriyaIspat Nigam Ltd, TATA Steel (TISCO)
13	Glass Mosaic Tiles	Bisazza, Mridul, Italias, kenzei,Opio,Eon Ceramics

14	MS Pipe/ Sections	Jindal Hisar, Prakash-Surya, BST, Kalinga, Tata
15	Polycarbonate Sheets	GE, Macrolux, Plastic, Vergola, Skyarch, Polytechno
16	Wooden Fire Check Doors	Navair, Pacific Fire Control, KuttlyPromat, Sukri
17	Metal Fire Check Doors	Navair, Shakti- Met, Godrej, Sukri, Pacific Fire Control
18	Sunken Portion Treatment	Choksey, Roffe, Krytone, Sika, CICO, BASF, MC Bouchemie, Texsa
19	Admixtures for concrete.	Cico, Vam Organics, Roffe, Pidilite, FOSROC, MC Bouchemie, Sika, STP, BASF
20	Ceramic Tiles	Johnson, Somany, Kajaria, Nitco, Bell, Hindustan,
21	Pre-Laminated Particle Board	Novopan, Greenlam, Kitlam, Marino, Century, Archid ply
22	Flush Door Shutters	Century, Kitply, Green Ply, Duro
23	Glazed Tiles	Bell, Somany, Johnson, Kajaria, Nitco
24	PVC Water Stops	Prince/Supreme/Finolex//BASF
25	White Cement	Birla White, J.K., Grasim
26	Powder Coating Material Pure Polyester	Jotun , Berger, GoodlassNerolac
27	Stainless Steel Screws For Fabrication and fixing of Windows.	Kundan , Puja , Atul
28	Dash Fasteners./Anchor bolts	Hilti, Fischer, Bosch,
29	Stainless Steel Bolts, Washers and nuts	Kundan , Puja , Atul
30	Stainless Steel Pressure Plate screws	Kundan , Puja , Atul
31	Stainless Steel Friction Stay	Securistyle, Earl Bihari

32	E.P.D.M. Gaskets	AnandReddiplex, Enviro Seals, Hanu
33	Weather Silicon	GE/ Pidilite/ Choksey/ Wacker / Forsoc/ CICO/Dow Corning/Sika
34	Structural Silicon at butt joints	Dow Corning, Wacker, GE, Sika
35	PVC continous fillet for periphery packing of Glazings /Structural glazings	Roop, Anand, Forex Plastic
36	Water proofing / Injection Grouting	Choksey/ Sika/ CICO/ MC Bouchemie/ BASF/ Texsa
37	6mm thick Reflective Glass	Glaverbel, Glavermas, Saint Gobain, Asahi
38	Door Locks	ACME, Godrej, Dorma
39	Door Seal – Woolpile Weather Strip/ Acoustic seal	Anand -Reddiplex, Enviroseal, Viper
40	Aluminium Grill	Hindalco, Jindal
41	Vitrified Tiles	Naveen, Bell, Kajaria, Somani,Nitco, Johnson, Euro
42	Aluminium Cladding sheets	Alstrong , Alpolic, Alucobond, Alstone International, Aludecor Lamination
43	Stainless steel D-handles	D-line, Giesse, Dorma,Dorset, ozone
44	Stainless Steel Pipes/Flats	304 Grade (as approved by Engineer)
45	Structural Steel	TATA, SAIL, RINL, JINDAL
46	Ready Mix Concrete	ACC,BIRLA, Ultratech, L&T, Lafarge,
47	Epoxy Flooring/ wall coating	Fosrock, Beck, Famaflor, Araldite, STP, Sika, BASF
48	Acoustic Mineral Fibre	USG-Radar, Armstrong, 21 <sup>st</sup> Century, Acostyle, Daikin, Daxune Supreme sand stone
49	Fire Panic bar	Briton, Dorma, D-Line
50	Ply board	Greenply, Kitply, Century, Archid, Marino, Duro
51	PVC Flooring	LG, Tarkett, Responsive , Armstrong, Gerflor

52	SS Railing	Ozone, D-Line, Jindal,
53	Interlocking Paver Tiles	Unistone Products (India) PvtLtd,CCC Builders Merchant Delhi PvtLtd,NimcoPrefab,HindustanTiles,Terra Firma (Now TERRA FIRMA GRC & Concrete Industries),Nitco Hindustan Tiles,Ultra Tiles, NTC

<b>Sl.No</b>	<b>Material LIST FOR PLUMBING WORKS</b>	<b>Relevant IS Code</b>	<b>MANUFACTURERS</b>
1	Vitreous China Sanitary ware	2556	<i>Hindware, Paryware, Cera.</i>
2	White Glazed Fire Clay Sink	771	Sanfire, Cera, Neycer, Hindware.
3	Stainless Steel Sink		Jayna, <i>Neelkanth</i> , Commander, Nirali
4	Plastic seat cover of W.C	2548	<i>Cera, Hindware, Parryware</i>
5	Geyser		Racold, Venus, Voltas, Usha Lexus, Jaguar, Havells
6	C.P. Fittings Mixer/Pillar taps Washers, C.P. brass accessories ,CP Angle Valve, Bibcocks, CP waste	1795/4291/48 27	Jaquar, Kohler, Aquabath
7	Centrifugally /Sand cast iron pipes & fittings	3989/1729	Neco, BIC, <i>SKF</i>
8	G.I. Pipes	1239 Part I	Jindal-Hissar, Tata, Prakash-Surya
9	G.I. Fittings	1239 Part I	Unik, K.S., Zoloto, R
10	Gunmetal Valves	778	Zoloto, Leader, Castle, <i>Sant</i>
11	Brass stop & Bib Cock/Pressure Release valve	781	Zoloto, Sant, Leader, Jaquar
12	Ball valve with floats	1703	Zoloto, Leader, Sant
13	Stoneware pipes & Gully Traps	651	IS Marked pipes, as approved by Engineer
14	R.C.C. pipes	458	IS Marked pipes, as approved by Engineer

15	C.I. Manhole Covers	1726	IS Marked as approved by Engineer
16	Water Tank		Sintex, Polycon, Uniplast
17	Mirror		Atul, Modi guard, <i>Asahi, Saint Gobain</i>
18	Hand drier		Kopal, Automat, Euronics, <i>Utech</i>
19	PVC flushing cistern		Commander, Parryware, <i>Hindware</i>
20	Insulation of Hot water pipes		Vidoflex insulation, Superlon, <i>Thermafex, Kaiflexkaimenn</i>
21	PVC Rain Water Pipes.		Supreme, Prince, Finolex
22	D.I pipes		Jindal, Tata, Electrosteel, <i>Kesoram</i>
23	Sluice valve / NRV		Kilburn, <i>Zoloto, Leader, L&amp;T, Castle</i>
24	Water supply pumps		Crompton (CG), GRUNDFOS, KSB, <i>Mather&amp;Platt</i>
25	DI Manhole Cover		<i>SKF, NECO</i>
26	Submersible pumps		GRUNDFOS, KSB, Mather &Platt, <i>CRI, CG</i>
27	PVC/UPVC pipes & fittings		Finolex, Prince, Supreme, Flowguard, Ashirwad
28	Chlorinator		<i>Siemens, Watcon</i> , Ion exchange, Akarimpex
29	HDPE Solution tank		WATCON, ION EXCHANGE, Water Supply Specialist P (Ltd)
30	C.P Flush Valves		Jaquar, <i>Marc, Parko</i>
31	Infrared Sensor operated Faucets/Urinals		Jaquar, AOS-Robo, U-tec, Kohler
32	Gratings, Strainers, Cleanouts etc		Neer Brand (Sage Metals), <i>ACO</i>

33	Level controller		<i>21st Century/ Advance Auto/ Shridhan international/ Minilec/ radar/ Femac/ Switzer</i>
34	Drainage Pumps		Grundfos, KSB, Mather & Platt
35	Water / Effluent/ Sewage Treatment Plant		Geo Miler & Co, Ion-Exchange, AkarImpex
36	Decorative bath room fittings		Jaquar (Florentine range), Aquabaths, Kohler
37	R.O System		Polycon, Ion-Exchange, Pentair
38	PE-AL-PE		Kitec, Jindal, PRINCE
39	HDPE pipes and fittings		Oriplast, So-Soon, Finolex, Gebreti, Nosil,
40	CPVC pipe, fittings and Solvent		Flowguard, Ashirwad, Astral, Prince,
41	Solar Panel		Tata BP, BHEL, Edwards (Australia)
42	Copper Pipe		Raj Co., Maxflow, <i>Mehta Tubes</i>
43	Copper Fittings		Viega, IBP, <i>Yorkshire, Mehta Tubes, Rajco</i>
44	Lab drainage		Viega, Duraline, Rex
45	Lab Fittings		Vijay, Viega
46	SS pipe(EN-10312) & press type fitting		Viega, Jindal
47	Oxilyte (Mixed oxident)		Oxybee Solutions, I2M Technologies, Faith Innovations

**Log book for plant room**  
**Shift Timing**

**A**

**B**

**C**

TIME	Suction Pressure	Discharge pressure	Voltage	AMP	FLA %	Chilled Water temp		Chilled Water Pressure		Condenser Water Temp		Condenser Water Pressure		Suction Temp	Discharge temp	Oil temp	Oil pressure	Ref level	CD WP	CT	CH WP	Remarks
						In	Out	In	Out	In	Out	In	Out									
8																						
9																						
10																						
11																						
12																						
13																						
14																						
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3																						
4																						
5																						
6																						
7																						
8																						

**Work Done in Shift A**

**Work Done in Shift B**

**Work Done in Shift C**



**Annexure AC-2**  
**Log book for AHUs**  
**Shift Timing**

TIME	Chilled Water temp		Hot Water Pressure		Noise Level	Belt tension	Filter condition	Temp			Supply Zone		AMP	Remarks
	In	Out	In	Out				DB	WB	RH	TEMP	RH		
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
1														
2														
3														
4														
5														

6														
7														
8														

**Work Done in Shift A**

**Work Done in Shift B**

**Work Done in Shift C**

**Annexure AC-3  
REGISTRATION OF COMPLAINT**

**Date**

**Name of work:**

Sl. No.	Description of complaint	Nature	Complaint by whom	Specific Location	Register of complaint		Attendance of Complaint		Complaint done by		Remark by Client
					Date	Time	Attended by	Expected Date and time	Attended by	Actual date and time	

**Signature  
Sup. Contractor**

**Signature  
J.E.**

**Signature  
Clerk**

**Satisfactorily attended:-**

**Signature  
Client**

**Signature  
Rep HSCC**

**Annexure AC-4**

**FORMAT FOR COMPLAINT REGISTER**

**Date**

**Name of work: HVAC day to day maintenance**

Sl. No.	Description of complaint	Complaint by whom	Specific Location	Register of complaint		Attendance of Complaint		Signature	
				Date	Time	Attended by	Expected Date and time	Contractor	Complainant

## TECHNICAL SPECIFICATIONS FOR WTP, ETP, STP & RO PLANT

1. Annual Maintenance of R.O. plant of capacity **100 ltrs. Per hour-5 Nos** flow rate having capacity to treat the raw water having TDS 1200 ppm and not less than 40%. The treated water should have TDS less than 100 ppm and hardness less than 50 ppm. The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, hydro pneumatic tank, over voltage and over current protection with switch mode power supply system antiscaling dosing system complete in all respects including installation and fittings. (of IONIEXCHANGE MAKE ).

2. Annual Maintenance of R.O. plant of capacity **600 ltrs. Per hour-6 Nos.** flow rate having capacity to treat the raw water having TDS 1200 ppm and not less than 40%. The treated water should have TDS less than 100 ppm and hardness less than 50 ppm. The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, hydro pneumatic tank, over voltage and over current protection with switch mode power supply system antiscaling dosing system complete in all respects including installation and fittings. (of IONIEXCHANGE MAKE)

### 3. WATER TREATMENT PLANT

Annual Maintenance of Water treatment plant for supply of treated water for use of domestic purpose comprising of following equipments.
<b>Raw water , filter feed pumps(only for domestic use).</b>
<b>Capacity : 900 lpm (Each)</b>
Head 35 m
Power : 15HP or as required
<b>with 100% standby pumps(1W+1S)</b>
Providing and fixing C.I. "Y" Type suction strainer with stainless steel perforated sheet screen, flanged ends iner installed outside water tanks. (Make: Leader / Zoloto / Kartar or equivalent)
100/80 mm dia (min.) or required size and required number
Providing and fixing gun metal or bronze ball valves/butterfly valve/NRV/Rotameter, tested to 15.00 Kg / cm <sup>2</sup> , screwed end connections complete . (Make: Leader/ Zoloto or equivalent)
80/65 mm NB (min.) or required size and number
Filtration Plant : Vertical Downflow Multigrade Pressure Sand Filter in MS Welded construction fabricated in accordance with IS 2825 from minimum 6 mm thick M.S. plate on shell and minimum 8 mm thick M.S. plate on dished ends as per applicable IS standards. The filter shall have :
a) One no pressure tight manhole and at least one no. pressure tight side hole for maintenance purposes.
b) Initial charge of Filter Media.
c) Complete underdrain system and raw water distributor as per manufacturer's design.
d) M.S. heavy class fabricated - epoxy coated / post galvanised face piping comprising of connections with CI Butterfly Valves of required size for inlet, outlet, backwash inlet, backwash drain and rinse drain. Air release line with GM Ball Valve of required size.
e) Pressure gauges (100 mm dia bourdon type pressure gauge ) / Sampling points with SS isolation cocks at inlet and outlet.

f) All internal parts of the filtration plant shall be coated with two coats of food grade epoxy paint after thorough sand blasting. All external surfaces of the plant including piping shall be coated with two coats of red iron oxide / zinc chromate primer followed by two coats of high gloss enamel paint .
g) The filter shall be complete with all gaskets / fasteners of standard quality as required.
h) The filter shall be designed to give rated output at given raw water quality and flow rate without any operational problem and should not get any loss of performance as long as the operating pressure remains within the given range. Any additional provision is required to make the item complete, the same should be included herein. The work has to be carried through authorised vendor, dealer/representative of approved make (Ion exchange, Pollucon technologies, AKAR Impex, Thermax, Aquaprocess, Fontus). The filter water will be supplied to treated water tank through U.V. water steriliser
<b>Capacity - 900lpm</b>
Filtration rate - 20,000 lph/sqm ( min.)
<b>Filter dia approx. 1850mm (min.)</b>
Filter HOS Min. : 2200 mm (min.)
Working pressure : 3.0 Kg/sq cm.
Test pressure : 4.5 Kg/sq cm
UV WATER STERILISERS(between filter &clear water tank)
High performance on line UV water sterilisers of capacity 900 lpm designed on at least 250 J/Sq. M. UV dosage, comprising of glass UV chamber in SS 316 housing, UV lamp and electrical circuit, wall mounted model / line mounted model, capacity 600lpm, minimum lamp rating :150 watts - 2 Nos.
Providing and fixing G.I.pipes/CPVC pipes to I.S. 3589/1239 ( <b>Heavy class</b> ) with G.I./CPVC Fittings e.g., Tee, elbow reducers, unions, end cap etc., flanges & clamps, including supporting the pipes with G.I. supports, cutting and making good the walls etc. complete. For Suction & Delivery headers.
80 mm dia ( min.) ( Interconnection between units )/ Drain lines etc. as per plant room requirement. (All piping and fitting of required size inside the plant room included in the item)
Painting G.I./CPVC pipes with two or more coats of synthetic enamel paint of approved quality and shade over a coat of approved priming coat as directed by the Project-in-charge (shade as per pipe colour code).
65 mm dia (min.) (as per required length)
Complete W.T.P as mentioned above including testing, training and trial run till comissioning of W.T.P.
Providing and fixing of OxiLyte (Mixed Oxidant )Generation System , based on ECA technology, producing non toxic mixed oxidant solution at 1000 ppm of Oxidant concentration with auto flushing system . The solution should be at a pH 3+-0.5 suitable for 24x7 operations should produce 720 L per day. The system should be supplied complete with appropriate dosing pumps, valves,piping, fittings,chemical dosing tank etc. complete in all respect( (shope drawing model and technical data etc. are to be submitted for approval before purchase ). The system shall install to dose the oxylite solution in the treated water transfer pumping main and synchronised with the operation of transfer pump
One way one tank level controller as under.

To switch on the tube well pump when the level of water in the UG raw water tank is low and to cut off the pump when the level in the underground raw water tank is high. ( Approx. control cable requirement -100 meters. )
Two way - Two tank level controller as under.
For Filter Feed Pumps for Domestic Water.( Operating between the raw water tank and the underground treated water tank near the plant room. ( Approx. control cable requirement - 50 meters. )
For Feed Pumps for Softener.( Operating between the Treated water tank and the underground soft water tank near the plant room. ( Approx. control cable requirement - 50 meters. )
For Treated water supply Pumps( Operating between the underground treated water tank near the plant room and the Terrace treated water tank . ( Approx. control cable requirement - 50 meters. )
For Raw water supply Pumps( Operating between the underground Raw water tank near the plant room and the Terrace Raw water tank . ( Approx. control cable requirement - 50 meters. )
For soft water supply Pumps( Operating between the underground soft water tank near the plant room and the Terrace soft water tank .( Approx. control cable requirement - 50 meters. )
Providing and fixing gun metal foot valve with stainer of approved quality/model complete in all respect
80 mm dia
100 mm dia
150 mm dia
Supplying, installing, testing and commissioning vertical on line multi stage centrifugal pumping set with mechanical seal, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with SS/gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).
<b>Domestic water pumps (Treated water transfer pump to terrace tank)</b>
<b>Capacity      1100 lpm</b>
<b>Head            70M</b>
<b>Domestic water pumps (Raw water Transfer pump to terrace tank)</b>
<b>Capacity      700 lpm</b>
<b>Head            70 M</b>
<b>Soft water transfer Pump</b>

<b>Capacity</b>	<b>900 lpm</b>
<b>Head</b>	<b>70M</b>
<p>AMC of vertical fully floodable type <b>submersible drainage pump of non-corrosive material</b> in close coupled design single stage, suitable for handling minimum 10 mm dia solids for transferring waste water from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge. (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.</p>	
<p>Material of Construction (M.O.C): Corrosion Resistant in general : Casing — Cast Iron</p>	
<p>: Impeller — SS</p>	
<p>: Bearings — Anti friction, prelubricated ball bearings, packed with grease for life.</p>	
<p>Motor: — Dry Motor with built in over load protection</p>	
<p>Protection - IP68.</p>	
<p>Insulation Class - F</p>	
<p>Duty of each pump</p>	
<p><b>250 LPM against 8M head ( pump room)</b></p>	
<p><b>450 LPM against 12M head ( Basement)</b></p>	
<p> </p>	



AMC of vertical fully floodable type **submersible sewage pump of non-corrosive material with shredder/cutter** in close coupled design single stage, suitable for handling minimum 10 mm dia solids for transferring raw sewer from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge. (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.Electiclpandalcomplet as per instruction of the Engineer in charge

Material of Construction (M.O.C):

Corrosion Resistant in general

: Casing — Cast Iron

: Impeller — SS

: Bearings — Anti friction,  
prelubricated ball bearings,  
packed with grease for life.

Motor: — Dry Motor with built in over  
load protection

Protection - IP68.

Insulation Class - F

Duty of each pump

150 LPM against 12 M head ( Sewage pump)

Electiclpandalcable,etc complete as per instruction of the Engineer in charge

Testing Underground tank for water sepage before fixing of tiles or any other finishing including pressure grouting (if required). The tank should be disinfected and cleaned before use as per instruction of Engineer-in-charge(up to 8 lac ltr tank)

**SOFT WATER TREATMENT PLANT (1 Nos)**

**WATER TREATMENT PLANT (Soft water)**

Providing and fixing horizontal/ vertical on line single/multi-stage raw water filter feed pumps mounting on a foundation with CI volute and SS impellar and with stainless steel shaft, mechanical seal and chrome steel shaft sleeve, connected to a TEFC induction motor suitable for 400/440 volts, 1500 RPM, 3 phase 50 cycles A.C. supply having IP 55 protection enclosure. complete with base frame, vibration eliminating pads, nuts and bolts etc. with suction stainer ( Necessary RCC foundations as per requirement and as per instructions shall be provided by the agency )

**Water Softener feed pump**

**Capacity : 900LPM**

**Head 35 m**

Power : 15HP or as required

with 100% standby pumps(2W+2S)(The one set of the system will comprise the cost of 2 nos. pumps)

Providing and fixing GI/CPVC epoxy coated pipe & fittings and specials for suction and discharge side of pumps as required to connect Suction strainers and isolation butterfly valves on suction side and isolation valves and NRVs on discharge size , and to make a common discharge header from all pumps. Individual pump suction and discharge size minimum : 80 mm x 65 mm. The pumps shall have 100 mm NB butterfly valves and 100 mm NB flanged Y type strainers on suction side and common discharge header size : 80 mm NB including required numbers of matching flange, bolts, nuts, rubber gaskets, all complete as required / as per drawings or specifications. (complete lot)

Providing and fixing C.I. "Y" Type suction strainer with stainless steel perforated sheet screen, flanged ends iner installed outside water tanks. (Make: Leader / Zoloto / Castle or equivalent)

80/100 mm dia (4 nos.) (min.) or required size and required number

Providing and fixing G / M or bronze ball valves/butterfly valve/NRV/Rotameter, tested to 15.00 Kg / cm<sup>2</sup>, screwed end connections complete . (Make: Leader/ Zoloto/Castle or equivalent)

80/65 mm NB (min.) or required size and number

**Filtration Plant** : Vertical Downflow Multigrade Pressure Sand Filter in MS Welded construction fabricated in accordance with IS 2825 from minimum 6 mm thick M.S. plate on shell and minimum 8 mm thick M.S. plate on dished ends as per applicable IS standards. The filter shall have :

a) One no pressure tight manhole and at least one no. pressure tight side hole for maintenance purposes.

b) Initial charge of Filter Media.

c) Complete underdrain system and raw water distributor as per manufacturer's design.
d) M.S. heavy class fabricated - epoxy coated / post galvanised face piping comprising of connections with CI Butterfly Valves of required size for inlet, outlet, backwash inlet, backwash drain and rinse drain. Air release line with GM Ball Valve of required size.
e) Pressure gauges (100 mm dia bourdon type pressure gauge ) / Sampling points with SS isolation cocks at inlet and outlet.
f) All internal parts of the filtration plant shall be coated 6 mm thick natural rubber lining after thorough sand blasting. All external surfaces of the plant including piping shall be coated with epoxy primer followed by two coats of high gloss epoxy paint .
g) The filter shall be complete with all gaskets / fasteners of standard quality as required.
h) The filter shall be designed to give rated output at given raw water quality and flow rate without any operational problem and should not get any loss of performance as long as the operating pressure remains within the given range. Any additional provision is required to make the item complete, the same should be included herein. The work has to be carried through authorised vendor, dealer/representative of approved make (Ion exchange, Pollucon technologies, AKAR Impex, Thermax, Aquaprocess, LN Tech). The filter water will be supplied to soft water tank through Softner.
<b>Capacity - 900LPM</b>
Filtration rate - 20,000 lph/sqm ( min.)
<b>Filter dia approx. 1850 mm (min.)</b>
Filter HOS Min. : 2200 mm (min.)
Working pressure : 3.0 Kg/sq cm.
Test pressure : 4.5 Kg/sq cm
Providing and fixing, testing and commissioning M.S. Vertical Upflow "Cation" Ion Exchange water Softener fabricated in accordance with IS 2825 from minimum 6 mm thick M.S. plate on shell and minimum 8mm thick M.S. plate on dished ends as per applicable IS standards. The vessel shall be internally lined with 6.00 mm thick rubber, tested to 60 - 80 shore hardness, 15000 RMS volts spark test for continuity. The softener shall have :
a) Strainer plates at top and bottom with P.P. strainers with removable nuts and check nuts fixed on the plates.
b) GI/CPVC heavy class fabricated internally rubber lined face piping comprising of connections with CI Diaphragm Valves of required size for inlet, outlet, and rinse drain etc.
c) Regeneration assembly comprising of power valve, ejector, brine suction valve, and all necessary piping incorporated into the main pipework.

d) Pressure gauges (100 mm dia bourdon type pressure gauge ) / Sampling points with SS isolation cocks at inlet and outlet.
e) All external surfaces of the plant including piping shall be coated with epoxy primer followed by two coats of high gloss epoxy paint .
f) The softener shall be complete with all gaskets / fasteners of standard quality as required.
g) Initial charge of Ion Exchange resin.
h) The softener shall be designed to give rated output at given raw water quality and flow rate without any operational problem and should not get any loss of performance as long as the operating pressure remains within the given range. Any additional provision is required to make the item complete, the same should be included herein.
i) M.S. rubber lined vertical, cylindrical self supporting open tank for salt mixing and brine saturation with air agitation arrangement comprising of G. I. heavy class air distributor laid at the bottom of tank, roots type air blower complete in all respects of suitable capacity to agitate the required quantity of brine, piping interconnection between air blower and air distributor. The brine tank to have nozzles for outlet, overflow and drain. Outside finished with high gloss enamel paint over two coats of zinc chromate primer complete including testing and commissioning. Net usable capacity of the tank excluding free board etc., should be at least 10 % more than actual capacity required.
<b>Capacity of softening plant : 900 LPM</b>
Raw Hardness : 700-1600 mg/l.
Regeneration period interval not less than 8 hr.
Quantity of soft water between two regenerations =400KL
<b>Approximate Dia =1850 mm, HOS 2300 mm (min.) or as required</b>
Type of Resin : Strongly acidic cation resin
Make of Resin : Ion Exchange / Rohm & Haas
Min. qty. of resin :4000 Ltrs.
Operating pressure : 3.0 kg/sqcm
Test pressure : 5.50 kg/sqcm (Set-1)
Soft water quality: Commercial zero hardness(less than 4 ppm)
Providing and fixing G.I.pipes/CPVC pipes to I.S. 3589/1239 ( <b>Heavy class</b> ) with G.I./CPVC Fittings e.g., Tee, elbow reducers, unions, end cap etc., flanges & clamps, including supporting the pipes with G.I. supports, cutting and making good the walls etc. complete. For Suction & Delivery headers.
65/80 mm dia ( min.) ( Interconnection between units )/ Drain lines etc. as per plant room requirement. (All piping and fitting of required size inside the plant room included in the item)

Painting G.I./CPVC pipes with two or more coats of synthetic enamel paint of approved quality and shade over a coat of approved priming coat as directed by the Project-in-charge (shade as per pipe colour code).

80 mm dia (min.) (as per required length)

Complete W.T.P/softner as mentioned above including testing, training and trial run till commissioning of W.T.P. (Soft water/domestic use)

AMC for **90KLD** required to treat the effluent of lab, hospital effluent other than raw sewer etc by using suitable technology complete in all respect including collection tank, effluent transfer pump, chemical dosing pumps, chemical reaction tanks with suitable chemical dosing such as Fentons reagent or any other suitable for effluent/mixer/settler/neutralisation chamber, dosing pump and agitator, holding tank, including multigrade filter stand by motor pump, blower etc. pumps and piping, filter, sludge holding tank, filter press, testing kit, electrical panel, air blower, equilisation tank/holding tank. Treated water transfer pump and sump of suitable capacity

AMC of Package Sewage treatment plant based on MBBR (Moving bed Bio Reactor)/FAB technology of average flow rate of **600 cu.m/day** for sewer including provision of recirculation of treated sewage/effluent for the use of horticulture purposes including design and execution of all civil, structural, electrical, mechanical, plumbing and processing, ancillary equipments and works etc required to complete the package, getting approval from state pollution control board and other statutory bodies as well as from consultant (HSCC) including the cost of STP building for electrical room, treated sewage under ground storage tank.

All the water retaining structure shall be designed as water retaining structure as per provision of IS code and water proofing with fixed or any other approved chemical shall be carried out by approved agency with 10 year (minimum) garanty. All the unit shall be painted by epoxy or any other approved paints. The civil works of entire STP will be carried out by agency as per drawings prepared by STP E & M agency and approved by HSCC.

The shop drawings & design of STP shall be prepared by the agency. As per site condition/available space most of the unit will be placed below ground under road/green area. The STP shall comprising of the following units of required size as per detail process and hydraulic design. The structure design shall be carried as per provision of IS code. The agency has to get their structure drawing checked and approved by IIT Delhi or any other govt. Engineering college approved by HSCC.

RCC Suitable size **Bar Screen chamber** with minimum free board 300 mm and minimum size 0.5mx1mx0.3m SWD and suitable size mechanical SS Bar screen is installed at suitable angle at the inlet of raw sewage sump before pumping and mechanical system to collect and transport the screening material. The unit shall be designed for peak flow and additional one no. SS slotted additional manual fine screen 2 mm thick after mechanical bar screen to be fixed in chamber itself - **2 no.(min.)**.

Complete mechanical bar screen & SS slotted fine screen, Electrical & mechanical(1 set)

Civil (1Nos)-will be paid seperately in civil work

Supply, installing, testing and commissioning vertical fully floodable type <b>submersible drainage pump of non-corrosive material with shredder/cutter</b> in close coupled design single stage, suitable for handling 20 mm dia (minimum) solids for transferring raw sewer from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge. (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.
Material of Construction (M.O.C): Corrosion Resistant in general : Casing — Cast Iron
: Impeller — Ductile cast iron/SS
: Bearings — Anti friction, prelubricated ball bearings, packed with grease for life.
Motor: — Dry Motor with built in over load protection
Protection - IP68.
Insulation Class - F
<b>RAW SEWAGE PUMP-(4 nos min.)</b>
Capacity - 210 LPM (min.)
Head - 15 m
Solid handling - 20-40mm
<b>RCCEqualisation tank</b> with hydraulic retention time Min.6 Hrs HRT of STP designing average flow with suitable Size free Board 500 mm,the effluent of equalisation tank is agitated with diffused air that is fed by an air blower, including pipe non-corrosive material and its complete system. <b>(1 unit)</b>
Civil-will be paid seperately in civil work
Mechanical & Electrical
<b>RCC MBBR-(4 nos. minimum)</b> with minimum 5hr. retention time of STP designing average flow rate of each reactor of suitable size with Air grid CPVC/GI pipe material of construction or corrosion resistant material,Air diffusers (fine bubble), HDPE approved make Bio media for each aeration tank,with minimum water depth of 3.8 m.
Electrical & mechanical(2 Nos)
Civil(2 Nos)-will be paid seperately in civil work
<b>ROTARY AIR BLOWERS</b>

<p>Providing and Installation of Rotary air blowers for air scouring, driven through v-belt or directly coupled through flexible coupling. Motor shall be of suitable HP for 400-440 volts, 1500RPM, 3 phase, along with air filter, non-return valve, safety valve, base plate and necessary air piping fittings, valves, flowmeters etc.</p>
<p>(Blower capacity and pressure head shall be suitable to meet the requirement of equalisation tank and Bio reactor suitable for average flow rate of sewer of 600cu.m per day)- <b>6 nos.(4working +2 stand by)</b></p>
<p>RCC <b>secondary tube settler /Lamina Clarifier</b>-Maximum hydraulic loading 1.75 cu.m/sq.m./hr./1.5 cu.m/sq.m/hr.and with approved quality media with minimum water depth of 2.4 m plus free board and hopper bottom. The lamina clarifier media shall be of acrylic plate minimum 10 mm thick <b>(2 units)</b></p>
<p>Electrical &amp; mechanical(2 No.)</p>
<p>Civil(1No.)-will be paid separately in civil work</p>
<p>Providing and fixing of <b>OxiLyte (Mixed Oxidant) Generation System</b>, based on ECA Technology, producing non toxic mixed Oxidant Solution at 1000 ppm of Oxidant Concentration or any other approved disinfection method excepted by HSCC. The solution should be at a pH 3+-0.5 suitable for 24x7 operations should produce 150litre per hour(min.). The system should be supplied complete with appropriate dosing pumps, valves, piping, fittings, chemical dosing tank etc. complete in all respect.<b>(2 unit)</b></p>
<p>RCC <b>supernatant tank</b>/Filter feed tank minimum 75 cu.m capacity <b>(1 unit)</b> with filter feed pumps - The civil work will be paid separately</p>
<p><b>FILTER FEED PUMPSETS</b></p>
<p>Providing and installation horizontal single/multistage centrifugal monoblock pumping set with CI body, SS impeller, coupled with totally enclosed fan cooled induction motor mounted on common structural base plate with all pump accessories complete as per specifications inclusive rubber vibration eliminators motor suitable for 415 volts, 1500RPM, 3 phase 50 HZ. A/c supply.</p>
<p>Type of pump - Horizontal</p>
<p>Capacity -375 LPM</p>
<p>Head - 30 M</p>
<p><b>Nos.-(2W+2S)</b></p>
<p><b>MULTI GRADE FILTER</b></p>

Providing and installation of mild steel pressure vessel ( as per IS:2825) 6 mm thick natural rubber lining fabrication standard multi grade filter complete in all respects, with dished ends, supporting legs, manhole cover, frontal pipe work fitting with valves. Plant shall be provided with inlet, outlet pressure gauge, sample cocks, charge of filter media graded sand and internals consisting of strainers fitted on plate for collection.  
**(No. of unit-2)**

Dia of vessel -1200mm (minimum) & 1.6m ht.

Shell thickness -6mm (minimum.)

Dish end thickness-8mm (minimum.)

Filtration rate- 20,000lph/sq.m.

Nozzie plate -10mm thick (minimum.)

Manhole -450mm

Total capacity- 375 LPM (each filter)

**ACTIVATED CARBON FILTER**

Providing and installation of mild steel pressure vessel ( as per IS:2825) 6 mm thick natural rubber lining fabrication standard multi grade filter complete in all respects,with dished ends, supporting legs, manhole cover, frontal pipe work fitting with valves. Plant shall be provided with inlet, outlet pressure gauge, sample cocks, charge of approved quality activated carbon media.  
**(No. of unit-2)**

Dia of vessel -1200mm (minimum) & 1.6 m ht.

Shell thickness -6mm (minimum.)

Dish end thickness-8mm (minimum.)

Nozzie plate -10mm thick (minimum.)

Manhole -450mm

Capacity -375lpm (each) (2 nos.)

**RCC sludge sump** (20cu.m minimum)and sludge pump set with CI body, SS impeller and shaft coupled with to a totally enclosed fan cooled induction motor complete with HDPED/F pipings, sluice valves, non return valves, fittings etc as required. Motor suitable for 415 volts, 3 phase 50Hz. A/c supply with control auto start float switch with return sludge line upto Bioreactor.

**SLUDGE PUMP- (2W+2S)**

Capacity -40 LPM

Head - 8 m

Solid handing - 30mm (minimum)

Civil - RCC sludge sump and piping(1 Nos)-will be paid seperately in civil work



Providing and fixing 24 plates 600 x 600mm size <b>filter press - 2no.</b> with suitable sludge pump(screw type) and sludge tank of 3,000 ltrs. (min.) capacity alongwith piping, fittings valve etc. complete in all respects.
Providing and fixing dust and vermine proof cubical type motor control <b>panel centre</b> for the various pumps, blower etc. required. It is fabricated from 2mm thick CRCA sheet with stove enamelled finish and comprising of:Panel should have at least 20% spare feeders.
One incomming main MCCB of required capacity suitable rating
MCCB/MPCB, one for each motor
Fully automatic DOL/star delta starters suitable for different motors/pumps used in the ETP.Upto 7.5 HP DOL may be used and above star/delta starter used with push buttons one for each motor and on/off indicating neon lamps.
Single phasing preventors of appropriate rating for each motor.
rotary type selector switch
Panel type ampere meters, one for each motor shall be with rotary selector switch to monitor line currents.
Panel type volt meters, on incoming main with rotary selecting switch to monitor voltage between phase to neutral and phase to phase.
Neon phase indicating lamps and indicating lamp for each motor on incoming mains.
Rotary switch for manual or auto operation for each pump
Fully taped separate aluminium bus bar of required capacity for normal and emergency supply.
The panel shall be pre-wired with coded wiring. All intercnnting wiring from incoming main to switchgear, meters and accessories within the switchboard panel shall have suitable copper ferrules
<b>Electrical works</b> (including supply, installation and termination of cables of suitable size as per HP of all pumps with all structural supports, clamps and cable trays as per approved design/specifications,installation will be as per relevant Indian standard and CPWD specification alongwith control cable of suitable size).(1 lot). Any other electrical and mechanical item required to complete the work.
Providing and fixing digital type flow meter etc. complete in all respects. <b>(1 no.)</b>
Providing and fixing lab. Equipments including digital type pH meter, COD kit, TDS kit, bicker, conical flask etc. complete in all respects. <b>(1 set)</b>

<b>Sludge drying beds</b> (3x2x1) (minimum size)-2 nos. (complete piping & mechanical work)-civil work will be paid seperately
<b>Rooms for Pumps &amp; control panel</b> (60 sq.m. ) (minimum size)-Electrical and mechanical works, ventillation fan & ducts with minimum air change 20 CFM and lighting etc.
Civil-will be paid seperately in civil work
Electrical & mechanical
<b>RCC Treated water tank</b> (100m3) (minimum)-will be paid seperately in civil work
Supplying, installing, testing and commissioning monoblock centrifugal pumping set with mechanical seal, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with SS/gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).
Domestic water pumps (Treated water transfer pump to terrace tank)/horticulture
<b>Capacity 375lpm</b>
<b>Head 70 M (2 nos)</b>
<b>Note:</b> The rate also be included the cost of trial run for period of two month from the date of handing over and operation and maintenance of the plant for a period of one year from the expiry of trial run period including the cost of consumables complete as specification as directed .Obtain required no. of test report of treated/raw sewer during trial run. Tentative raw sewage generation & characteristics for designing of the plant are mentioned below. The bidder has to take this own judgment for designing the system
Average daily flow (cum/day) : 600 CuM per day
pH : 5.5 - 8.5
BOD (5 days at 20 degree C) (mg/l) : 150-400
COD (mg/l) : 250-600
Suspended solids (mg/l): 200-400
Oil & grease (mg/l) :20-50
The treated effluent characteristics shall be as per local pollution control board standards. The treated effluent (indicative) shall have following standard:-
BOD : Less than 10 Mg/l
COD : Less than 100 mg/l
Suspended solids: Less than 10 mg/l
Oil & grease : Less than 10 mg/l

pH : 6.5 - 8.0
Bio-assay test : Survival of fish after 96 hrs 100 %
Odor-Odorless