



Tender Fee – Rs. 2,000/=

STANDARD BIDDING DOCUMENTS

GOVERNMENT OF SINDH SINDH INFECTIOUS DISEASES HOSPITAL & RESEARCH CENTER AT NIPA, KARACHI

Ref. No:- PD(W&S)/SIDH/(O&M-01)/2022-23

**SINGLE STAGE- TWO ENVELOPE
(MOST ADVANTAGEOUS BID BASIS)**

**TENDER TITLE: OPERATION, RUNNING, REPAIR
AND MAINTENANCE OF HVAC EQUIPMENT AND BUILDING
MANAGEMENT INFORMATION SYSTEM (BMIS), GENERAL
MAINTENANCE WORKS, ELECTRICAL WORKS & GENERATOR
SYSTEM WORKS**

***PROJECT DIRECTOR (WORKS & SERVICES)
DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI.
SINDH INFECTIONS DISEASES HOSPITAL & RESEARCH
CENTER, KARACHI.***

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APPENDIX – A

BIDDING DATA

The following specific data for the Works / Services / Goods to be procured shall complement, supplement, or amend the provisions in the terms & conditions of the bidding documents. Whenever there is a conflict, the provisions herein shall prevail over those in terms & conditions of the bidding documents.

1	Name of Procuring Agency:	Sindh Infectious Diseases Hospital & Research Center, NIPA, Karachi.
2	Brief Description of Works:	Operation, Running, Repair and Maintenance of HVAC Equipment and Building Management Information System(BMIS), General Maintenance Works, Electrical Works & Generator System Works
3	Procuring Agency's address:	Medical Superintendent, Sindh Infectious Diseases Hospital & Research Center, ST-8, Block No. 10, Gulshan-e-Iqbal, Karachi.
4	Amount of Bid Security:	5% amount in Shape of Deposit at Call or Pay Order or Demand Draft or a Bank Guarantee in favour of Dow University of Health Sciences, Karachi issued by a scheduled bank in Pakistan.
5	Amount of Performing Security	10% of the Contract price.
6	Period of Bid Validity (days):	90 Days
7	Venue, Time, and Date of Bid Opening:	As notified in NIT
8	Deadline for Submission of Bids along with time:	As notified in NIT
9	Currency of Bid.	Pakistani Rupees
10	Language of Bid	English
11	Bidding Procedure	Single Stage Two Envelope Procedure/ SPP Rule 46(2) (Complete in Single Package)
12	Tender Document Purchase	Administration Office, Sindh Infectious Diseases Hospital & Research Center, ST-8, Block No. 10, Gulshan-e-Iqbal, Karachi.
13	Time of Completion of Works	<u>The Contract is for one year starting from the date of agreement and extendable for further two years on yearly basis, after the approval from Competent Authority – Sindh Infectious Diseases Hospital and Research Center, Karachi.</u>

Signature of Contractor
/Authorized representative
Seal of Firm

INSTRUCTIONS TO BIDDERS

1. **Sindh Infectious Diseases Hospital & Research Center** invites sealed bids on **Single Stage Two Envelope Systems 46(2)** as per Sindh Public Procurement Rules 2010, (Amended till 2021) from service providers for “**Operation, Running, Repair and Maintenance of**
a) HVAC Equipment and Building Management Information System (BMIS)
b) General Maintenance Works
c) Electrical Works & Generator System Works
2. The tender for work should be in the sealed envelope bearing name of the work contractor / firm clearly marked and addressed to **Project Director, Works & Services, Dow University of Health Sciences, Karachi.**
3. The tender may be delivered in person or sent by registered mail so as to reach on or before the date and time stated above. Any tender received after the stipulated time will not be considered regardless of the cause of delay.
2. Bidders are required to check that Tender Documents issued to them are complete in all respects as per table of content.
3. Bidders should examine carefully the table of content. They should visit and inspect the site at their own expense and responsibility and obtain all necessary information prior to submitting the tender. Any detail/specification missing in the document should be obtained from **Sindh Infectious Diseases Hospital and Research Center at NIPA, Karachi** before bidding. Once the tender is submitted, it will be assumed that no further clarification was required.
4. All tenderers are invited to be present for the opening of the tenders on dated: _____ at 3:00 P.m. the name of each tenderer and his total contract price along with bid security / earnest money amount only will be read aloud and recorded.
5. Any tender/tenders without required bid security / earnest money will not be entertained. Bid Security / Earnest money of the awarding firm may be return after successful Contract documents process. If the supplier fails to commence or complete the awarded work within the stipulated time his/her work order will be cancelled as per rule and bid security / earnest money shall also be forfeited.
6. Detailed particulars of the work / works can be seen in the **Medical Superintendent Office Sindh Infectious Diseases Hospital & Research Center**, ST-8, Block No. 10, Gulshan-e-Iqbal, Karachi, of on any working day during the office hours.
7. Tender shall be made in the BOQ supplied therefore, with all items and blanks properly filled in all data and figures and the signature of persons signing the tender shall be in indelible ink. The completed BOQ should be without interlineations, alterations or erasures but if these are necessary to correct errors made by the tenderer, person(s) signing the tender shall initial them. Conditional tenders will not be accepted.
8. All prices quoted shall be deemed to include all costs of performing the works, including labour, material, duties, cess, octori charges, royalties permit etc. and all [Provincial & Federal applicable taxes including Income Tax, Sindh Sales Tax, GST and other taxes, (if any)] no claim whatsoever shall be accepted in quoted prices during the currency of work.
9. Bidders shall provide evidence of their eligibility as and when requested by the Procuring Agency.

10. Prior to the detailed evaluation of bids, the Procuring Agency will determine whether the bidder fulfills all basic codal requirements given in the tender notice such as registration with tax authorities, registration with PEC (where applicable), turnover statement, experience statement, and any other condition mentioned in the NIT and bidding documents. If the bidder does not fulfill any of these conditions, it shall not be evaluated further.
11. The tender must be signed in each and every page by a person(s) authorized to do so.
12. The site can be visited on any working day during the office hours.
13. "Engineer" means the **Project Director, Works & Services, Dow University of Health Sciences, Karachi** or any other Engineer appointed by him.
14. The bid security / earnest money will be forfeited in case the contractor fails to commence the work within 10 days' time after issue of work order or left the work incomplete after commencement and during execution.
15. The Competent Authority reserve the right to reject any or all the tenders, increase or decrease the scope of work in accordance with the prevailing SPPRA Rules.
16. That the Contractor shall be responsible to keep in good condition the premises of the Hospital and shall not damage any property, in case of any loss damage caused by the contractors or its employee to any property of the compensate and or indemnify the Hospital or the staff as the case may be.
17. **Clarification of Bidding Documents**
 - a) A prospective bidder requiring any clarification(s) in respect of the Bidding Document may notify the Engineer/Employer at the Employer's/Engineer's address indicated in the Bidding Data.
 - b) The Engineer/Employer will respond to any request for clarification which it receives earlier than five (05) days prior to the deadline for the submission of Bids. Copies of the Engineer/Employer's response will be forwarded to all prospective bidders, who have received the Bidding Documents including a description of the enquiry but without identifying its source.
18. **Amendment of Bidding Documents**
 - a) At any time prior to the deadline for submission of Bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by issuing addendum.
 - b) Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause, hereof, and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
19. **Language of Bid**

The bid prepared by the bidder and all correspondence and documents relating to the Bid, exchanged by the bidder and the Employer shall be written in the English language, provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an English translation of its pertinent passages in which case, for purposes of interpretation of the Bid, the English translation shall govern.

20. Documents Comprising the Bid

The bid prepared by the bidder shall comprise the following components:

- a) Covering Letter
- b) B.O.Q. duly filled, signed and sealed
- c) Bid duly filled and initialed
- d) Bid Security
- e) Power of Attorney
- f) Documentary evidence

21. Sufficiency of Bid

- a) Each bidder shall satisfy himself before Bidding as to the correctness and sufficiency of his Bid and of the rates and prices entered in the Schedule of Prices, which rates and prices shall except in so far as it is otherwise expressly provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper completion of the Works.
- b) The bidder is advised to obtain for himself at his own cost and responsibility all information that may be necessary for preparing the bid and entering into a Contract for execution of the Works.

22. Documents Establishing Bidder's Eligibility and Qualifications

- a) The bidder shall furnish, as part of its bid, documents establishing the bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.
- b) Bidder must possess and provide evidence of its capability and the experience as stipulated in Bidding Data and the Qualification / Evaluation Criteria stipulated in the Bidding Documents.

23. Bid Security

- a) Each bidder shall furnish, as part of his bid, at the option of the bidder, a Bid Security in the amount stipulated in Bidding Data in Pak. Rupees in the form of Deposit at Call or Pay Order or Demand Draft or a Bank Guarantee issued by a Scheduled Bank in Pakistan in favour of the Employer valid for a period up to twenty-eight (28) days beyond the bid validity date.
- b) Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- c) The bid securities of unsuccessful bidders will be returned upon award of contract to the successful bidder or on the expiry of validity of Bid Security whichever is earlier.
- d) The Bid Security of the successful bidder will be returned when the bidder has furnished the required Performance Security and signed the Contract Agreement.

- e) The Bid Security may be forfeited:
 - i) If a bidder withdraws his bid during the period of bid validity; or
 - ii) If a bidder does not accept the correction of his Bid Price; or
 - iii) In the case of a successful bidder, if he fails to:
 - a. Furnish the required Performance Security
 - b. Sign the Contract Agreement

24. Validity of Bids, Format, Signing and Submission of Bid

- a) Bids shall remain valid for the period stipulated in the Bidding Data after the date of bid opening.
- b) All BOQs of Bid are to be properly completed and signed.
- c) No alteration is to be made in the B.O.Q. except in filling up the blanks as directed. If any alteration be made or if these instructions be not fully complied with, the bid may be rejected.
- d) Each bidder shall prepare Original and number of copies specified in the Bidding Data of the documents comprising the bid clearly mark them “ORIGINAL” and “COPY” as appropriate. In the event of discrepancy between them, the original shall prevail.
- e) The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign (in the case of copies, Photostats are also acceptable). This shall be indicated by submitting a written Power of Attorney authorizing the signatory of the bidder to act for and on behalf of the bidder. All pages of the bid shall be initialed and official seal be affixed by the person or persons signing the bid.
- f) The Bid shall be delivered in person or sent by registered mail at the address to Employer as given in Bidding Data.

25. Deadline for Submission, Modification & Withdrawal of Bids

- a) Bids must be received by the Employer at the address/provided in Bidding Data not later than the time and date stipulated therein.
- b) Bids submitted through telegraph, telex, fax or e-mail shall not be considered.
- c) Any bid received by the Employer after the deadline for submission prescribed in Bidding Data will be returned unopened to such bidder.
- d) Any bidder may modify or withdraw his bid after bid submission provided that the modification or written notice of withdrawal is received by the Employer prior to the deadline for submission of bids.
- e) Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security

26. Bid Opening, Clarification and Evaluation

- a) The Employer will open the bids, in the presence of bidders' representatives who choose to attend, at the time, date and location stipulated in the Bidding Data.
- b) The bidder's name, Bid Prices, any discount, the presence or absence of Bid Security, and such other details as the Employer at its discretion may consider appropriate, will be announced by the Employer at the bid opening. The Employer will record the minutes of the bid opening. Representatives of the bidders who choose to attend shall sign the attendance sheet.
- c) Any Bid Price or discount which is not read out and recorded at bid opening will not be taken into account in the evaluation of bid.
- d) To assist in the examination, evaluation and comparison of Bids the Engineer/Employer may, at its discretion, ask the bidder for a clarification of its Bid. The request for clarification and the response shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.
- e) Prior to the detailed evaluation, the Engineer/Employer will determine the substantial responsiveness of each bid to the Bidding Documents. a substantially responsive bid is one which conforms to all the terms and conditions of the Bidding Documents without any deviations. It will include to determine the requirements listed in Bidding Data.
 - i) **Arithmetical errors will be rectified on the following basis:**

If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between the words and figures the amount in words shall prevail. If there is a discrepancy between the Total Bid price entered in Form of Bid and the total shown in Summary, the amount stated in the Form of Bid will be corrected by the Employer in accordance with the Corrected Schedule of Prices.

If the bidder does not accept the corrected amount of Bid, his Bid will be rejected and his Bid Security forfeited.
- f) A Bid determined as substantially non-responsive will be rejected and will not subsequently be made responsive by the bidder by correction of the non-conformity.
- g) Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation may be waived by Employer, provided such waiver does not prejudice or affect the relative ranking of any other bidders.
- h) The Engineer/Employer will evaluate and compare only the bids previously determined to be substantially responsive pursuant to Clauses 34-d to 34-f as per requirements given hereunder. Bids will be evaluated for complete scope of works. The prices will be compared on the basis of the Evaluated Bid Price herein below.
- i) **Technical Evaluation :**

It will be examined in detail of the Works offered by the bidder complies with the Technical Provisions of the Bidding Documents. For this purpose, the bidder's data submitted with the bid in B.O.Q. to Bid will be compared with technical features/criteria of the Works detailed in the Technical Provisions. Other technical information submitted with the bid regarding the Scope of Work will also be reviewed.

ii) **Financial Evaluation**

It will be examined in detail whether the bids comply with the Financial /contractual conditions of the Bidding Documents. It is expected that no material deviation/stipulation shall be taken by the bidders.

g) **Evaluated Bid Price**

In evaluating the bids, the Engineer/Employer will determine for each bid in addition to the Bid Price, the following factors (adjustments) in the manner and to the extent indicated below to determine the Evaluated Bid Price:

- i) Making any correction for arithmetic errors
- ii) Discount, if any, offered by the bidders as also read out and recorded at the time of bid opening.

27. **Post Qualification**

- a) The Employer, at any stage of the bid evaluation, having credible reasons for or prima facie evidence of any defect in supplier's or contractor's capacities, may require the suppliers or contractors to provide information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not:

Provided that such qualification shall only be laid down after recording reasons therefor in writing. They shall form part of the records of that bid evaluation report.

- b) The determination will take into account the bidder's financial and technical capabilities. It will be based upon an examination of the documentary evidence of the bidders' qualifications submitted under Clause 30, as well as such other information required in the Bidding Documents.

28. **Award Criteria & Employer's Right**

- a) The Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the most advantageous evaluated Bid Price, provided that such bidder has been determined to be qualified to satisfactorily perform the Contract in accordance with the provisions.
- b) The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidders or any obligation to inform the affected bidders of the grounds for the Employer's action except that the grounds for its rejection of all bids shall upon request be communicated, to any bidder who submitted a bid, without justification of the grounds. Notice of the rejection of all the bids shall be given promptly to all the bidders.

29 **Notification of Award & Signing of Contract Agreement**

- a) Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his bid has been accepted.
- b) Within seven (7) days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer will send the successful bidder the Form of incorporating all agreements between the parties.

- c) The formal Agreement between the Employer and the successful bidder shall be executed within seven (7) days of the receipt of Form of Contract Agreement by the successful bidder from the Employer.

30. **Performance Security**

- a) The successful bidder shall furnish to the Employer a Performance Security in the form and the amount stipulated in the Conditions of Contract within a period of fourteen (14) days after the receipt of Letter of Acceptance.
- b) Failure of the successful bidder to comply with the requirements of bid shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

31. Tender Fee in shape of pay order in favor of **Dow University of Health Sciences, Karachi** must be attached; else the offer will be rejected.

32. Bid should be dropped at **Meeting Hall, Admin Block, Ground Floor, Sindh Infectious Diseases Hospital & Research Center** by mail or by hand in due course of time and the same will be opened at **Meeting hall, Admin Block, Ground Floor, Sindh Infectious Diseases Hospital & Research Center, NIPA, Gulshan-e-Iqbal, Karachi.**

31. **Integrity Pact**

The Bidder shall sign and stamp the Form of Integrity Pact provided in the Bidding Document for all Federal Government procurement contracts exceeding Rupees ten (10) million. Failure to provide such Integrity Pact shall make the bid non- responsive.

PROJECT DIRECTOR
Works & Services Department
Dow University of Health Sciences,
Karachi.

TERMS & CONDITIONS OF TENDER

1. Taxes will be deducted from the contractor's bill as imposed by the Government from time to time as well as Contractor will pay all the Government Institution's Contribution himself.
2. **PERFORMANCE SECURITY:** The successful bidders will have to deposit the requisite Performance Security Bond in the shape of a Pay Order / Demand Draft or Bank Guarantee as per amount mentioned under Bidding Data in favor of **Dow University of Health Sciences, Karachi**. The same will be released after successful completion of contract period. Moreover, security deposit shall be forfeited by the Procuring Agency if contractor fails to comply with terms and condition of the contract at any stage during contract period.
3. Contractor will not be allowed to participate in any Political / Immoral / Illegal activities in the premises of **Sindh Infectious Diseases Hospital & Research Center, Karachi**.
4. Contractor will not be allowed to sublet the contract except defined specifically otherwise.
5. The Procuring agency reserves the right at the time of contract award to decrease, the items / quantities of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.
6. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the bidder does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.
7. In case of any dispute contractor will approach to the **Project Director, Works & Services, Dow University of Health Sciences, Karachi**. If contractor is not satisfied with the decision of the **Project Director, Works & Services, Dow University of Health Sciences, Karachi**, then he has the right to approach the **Vice Chancellor, Dow University of Health Sciences, Karachi**. The decision of the **Vice Chancellor, Dow University of Health Sciences, Karachi**, will be final.
8. In case of any dispute, decision of the **Vice Chancellor, Dow University of Health Sciences, Karachi** shall be final and contractor could not challenge the decision in the any Court of Law.
9. The **Project Director, Works & Services, Dow University of Health Sciences, Karachi** has the right to cancel the contract at any stage and without issuing any prior notice in case of violation of Agreement / ToR is proved as well as damages to the prestige or property of **Sindh Infectious Diseases Hospital & Research Center, Karachi**.
10. Bidder will be responsible for any theft or pilferage committed by any of his employees. The employee will be liable to punishment under the rules.
11. No subletting of all or any part of work will be allowed at any cost / reasons.
12. The bidder must have done at least three (03) contracts of similar nature and magnitude and complexity for which these bids have been invited (Please submit copy of PO / Contract Agreement / Notification of Award).

13. The Bidder should not have been barred of any of provincial or federal Govt. Deptt. Agency, organization or autonomous body or private sector organization anywhere in Pakistan. (Submission of undertaking on 100/- legal stamp paper). All the proposed reports should be well known for its quality, performance and reliability.
14. The bidder's must have at least average annual turnover during the last 3 years should not be less than the relevant PEC Category requirements
15. In case of breach of the contract by the contractor, Performance Guarantee will be forfeited partly or fully as decided by the **Project Director, Works & Services, Dow University of Health Sciences, Karachi.**
16. Any condition / clause of the Contract can be included / amended if required in the interest of the **Sindh Infectious Diseases Hospital & Research Center, Karachi** with the mutual understanding of both parties.
17. Contractor shall have its own equipment required for Maintenance etc. Equipment must be approved by the **Authorized Officer of Sindh Infectious Diseases Hospital & Research Center, Karachi** before commencement of contract.
18. The Contractor should not violate or allow his Staff to violate the rules of the Sindh Government.
19. In case of violation of any rule the contractor may be fined and legal action will be initiated against him.
20. Contractor shall be responsible for his staff in all manners i.e. safety, security, theft & behavior.
21. The Contract is for one year starting from the date of agreement and extendable for further two years on yearly basis, after the approval from Competent Authority – Sindh Infectious Diseases Hospital and Research Center, Karachi.
22. Document(s) for Evaluation of Maintenance Services must be paged / flagged by the bidders.
23. Payment will be made on monthly basis subject to satisfactory report from concerned offices or through an inspection committee.
24. Each bid shall comprise Single Stage Two Envelope containing the required information.
25. Bid / offer will be evaluated as per criteria and the bid's terms & conditions.
26. Bid should be inclusive of all Government taxes (if applicable) and the same will be paid by the Contractor except withholding tax.
27. Stamp duty should be placed on contract agreement (as per the govt. approved rate) on stamp paper of value (Rs.100).
28. **Procurement Committee** shall disqualify a contractor, whether pre-qualified or not, if it finds at any time, that the information submitted by him concerning his qualification and professional, technical, financial, legal, or managerial competence as contractor; was false and materially inaccurate or incomplete at any stage.

29. 20% of the due Sindh Sales Tax (if applicable) will be deducted from the bill of the Contractors / Suppliers while remaining 80% will be deposited by the Contractors / Suppliers themselves.
30. Conditional tender and tender without bid security shall not be considered.
31. GST / Income Tax & SRB (Sindh Revenue Board) Certificates must be accompanied with tender.
32. The Procuring Agency may reject all or any bid at any time prior to the acceptance of a bid or proposals, subject to the relevant provision of SPP Rules, 2010 (Amended till 11th Aug 2021)
33. No tender will be entertained without bid security. The bid security will be forfeited to Government Treasury, in case of non-submission of performance security within seven (7) days of receipt of the Letter of Acceptance.
34. If the contractor fails to give services within the stipulated period, liquidity charges will be imposed.
35. The Bidder shall sign and stamp the Integrity Pact provided at Bid in the Bidding Document for all Provincial Government procurement contracts exceeding Rupees 10 million in case of goods and 2.5 million in case of services. Failure to sign such Integrity Pact shall make the bidder non-responsive.
36. If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in Bidding Data of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in Bidding Data. Once the maximum is reached, the Procuring agency may consider termination of the Contract.

I / We agree to above mentioned terms & conditions:

Name of Contractor _____ Signature _____

CNIC NO _____ (Copy must be attached.)

Full Address _____

Rubber Stamp _____

(ANNEXURE-A)

TECHNICAL QUALIFICATION / EVALUATION CRITERIA

S.#	QUALIFICATION CRITERIA	REQUIREMENT	YES	NO
1	Original Tender Purchase Receipt / Pay Order of Tender fee	MANDATORY		
2	Technical Proposal on Bidder's Letterhead duly signed and stamped	MANDATORY		
3	Complete Bidding document, duly signed and stamped on its each / every page as acceptance of all terms and conditions	MANDATORY		
	Compliance to Bid validity period	MANDATORY		
	Copy of C.N.I.C of Signatory of the Bid Form	MANDATORY		
3	Copy of Valid Registration P.E.C. Certificate Category C-5 or above with following Codes: ME-01 (Heating, Ventilation, Air Conditioning) ME-06 (Heat Recovery System, Chiller for power generation & Specialized Plant) EE-03 (Building Automation System & Energy Generation System) EE-06 (Specialized Lighting System) ME-02 (Fire Prevention and Protection System), CE-09 (Sewerage Works, Water Supply), CE-10 (General Building and Maintenance)	MANDATORY		
4	Copy of Electrical Inspector License (Karachi)	MANDATORY		
5	Copy of Valid Income Tax (FBR) Registration with Active Tax Payer Status on FBR Website	MANDATORY		
6	Copy of Valid Sindh Sales Tax (S.S.T-SRB) Registration with active Tax payer status on SRB Website	MANDATORY		
7	Copy of Professional Tax 2021-22 (Certificate must be attached).	MANDATORY		
8	Recent Bank Certificate / Bank Statement regarding financial soundness of the firm to do business up till PKR 100 Million.	MANDATORY		
9	Affidavit on stamp paper of Rs.100/- duly notarized to the effect that: a) The Bidder is neither blacklisted nor suspended by any Provincial and Federal Govt. b) Any Director or owner of the bidding company is not awarded any punishment from any Court of Law. c) Bidder has submitted the correct and complete information along with the Bid/Offer. If any document / information is found forged / engineered / fake / bogus at any stage, the bidder may be declared as blacklisted in accordance with law and the performance guarantee and payment, if any may be forfeited	MANDATORY		
10	Income Tax returns Minimum for Last three (03) years	MANDATORY		
11	Projects of similar nature and complexity Completed in last three (03) years. (with documentary evidence) (minimum two (02) project in last three (03) years)	MANDATORY		

S.#	QUALIFICATION CRITERIA	REQUIRMENT	YES	NO
12	The Bid form on Bidder's Letterhead duly signed and stamped shall be inserted in the Financial Proposal. However, a copy of the same shall be attached in the Technical Proposal after hiding the amount.	MANDATORY		
13	The Price Schedule(s) on Bidder's Letterhead duly signed and stamped shall be inserted in the Financial Proposal. However, a copy of the same shall be attached in the Technical Proposal after hiding the amount.	MANDATORY		
14	Bid Security shall be inserted in the Financial Proposal. However, a copy of the same shall be attached in the Technical Proposal after hiding the amount.	MANDATORY		
15	Comprehensive Maintenance Service Plan for each category (activities to be performed on daily / weekly / monthly basis (building wise, floor wise, where applicable))	MANDATORY		
16	List of machinery/equipment/tools (relevant to the scope of work) which will be utilized by the Contractor to carry out desired operations	MANDATORY		
17	Company Profile	MANDATORY		

Note: Bidders NOT complying with any of the above eligibility pre-requisites would be disqualified. All documentary evidence must be submitted along with the bids with all certificate endorsement of notary public; no document will be acceptable after bid submission.

(ANNEXURE-B)

BID EVALUATION CRITERIA

- a) THE BIDS SHALL BE EVALUATED ON **MOST ADVANTAGEOUS BID BASIS**.
- b) The bids not responsive to the MANDATORY QUALIFICATION CRITERIA provided in Tender's Documents shall not be eligible for further Technical Evaluation.
- c) Conditional Bids, Alternate / J.V / Consortium Bids, Telegraphic Bids, Bids not accompanied by Bid Security of required amount and form, bids received after specific date and time and bids of Black Listed firms shall be treated as rejected / non-responsive.
- d) The bids shall be evaluated and compared on MOST ADVANTAGEOUS BID BASIS exclusively. Technical evaluation of the products will be assessed on the standards / specifications
- e) Bids are invited as per Single Stage - Two Envelope Procedure in accordance with sub rule 2 of rule 46 of the Sindh Public Procurement Rules, 2010 (Amended 2021). In case, any bidder encloses the financial bid within the technical bid, the same shall be rejected summarily.
- f) The following merit point system for weighing evaluation factors / criteria will be applied for technical bids / proposals. Bidders achieving minimum 70% marks will be qualified and considered only for further process / evaluation besides compliance of all mandatory clauses. Documentary evidence must be attached in support of your claim.

S#	Description	Max Marks	Individual Marks	Marks Obtain	
A) GENERAL EXPERIENCE					
1	Projects of similar nature and complexity Completed in last ten years.	35	15		
1.1	Completed at least 5 Projects of Similar Nature in last ten years. each project 3 marks				
2	Projects of similar nature and complexity in-hand during last ten years.		10	5	
2.1	In Hand at least 2 Projects of Similar Nature each project 5 marks				
3	Maintenance works Projects carried out during last five years.				
3.1	Completed / In Hand at least 5 Projects of Similar Nature in last five years. for each project 1 marks				
4	Enlistment / Pre-qualification record with Government Organizations & other agencies		5	5	
4.1	Enlistment / Pre-qualification of five different Government Organizations & other agencies for each enlistment 1 marks				
	Total Marks		35		

S#	Description	Max Marks	Individual Marks	Marks Obtain
B) PERSONNEL CAPABILITIES				
5	Associates Engineers (DAE) Civil	15	5	
5.1	Experience: if the individual experience of at least Associates Engineers (DAE) Civil is equal to 6 years or above in similar nature works. for each 2.5 marks			
6	Associates Engineers (DAE) Electrical		5	
6.1	Experience: if the individual experience of at least Associates Engineers (DAE) Electrical is equal to 6 years or above in similar nature works. for each 2.5 marks			
7	Associates Engineers (DAE) Mechanical		5	
7.1	Experience: if the individual experience of at least Associates Engineers (DAE) Mechanical is equal to 6 years or above in similar nature works. for each 2.5 marks			
	Total Marks		15	
C) EQUIPMENT CAPABILITY				
7.1	Pickup Vehicle for transportation of material for each 1 Mark	20	2	
7.2	Hilti Machine		1	
7.3	Plate Compactor for each 1 Mark		2	
7.4	Wheel barrow (Trolley) with Wooden Planks		1	
7.5	Wooden Ladders with Planks for Internal Scaffolding		2	
7.6	Aluminum Ladders		1	
7.7	Diesel Water Pumps for Pumping out Water 3" Dia or more		1	
7.8	Power Generator 20Kva		2	
7.9	Electrical Works Tools		2	
7.10	HVAC Works Tools		2	
7.11	BIMS Works Tools		2	
7.12	Plumbing Works Tools		2	
	Total Marks		20	
D) FINANCIAL SOUNDNESS				
8.1	Available Bank Credit Line Bank Credit Line limit (Full Marks for 50 Million)	30	5	
8.2	Working Capital in last 3 years Available average working		5	

S#	Description	Max Marks	Individual Marks	Marks Obtain
	capital for last three years (Full Marks for 100 Million)			
8.3	Registration with income tax department, EOBI & SSES		6	
8.4	Copy of Valid electrical license		4	
8.5	Affidavit on Judicial Stamp Paper Non-Litigation History in which Decision has been given against the firm(s)		5	
8.6	Affidavit on Judicial Stamp Paper of Non-Blacklisting from any agency		5	
	Total Marks		30	
NOTE:				
The Bidder must meet the minimum requirements mentioned shall be made on minimum requirements of 50% score in each category.				

- a. Technically qualified/successful bidder(s) shall be eligible for Financial Proposal(s). The Financial bids shall be opened in the presence of the Bidders at the scheduled date, time and venue communicated in advance.
- b. Only those Financial Proposals will be announced / considered which were technically qualified by the Committee. Therefore, bidders are advised to give separate sealed envelope (s) of every quoted item / Lot and should mention the name of the item and tender serial number on the front of the sealed envelope in BOLD and legible letters to avoid confusion, otherwise, the Financial Proposal Envelope will be opened on qualified item basis and it will not be challenged by the bidder that procuring agency has opened the Financial Proposal of the disqualified items besides qualified items.
- c. Financial Bids / Proposals of Technically disqualified / rejected bidders will not be opened and sealed envelope shall be returned to the bidder.
- d. Bids not accompanied by the Bid Security of required amount and form shall be rejected.
- e. Procuring Agency shall not be responsible for any erroneous calculation of taxes and all differences arising out shall be fully borne by the Successful Bidder.
- f. Marks obtained in the detailed technical evaluation will be carried forward and prorated. Tender will be awarded to the Responding Organization with maximum accumulative points (Technical Score + Financial Score).
- g. The formula for technical scoring is "Technical Marks / Score = Total Technical Marks of the respective bidder x 0.7".
- h. The formula for financial scoring is that the lowest bidder gets 30% Marks and the other bidders score 30 multiplied by the ratio of the lowest bid divided by the quoted price.

**EXAMPLE:
TECHNICAL EVALUATION**

The formula to calculate the technical points / marks / score of the bidder is given below:
 Technical Marks / Score = Total Technical Marks of respective bidder x 0.7" Solved Example of Financial Scoring:

Technical scoring out of 100 = 85

Carried Forward & Prorated Technical scoring = 85 x 0.70"

FINANCIAL EVALUATION

The formula to calculate the Marks for the price by the bidders other than lowest bidder is given below:

"Financial Evaluation Score of individual quoted Product:

= [Lowest quoted price of the item ÷ Next higher proposed price of the competing item] x Total Allocable financial score"

"Solved Example of Financial Scoring:

If the lowest quoted price of an item is Rs. 86/- the same lowest will obtain score as below:

= $[86 \div 86] \times 30 = 30$

= 30 marks being the lowest bidder for the quoted item

If the next higher quoted price of the same item is Rs. 105/- the marks obtained will be:

= $[86 \div 105] \times 30 = 24.57$

If the next higher quoted price of the same items is Rs. 130/- the marks obtained will be:

= $[86 \div 130] \times 30 = 19.84$ Marks and so on."

**LETTER OF BID
TECHNICAL PROPOSAL**

[Location, Date]

To (Name and address of Client / DUHS)

Dear Sir,

We, the undersigned, offer to provide the the (insert title of assignment) in accordance with your IFB / NIT / Tender Document No. (insert number) dated (insert date) and our Proposal. We are hereby submitting our Proposal, which includes the Technical and Financial Bids sealed in one envelope.

Having examined the bidding documents including Addenda / Corrigendum Nos. [insert numbers & Date of individual Addendum / Corrigendum], the receipt of which is hereby acknowledged, we, the undersigned, offer to supply and deliver the WORKS / SERVICES / GOODS under the above-named Contract in full conformity with the said bidding documents and at the rates/unit prices described in the price schedule or such other sums as may be determined in accordance with the terms and conditions of the Contract. The amounts are in accordance with the Price Schedules attached herewith and are made part of this bid. We undertake, we have no reservation to these Bidding Documents.

We undertake, if our bid is accepted, to deliver the Works / Services / Goods in accordance with the delivery schedule specified in the schedule of requirements. If our bid is accepted, we undertake to provide a performance security/guaranty in the form, in the amounts, and within the times specified in the bidding documents. We agree to abide by this bid, for the Bid Validity Period specified in the Bid Document and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period. Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive, not to give any reason for rejection of any bid and that you will not defray any expenses incurred by us in bidding. We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in Pakistan. We confirm that we comply with the eligibility requirements of the bidding documents.

We also confirm that the any Government organization (Federal / Provincial / Local) has not declared us, or any, ineligible on charges of engaging in corrupt, fraudulent, collusive or coercive practices. We furthermore, pledge not to indulge in such practices in competing for or in executing the Contract, and we are aware of the relevant provisions of the Proposal Document.

We understand you are not bound to accept any Proposal you receive.

Authorized Signature [In full and initials]:

Name and Title of Authorized Signatory:

Name of Bidder:

Stamp / Seal:

**LETTER OF BID
FINANCIAL PROPOSAL.**

[Location, Date]

To (Name and address of Client / Competent Authority (DUHS))

Dear Sir,

We, the undersigned, offer to provide the **(Insert title of assignment)** in accordance with your Tender Document No. **(insert number)** dated **(insert date)** and our Technical Proposal. Our attached Financial Proposal is for the sum of **(insert amount in words and figures)** . This amount is inclusive of all taxes, duties, levies, Cess, Octroi etc.

Our Financial Proposal shall be binding upon us up to expiration of the validity period of the Proposal.

No commissions or gratuities have been or are to be paid by us to agents relating to this Bid / Proposal and Contract execution.

We also declare that the any Government organization (Federal / Provincial / Local) has not declared us or any Sub-Contractors for any part of the Contract, ineligible on charges of engaging in corrupt, fraudulent, collusive, or coercive practices. We furthermore, pledge not to indulge in such practices in competing for or in executing the Contract, and are aware of the relevant provisions of the Proposal Document.

We understand you are not bound to accept any Proposal you receive.

Authorized Signature [In full and initials]:

Name and Title of Authorized Signatory:

Name of Bidder:

Stamp / Seal:

FORM OF CONTRACT AGREEMENT

Title of Project

This Contract Agreement (hereinafter called the Agreement) made on ___ day of _____ Year, 2021

BETWEEN

M/s. _____ Contractor, having its office at Bidder's address. (Hereinafter mentioned as Contractor), which expression shall be deemed to mean and include its successors-in-interest and permitted assigns;

AND

SINDH INFECTIOUS DISEASES HOSPITAL & RESEARCH CENTER, KARACHI, A department under Government of Sindh, having its office at **Sindh Infectious Diseases Hospital & Research Center, Nipa, Karachi** Sindh, Pakistan hereinafter mentioned as "the Procuring Agency", which expression shall be deemed to mean and include its successors-in interest and permitted assigns;

WHEREAS the Contractor has agreed to render certain services i.e. "Tender Title" to **Sindh Infectious Diseases Hospital & Research Center, Karachi** and has necessary know how and staff in the respect.

AND

WHEREAS the Procuring Agency is desirous of availing the services offered by the contractor for "Tender Title" for its premises at the cost of Rs. _____/- (The contract amount) as per below mentioned BOQ. Brief particulars of the services which shall be supplied / provided by the Supplier are as under:

S.#	Items	Total Price (Per Month)	Total Amount (Per Year)
01	HVAC EQUIPMENT AND BUILDING MANAGEMENT INFORMATION SYSTEM (BMIS)		
02	GENERAL MAINTENANCE WORKS		
03	ELECTRICAL WORKS & GENERATOR SYSTEM WORKS		
Grand Total Rs.			

Now this Agreement Witnesseth as follows:

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the Terms & Conditions of Tender Enquiry referred to.
2. The Following documents after incorporating addenda, if any except these parts relating to Instruction to bidders, shall be deemed to form and be read and constructed as part of this Agreement, viz:
 - a. Purchase order(s)/ Letter of Acceptance where applicable.

- b. The completed Form of Bid along with Schedules to Bid.
 - c. Condition of Contract & Contract Data
 - d. The priced Scheduled of prices
 - e. The specifications
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to execute and complete the Works and remedy defects therein in conformity and in all respects within the provisions of the Contract.
 4. The Purchaser hereby covenants to pay the Supplier, in consideration of the execution and completion of the Works as per provisions of the Contract, 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.
 5. The Contract Price of tender will be Rs: xxxxxxxx/Year;
 6. That estimated cost of tender is on approximate basis and may vary in case of forced majeure or as per the demand of situation.

IN WITNESS WHEREOF the parties hereto have caused this Contract Agreement in accordance with their respective hands and seals, the day, month and the year first above written.
This contract will be extendible on the same rates till the allocation of new tender.

Signature of the Supplier

Signature of the Purchaser

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)

FORM OF PERFORMANCE SECURITY

(Bank Guarantee)

Guarantee No.: _____

Executed on: _____

Expiry date: _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with complete address (Scheduled Bank in Pakistan):
_____Name of Principal (Contractor, Manufacturer, Supplier or any bidder) with complete address:
_____Penal Sum of Security (express in words and figures): _____

Letter of Acceptance No. _____ Dated: _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the are e of the said Principal we, the Guarantor above named, are held and firmly bound unto the **Project Director, Works & Services, Dow University of Health Sciences, Karachi** (here in after called the Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has accepted the Employer's above said Letter of Acceptance for _____ (Name of Contract) for the _____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents- during the original terms of the said Documents and any extensions thereof that may be granted by the Employer, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Condition of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contractor has defaulted in fulfilling said

obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Witness:

1. _____
(Name, Title, Signature & Seal)

2. _____
(Name, Title, Signature & Seal)
Signature: _____

Guarantor (Bank)
Name: _____
Signature: _____
Title: _____

(INTEGRITY PACT)

**DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC.
PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN
CONTRACTS WORTH RS. 10.00 MILLION OR MORE**

Contract No. _____ Dated _____

Contract Value: _____

Contract Title: _____

..... **[name of Supplier]** hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, **[name of Supplier]** represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder’s fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, **[name of Supplier]** agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder’s fee or kickback given by **[name of Supplier]** as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Buyer:
Signature:
[Seal]

Name of Seller/Supplier:
Signature:
[Seal]

GRAND SUMMARY FINANCIAL:

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

S.#	Items	Total Price (Per Month)	Total Amount (Per Year)
01	HVAC EQUIPMENT AND BUILDING MANAGEMENT INFORMATION SYSTEM (BMIS)		
02	GENERAL MAINTENANCE WORKS		
03	ELECTRICAL WORKS & GENERATOR SYSTEM WORKS		
Grand Total Rs.			

As required, following pay order/demand draft is enclosed on account of Bid Security:

No: _____, Dated: _____ drawn on _____

Bank _____, Branch _____

Signature of Contractor / Supplier: _____

Name of Firm with full Address: _____

Email Address: _____

Phone: Off. _____

Fax: _____

Mobile: _____

(ANNEXURE – C-1)

SCOPE OF HVAC & BIMS WORK / SCHEDULE OF REQUIREMENTS

“Operation, Running, Repair and Maintenance of a) HVAC Equipment and Building Management Information System (BMIS)”

Tender Reference No:- PD(W&S)/SIDH/(O&M-01)/2022-23

A. Chiller Operation Strength:

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

Table A1							
S. #	Staff	Qty	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
Chiller Operations Team:							
1	Plant In charge	01	B. Tech / D.A.E Mechanical / AC refrigeration	8/10 years of relevant experience.			
2	Chiller Operator	04	D.A.E Mechanical / AC Refrigeration	05/08 years of relevant experience.			
3	Chiller Helper	04	Matric	02/04 years of relevant experience.			
Total Number of Staff		09		Total A1			

Table A2							
S.#	Staff	Qty.	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
Preventive Maintenance, Troubleshooting strength:							
1	Industrial Electrician	01	D.A.E Electrical	05/08 years of relevant experience.			
2	Industrial Electrician Helper	01	Matric	02/04 Years of relevant experience.			
3	Sr. Split AC Technician	01	D.A.E Mechanical / A.C Refrigeration	05/08 years of relevant experience.			
4	Split AC Technician	01	Matric	04/06 Years of relevant experience.			
5	Refrigerator Technician	01	D.A.E Mechanical / A.C Refrigeration	04/06 Years of relevant experience.			
6	HVAC Technician	04	Matric	04/06 Years of relevant experience.			
7	HVAC Technician Helper	04	Middle	02/04 Years of relevant experience.			
8	General Fitter / Welder & Fabricator	01	Middle	03/05 Years of relevant experience.			
9	General Fitter Helper	01	Middle	02/04 Years of relevant experience.			
10	Duct Man / Insulator	02	Middle	03/05 years of relevant experience.			
11	Lift Operator	03	Matric	03/05 years of relevant experience.			
Total Number of Staff		20		Total A2			

Note: All staff would be interviewed and selected by the consent of competent authority after verification of their relevant documents (Qualification and Experience)
All staff employed by contractor will mark their attendance on as per their Rota.

WORKS UNDER SCOPE OF HVAC WORK

1. Provide complete operation and preventive maintenance services of the following equipment's and their allied accessories.

S.#	Description Of items	Quantity
1	Centrifugal Chiller –600 Tons	01
2	Cooling Towers – 300Tons	02
3	Fresh Air Handling Units 6000 CFM	03
4	Air Handling Units 3000 to 6000 CFM	14
5	Fan Coil Units 2500 CFM	09
6	Fresh Air Fan Coil Units 550 CFM	12
7	Exhaust Fans 3000 CFM	07
8	Exhaust Fans 1000 CFM	03
9	Exhaust Fans 300 to 600 CFM	22
10	Primary Pumps	02
11	Secondary Pumps	02
12	Condenser Pumps	02
13	Water Cooler & Dispenser	20
14	Refrigerators	15
15	VRF Duct Type Units	03
16	DX Type Units	03
17	Split AC Wall and floor mounted	50
18	Air Curtain	10
19	Ducting & Piping system with duct heaters in SIDH&RC	1 Job

1. Ensure that operation and maintenance of each unit will be carried out on regular, fortnightly, and monthly and on yearly basis as per procuring agency requirement (Enclosed)
2. The contractor will provide uniform, identity cards to each and every deployed staff.
3. The contractor shall provide the list of staff with telephone numbers to procuring agency.
4. The contractor will ensure all safety precautions for his staff.
5. The contractor must be equipped with proper hand tools, machines and similar equipment' as per procuring agency requirement (Enclosed)
6. The contractor must notify by written notice / memo to procuring agency prior to making of any repair.
7. The detailed service report and log book of each unit will be maintained as per manufacturer manual & procuring agency requirement and submit to procuring agency on regular basis.
8. All Maintenance Schedules which will be provided by the Contractor as per standards of maintenance.

Mandatory Note:

1. The Contractor will enter into an agreement with the manufacturer / sole agent of the chillers for their consultancy, troubleshooting, annual maintenance contract consisting of Complete Chiller maintenance electrical & Mechanical including calibration of all parameters, Contractor will borne all charges of that contract.
 - a) Calibration of Pressure Gauge & Thermometers on yearly basis the Contractor will borne all charges of both activities.
 - b) Water & Air balancing on yearly basis the Contractor will borne all charges of these both activities.
 - c) Monthly Chemicals of Close / Open Circuit of cooling tower annual maintenance Contractor will borne all charges of that contract.

2. Daily maintenance:

- a) Check for any complaints that are reported and troubleshoot them immediately.
- b) AC system of the important & critical facilities are to be continuously monitored and corrective actions are to be taken immediately so as not to affect the facility concerned
- c) If any important activities like seminars / lectures / meetings / interviews are planned in the campus, concerned AC system has to be inspected and normal functioning of AC system is to be ensured.
- d) Adjustments in the system to achieve required temperature & RH level as required by the user. Release of air locks / blocks in the system.
- e) If there is any instruction to operate the AC systems in the specific timings, the same has to be materialized.
- f) General inspection of the AC system and rectification if any abnormality exists.
- g) Attending to the planned / scheduled preventive maintenance.
- h) Updating of all the relevant documents, logs, history books etc.
- i) Reporting of day's work and progress to concerned Engineer-in-charge.

3. Quarterly maintenance:

- a) Inspect connection for any water leaks in the coil and connection. Check the tightness of hose, fittings & tighten if necessary. There should not be any flooding of water from the AHU.
- b) Check and clean drain pan, condensate drain pipe and floor drains to ensure no choking and flooding.
- c) Cleaning of cooling coils, fins and filters, air & water flow, release of air lock etc.

- d) Open up the electrical control panel, inspect for any blackening of contacts, loosening of connections, component condition etc. rectify if any abnormality is noticed.
- e) Inspect the conditions of the thermometers and pressure gauges for proper function.
- f) Check for proper operation of the associated measuring, control and safety device like thermostat, humidistat, 2 way actuating valves etc. Reset if required.
- g) Check, report and rectify, if any abnormal noise / vibration is observed.
- h) Check and re-tighten any loose bolts and nuts in proper sequence.
- i) Clean all the type air filters.
- j) Check the fan belts for proper tension, and replace if necessary, and examine the fans for correct alignment, lubricate the bearing as required.
- k) Check heater bank condition and rectify if any problem exists.
- l) Inspect the condition of insulation materials and rectify if necessary.
- m) Clean the water strainer of chilled water system.
- n) Entire AHU room to be thoroughly cleaned with vacuum cleaner & to be made clean & dust free.

4. Yearly maintenance:

- a) Perform quarterly services
- b) Overall servicing of the FAHU, AHU, FCDO, FCU, Exhaust Fans units, cleaning, reduction of noise level, checking of mechanical assemblies, foam insulators over the pipes.
- c) De-scaling of copper tubes of the cooling coil (the water circuit) by suitable means as per manufacturer's recommendation and general standards execute by the manufacturer / sole agent / Consultant if required.
- d) Parameter checking before & after servicing
- e) Air flow checking & adjustment / balancing, if required
- f) Checking and calibration of temperature and pressure gauges on supply & return chilled water lines and replacement of the same if required.
- g) Checking of unit efficiency, total capacity delivery of the unit & bringing it to optimum performance level, air flow and water temperature measurements on supply & return ends execute by the manufacturer / sole agent / Consultant.
- h) General checking of electrical switchgears controls etc. All electrical system should be checked if required by the electrical consultant advice, execute through competent company. (Consultant & Execution Company Charges will be bear by the Client)

- i) Cleaning of diffusers, grills, dampers etc.
- j) Necessary documentation of parameters (before & after servicing work) and submission of checklist.

Note:

1. If it is required to clean the cooling coil by water jet, the same has to be done by removing the cooling coil with all precautionary measures & taking it to a convenient place for full cleaning of water & air circuits. Coil to be cleaned with suitable chemical & water jet. This work is to be done carefully without damaging the AHU & the coil. (Chemical Provide by the Client)
2. Coil, fins, filters etc. are to be thoroughly cleaned to achieve desired air and water flow rates.
3. All the maintenance / servicing works should be carried out in such a way so that the equipment unit can be used for its optimum performances. Any work which is found to be required for optimum performance of the system has to be done.
4. Necessary care should be taken while carrying out all types of maintenance / servicing of equipment to avoid damages.
5. Contractor should supply all necessary materials like Nitrogen, Electric Welding Plant and Allied Accessories, Gas Welding Plant with allied accessories suitable grade of grease / lubricant, cleaning brush etc., to carry out servicing.

Breakdown maintenance: Any breakdown complaint should be attended immediately to avoid disturbance in center activities. Spares & tools required to attend any breakdown has to be maintained. After attending to breakdowns, the unit / system shall be closely observed / monitored next day and parameters shall be checked & recorded.

Repair and replacement of parts: During routine / periodic maintenance and during breakdown maintenance the contractor shall repair faulty parts / equipment with client resources. Repair shall be done in such a way that it should not affect the performance & life of the equipment, and while doing maintenance work, care should be taken that water should not come out from the unit.

All the works to be done as per daily / monthly/ half yearly or yearly schedule. In case, if it requires the same work to be done in-between, same shall be attended.

The essence of the contract is to maintain the Air-conditioning system in such a way that it gives desired optimum performance. Repair / replacement of all the parts / equipment required for proper functioning of the machine, whether specified or not, are included in the scope of work (Cost of Repair and Equipment & Parts supplied by Client).

De-scaling & cleaning of cooling coils & fins: It is a once in a year activity. The work procedure is as follows:

Ensure that the power supply of the unit should be disconnected / switched off and caution board to be fixed at the main isolation of power supply. Take pre-service system running parameter readings (Air flow, DB, WB temp. readings, electrical parameters etc.)

Ensure that main valves (ball valves of the unit) should be in closed condition. Arrange to cover & ensure that water should not fall on electrical control box, motorized valves, pressure gauges, etc. Failure to cover electrical control box, Motorized valves and other electrical circuits where water fall on such item may lead to serious injury / death / damage to the equipment accessories etc., for which contractor is solely responsible. Loosen the hose clips and remove the connections from the cooling coil. Prepare the chemical mixture & keep it ready in a container / tank.

Circulate it through the cooling coil for specified time as recommended by the manufacturer. (Note: Contractor should arrange for container / tank etc.) After circulation of chemical mixture through the cooling coil, flush out the coil using fresh water before connecting the hose connections.

Coil fins should be cleaned using fins cleaning chemical, brush & should be cleaned to remove the sediments & dust particles of the entire coil. Should ensure there should not be any folding of coil fins which may result in improper flow of air through the coil. Should ensure that always air should be passed through the coil, any bypass of airflow should be attended immediately and rectified. Ensure that cooling coil filters is in good / clean condition, if the filter is choked, the same should be cleaned and fixed. Reconnect all the systems & take the post service running parameter readings. After completing the work, it should be ensured that the entire unit & the surrounding area are cleaned thoroughly.

Note:

Any accidents occurred due to negligence / inexperience during work is purely the responsibility of the contractor, Contractor should also ensure that water should not come outside the rooms while executing the work. Prior approval should be obtained from Engineer-in-Charge for the chemical / solution being used for de-scaling. The chemical shall be recommended by manufacturer.

Arrangement of pump, chemical tank, a small power distribution board with back up protection of MCB/Fuse/ELCB required for operation of motors pump sets is the responsibility of the contractor.

TOOL LIST REQUIRED FOR HVAC WORKS:

S.No	DISCRIPTION	Unit	QTY
1	Air Blower	No.	2
2	Ampere Metter	No.	3
3	Bearing Puller - 10"12"14"	Set	1
4	Brazing Set Portable Complete Mini	Set	1
5	Brazing Set With Fire Arrester Large	Set	1
6	Chisel - Medium	No.	3
7	Chisel - Small	No.	3
8	Copper Pipe Bender - ½", 5/8", ¾"	Set	1
9	Digital Temperature Tester -20 TO +500 In/Out	No.	1
10	Drill Machine (Hammer) with Bid Set Complete	No.	1
11	Ellen Key Inch	Set	3
12	Ellen Key mm	Set	3

S.No	DISCRIPTION	Unit	QTY
13	Flaring Tool Professional Kit	Set	3
14	Flat File - Diff sizes	Set	3
15	Gauge Manifold Complete Set -5/16 .1/4 for R22, R410a	Set	1
16	GI Sheet Cutter	No.	1
17	Grinder (Baby)	No.	1
18	Grinder (Table)	No.	1
19	Gun (Grease) Small	No.	1
20	Gun (Heat) For Soldering Removing	No.	1
21	Hack Saw Blade - 2 SIDED	No.	6
22	Hack Saw Frame	No.	3
23	Hammer - Flat	No.	3
24	Hammer - Pin Ball	No.	3
25	Hilti Machine with Bits & Core Bits	No.	1
26	Hole Punch	No.	1
27	Knife Blade	No.	6
28	Ladder (wooden) - 14'	No.	1
29	Ladder MS Folding - 6'	No.	2
30	Lugs Punch	No.	2
31	Meter (PH)	No.	1
32	Meter (TDS)	No.	1
33	Multi Metter	No.	1
34	Nitrogen Cylinder With Regulator Large	No.	1
35	Nylon Brush	No.	12
36	Oil Can For Oil Filing small	No.	1
37	Pipe Cutter (Copper)	No.	3
38	Pliers (Cutter)	No.	4
39	Pliers (Grip)	No.	4
40	Pliers (Normal)	No.	4
41	Pliers (Nose)	No.	4
42	Pump (Karcher) - 150 bar	No.	2

S.No	DISCRIPTION	Unit	QTY
43	Pump (Vacuum)	No.	1
44	Pump Refrigerant Recovery	No.	1
45	Punching Tools	Set	1
46	Round Cutter	No.	2
47	Round File - Diff sizes	Set	3
48	Safety Gloves	Pair	6
49	Safety Helmet	No.	24
50	Safety Shoes	Pair	6
51	Scaffolding (Pipe / Bamboos)	Sft.	400
52	Scissor Rubber Gas Kit	Set	1
53	Scrapper - 2" - 3" - 4"	Set	5
54	Screwdriver (Starset)	Set	3
55	Screwdriver Mechanical Set	Set	1
56	Screwdriver Set (-)	Set	3
57	Screwdriver Set (+)	Set	3
58	Soldering Iron With Soldering Wire	Set	3
59	Soldering Sucker	No.	3
60	Spanner Set Ring	Set	3
61	Spanner (Tommy) 10-32 Nos. (Rachet Box)	Set	3
62	Tape Measure - 50' 20' 15'	Set	1
63	Tester C.F.M	No.	3
64	Tester Gun (Laser Temperature)	No.	1
65	Tester R.P.M	No.	3
66	Tester Sound Level	No.	1
67	Torch light	No.	1
68	Triangle File - Diff sizes	Set	1
69	Vernier caliper	No.	1
70	Welding Plant (Electric) Complete Set	Set	1
71	Wire Brush	No.	6
72	Wrench (Adjustable/Screw) - 6" 8" 10" 12"	Set	1

S.No	DISCRIPTION	Unit	QTY
73	Wrench (Pipe) - 8" 10" 12" 14"	Set	1
74	Wrench / Spanner Fixed Set Inch	Set	1
75	Wrench / Spanner Fixed Set mm	Set	1

Note: All Tools should be provide by Contractor for any repair / checking / rectification of fault whereas listed or not listed

HVAC MATERIAL

S.#	Item Description	Unit	Qty.	Rate	Amount
1	Gas R-22 (Make: Usa/Honeywell) 13.5 Kg	Cylinder	1		
2	Gas R-410-A (Make: Usa/Honeywell) 11 Kg	Cylinder	1		
3	Gas R-134-A (Make: Usa/Honeywell) 11 Kg	Cylinder	1		
4	Gas R-404-A (Make: Usa/Honeywell) 10.9 Kg	Cylinder	1		
5	Compressor Oil R-22 (Make: Suniso Original/Shell) 4 Litre	Gallon	1		
6	Compressor Oil R-410 (Make: Suniso Original/Shell) 4 Litre	Gallon	1		
7	Compressor Oil R-404 (Make: Suniso Original/Shell) 4 Litre	Gallon	1		
8	Compressor Oil R-134 (Make: Suniso Original/Shell) 4 Litre	Gallon	1		
9	Compressor 1.0 Ton Rotary	No.	1		
10	Compressor 1.5 Ton Rotary	No.	1		
11	Compressor 2.0 Ton Rotary	No.	1		
12	Compressor 2.5 Ton Scroll	No.	1		
13	Compressor 4.0 Ton Scroll & Rotary	No.	1		
14	Compressor 6.0 Ton Scroll Double Stage Suction Copland	No.	1		
15	Compressor Leads (R C S)	No.	1		
16	Capacitor (Make: Fuji) 50uf	No.	1		
17	Capacitor (Make: Fuji) 60uf	No.	1		
18	Capacitor (Make: Fuji) 2.5uf	No.	1		
19	Capacitor (Make: Fuji) 3.5uf	No.	1		
20	Capacitor (Make: Fuji) 4.5uf	No.	1		
21	Capacitor (Make: Fuji) 5.0uf	No.	1		
22	Capacitor (Make: Fuji) 5.0uf	No.	1		
23	Capacitor (Make: Fuji) 8.0uf	No.	1		
24	Capacitor (Make: Fuji) 10uf	No.	1		
25	Capacitor (Make: Fuji) 12uf	No.	1		
26	Contacto Single Phase 16 Amp 2-Pole	No.	1		
27	Contacto Single Phase 20 Amp 1-Pole	No.	1		
28	Contacto Single Phase 20 Amp 2-Pole	No.	1		
29	Contacto Three Phase 32 Amp 3-Pole	No.	1		
30	Gas Charging Valve 1/4" (Make: China)	No.	1		
31	Gas Charging Valve 1/2" (Make: China)	No.	1		
32	Gas Charging Valve 3/8" (Make: China)	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
33	Gas Charging Valve 5/8" (Make: China)	No.	1		
34	Gas Charging Valve 3/4" (Make: China)	No.	1		
35	Gas Charging Pin Valve 1/4" (Make: China)	No.	1		
36	Copper U Band 1/4"(Make: China)	No.	1		
37	Copper U Band 3/8" (Make: China)	No.	1		
38	Flexible Pipe 1/2" PVC (For Drain Line)	Feet	1		
39	Flexible Pipe 3/4" PVC (For Drain Line)	Feet	1		
40	AC Outdoor Bracket	No.	1		
41	Capillary tube 0/32 (Make: Mueller/Muller USA)	Coil	1		
42	Capillary tube 0/36 (Make: Mueller/Muller USA)	Coil	1		
43	Capillary tube 1/32" (Make: Mueller/Muller USA)	Coil	1		
44	Copper Pipe 50 Feet Coil 1/4" (Make: Mueller/Muller USA)	Coil	1		
45	Copper Pipe 50 Feet Coil 3/8" (Make: Mueller/Muller USA)	Coil	1		
46	Copper Pipe 50 Feet Coil 1/2" (Make: Mueller/Muller USA) (Conforming To Existing At Site)	Coil	1		
47	Copper Pipe 50 Feet Coil 5/8" (Make: Mueller/Muller USA)	Coil	1		
48	Copper Pipe 50 Feet Coil 3/4" (Make: Mueller/Muller USA)	Coil	1		
49	Copper Pipe 50 Feet Coil 18-Gauge (1- 1/8" 20 Feet) (Make: Mueller/Muller USA)	Length	1		
50	Copper Pipe 50 Feet Coil 18-Gauge (1- 3/8" 20 Feet) (Make: Mueller/Muller USA)	Length	1		
51	Flare Nut Copper (Make: Mueller/Muller USA) 3/8"	No.	1		
52	Flare Nut Copper (Make: Mueller/Muller USA) 1/2"	No.	1		
53	Flare Nut Copper (Make: Mueller/Muller USA) 5/8"	No.	1		
54	Flare Nut Copper (Make: Mueller/Muller USA) 3/4"	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
55	Flare Nut Copper (Make: Mueller/Muller USA) 1/4"	No.	1		
56	Liquid Line Drier Filter Threaded (Make: Alco Controls/ Danfoss / Castel) 3/8"	No.	1		
57	Liquid Line Drier Filter Threaded 5/8" (Make: Alco Controls/Danfoss / Castel)	No.	1		
58	Liquid Line Drier Filter Threaded 1/2" (Make: Alco Controls/ Danfoss/Castel)	No.	1		
59	Copper Pipe Aero flux Insulation 7/8" (54 Pcs)	Box	1		
60	Copper Pipe Aero flux Insulation 1-1/8" (36 Pcs)	Box	1		
61	Circuit Card For Split Ac Universal	No.	1		
62	Solenoid Coil With Assembly 220v	No.	1		
63	Indoor Blower Motor (For Cassette Type Ac)	No.	1		
64	Outdoor Fan Motor (For Cassette Type Ac)	No.	1		
65	Indoor Blower Motor (For Standing Ac)	No.	1		
66	Outdoor Fan Motor (For Standing Ac)	No.	1		
67	AHU Blower Motor Belt Spa-640	No.	1		
68	AHU Blower Motor Belt Spa-B42	No.	1		
69	AHU Blower Motor Belt Spa-B41	No.	1		
70	AHU Blower Motor Belt Spa-B39	No.	1		
71	AHU Blower Motor Belt Spa-B38	No.	1		
72	AHU Blower Motor Belt Spa-A38	No.	1		
73	AHU Blower Motor Belt Spa-	No.	1		
74	AHU Blower Motor Belt Spa-B45	No.	1		
75	AHU Blower Motor Belt Spa-A40	No.	1		
76	AHU Blower Motor Belt Spa-A45	No.	1		
77	AHU Blower Motor Belt Spa-A50	No.	1		
78	AHU Blower Motor Belt Spa-A46	No.	1		
79	Cooling Tower Fan Motor Belt B 125 x 5	Nos	1		
80	Bearings (Make SKF/NTN) 6201-2RS/C3 1/2	No.	1		
81	Bearings (Make SKF/NTN) 6202-2Z/C3	No.	1		
82	Bearings (Make SKF/NTN) 6203-2Z/C3	No.	1		
83	Bearings (Make SKF/NTN) 6204-2Z/C3	No.	1		
84	Bearings (Make SKF/NTN) 6205-2Z/C3	No.	1		
85	Bearings (Make SKF/NTN) 6206-2Z/C3	No.	1		
86	Bearings (Make SKF/NTN) 6208-2Z/C3	No.	1		
87	Bearings (Make SKF/NTN) 6209-2Z/C3	No.	1		
88	Bearings (Make SKF/NTN) 6211-2Z/C3	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
89	AHU Bearings (Make SKF/NTN) YET - 205	No.	1		
90	AHU Bearings (Make SKF/NTN) YET - 206	No.	1		
91	AHU Bearings (Make SKF/NTN) YET - 207	No.	1		
92	AHU Bearings (Make SKF/NTN) YET - 208	No.	1		
93	AHU Bearings (Make SKF/NTN) YET - 209	No.	1		
94	AHU Bearings (Make SKF/NTN) YET - 210	No.	1		
95	Breaker Hager 2-Pole 20 - Amp	No.	1		
96	Breaker TP Terasaki 32 - Amp	No.	1		
97	E O C R (Make: Schneider) 0.5 to 6-Amp	No.	1		
98	Motorize Valve 1" (Make: Honeywell 0 to 10 Volt)	No.	1		
99	Motorize Valve 3/4" (Make: Honeywell 0 to 10 Volt)	No.	1		
100	Magnetic Contactor With Auxiliary Contact TC-22 32 Amp	No.	1		
101	E O C R (Make: Schneider) 5 - 70 Amp	No.	1		
102	Timer TUBN 8-Pin (Make: Fotek)	No.	1		
103	Timer Multi Min to Sec 8-pin (Make: Fotek)		1		
104	Auto/Off/Manual Selector Switch (Make: Comsco)	No.	1		
105	Magnetic Contactor 2-Pole 20-Amp	No.	1		
106	Relay 8-pin 24-VDC	No.	1		
107	Relay 8-pin 220-VAC	No.	1		
108	Float Valve 1"	No.	1		
109	Wire 4 Core Flexible Pakistan Cable (Copper) 0.75mm (90 Mtr. Coil)	Coil	1		
110	Wire 6 Core Flexible Pakistan Cable (Copper) 0.75mm (90 Mtr. Coil)	Coil	1		
111	Wire 5 Core Flexible Pakistan Cable (Copper) 2.5mm (90 Mtr. Coil)	Coil	1		
112	Wire 6 Core Flexible Pakistan Cable (Copper) 2.5mm (90 Mtr. Coil)	Coil	1		
113	Wire 3 Core 110/76 Flexible Pakistan Cable (Copper) 110/76 (90 Mtr. Coil)	Coil	1		
114	Wire 3 Core 40/76 Flexible Pakistan Cable (Copper) 40/76 (90 Mtr. Coil)	Coil	1		
115	Wire 3 Core 23/76 Flexible Pakistan Cable (Copper) 23/76 (90 Mtr. Coil)	Coil	1		
116	Rowel Bolt 8mm	No.	1		
117	Rowel Bolt 10mm	No.	1		
118	Rowel Bolt 12mm	No.	1		
119	EX Blower Motor (Make: Seimens) 3-Phase REWINDING 1.1 kw	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
120	EX Blower Motor (Make: Seimens) 3-Phase REWINDING 1.5 kw	No.	1		
121	AHU Blower Motor (Make: Seimens) 3-Phase REWINDING 2.2 kw	No.	1		
122	AHU Blower Motor (Make: Seimens) 3-Phase REWINDING 3.0 kw	No.	1		
123	AHU Blower Motor (Make: Seimens) 3-Phase REWINDING 4.0 kw	No.	1		
124	AHU Blower Motor (Make: ABB) 3-Phase REWINDING 5.5 kw	No.	1		
125	AHU Blower Motor (Make: ABB) 3-Phase REWINDING 7.5 kw	No.	1		
126	Fan Coil Unit Blower Motor REWINDING 380-Watt	No.	1		
127	C-Clamp 2"	No.	1		
128	Fisher 8mm	Box	1		
129	Fisher 10mm	Box	1		
130	Fisher 12mm	Box	1		
131	Dura Duct PVC / Per Length 10 Feet's 100 X 100	Feet	1		
132	Dura Duct PVC / Per Length 10Feet's 120 X 120	Feet	1		
133	Glass Whole 2" Thickness 1.2m Width High Density Aluminum Foil/ Kraft Laminate Facing(FSK) 45 Meter Roll (Make: KIMMCO) (45 Meter)	Roll	1		
134	Teflon Tape	No.	1		
135	Duct Sealer Solution 5 Kg	Gallon	1		
136	Thread Rod 10mm/2meter	Rods	1		
137	Nut With Washer 10mm	KG	1		
138	Thread Rod 12mm/2meter	Rods	1		
139	Nut With Washer 12mm	KG	1		
140	GI Sheet For Ducting 26 Gauge	KG	1		
141	GI Sheet For Cladding 24 Gauge	KG	1		
142	Cable Tie 8"	Packet	1		
143	Cable Tie 10"	Packet	1		
144	Cable Tie 12"	Packet	1		
145	Jubilee Clamp 1/2" SS	No.	1		
146	Jubilee Clamp 3/4" SS	No.	1		
147	Jubilee Clamp 1" SS	No.	1		
148	Jubilee Clamp 2" SS	No.	1		
149	WD-40 330ml	No.	1		
150	CRC 300ml	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
151	Gas Pressure Gauge 0 to 10 Bar/Psi	No.	1		
152	Emvy Paper 0 - No	No.	1		
153	Emvy Paper 0.5 No	No.	1		
154	Emvy Paper 1.0 No	No.	1		
155	Emvy Paper 1.5 No	No.	1		
156	Emvy Paper 2.0 No	No.	1		
157	Aero Flux Sheet 1x4x6 Feet	No.	1		
158	Vacuum Pump Oil (Make: Robin Air) 3.75 Liter	Gallon	1		
159	Paint Brush 2"	No.	1		
160	Paint Brush 3"	No.	1		
161	Paint Brush 4"	No.	1		
162	Mixing Oil Superior Quality 10 - Liter	Cane	1		
163	Thinner Superior Quality 10 - Liter	Cane	1		
164	Epoxy Grey Paint (Make: ICI) 3.75 Liter	Gallon	1		
165	Yellow Paint (Make: ICI) 3.75 Liter	Gallon	1		
166	Blue Oxford Paint (Make: ICI) 3.75 Liter	Gallon	1		
167	Gray Dark Paint (Make: ICI) 3.75 Liter	Gallon	1		
168	Gray Smoke Paint (Make: ICI) 3.75 Liter	Gallon	1		
169	Blue Comet Paint (Make: ICI) 3.75 Liter	Gallon	1		
170	Black Paint (Make: ICI) 3.75 Liter	Gallon	1		
171	Sea Green Paint (Make: ICI) 3.75 Liter	Gallon	1		
172	White Paint (Make: ICI) 3.75 Liter	Gallon	1		
173	Red Oxide Paint (Make: ICI) 3.75 Liter	Gallon	1		
174	Anti-Fungus Paint With Mixing Oil (Make: Comex) 11 Liter	Cane	1		
175	Garden Pipe 1" High Pressure	Feet	1		
176	Duct Tape (Make: Abro Premium Foil) 2"	Feet	1		
177	Insulation Tape 2" (Black)	No.	1		
178	PVC Tape Red (Make: Nito) 3/4"	No.	1		
179	PVC Tape Yellow (Make: Nito) 3/4"	No.	1		
180	PVC Tape Black (Make: Nito) 3/4"	No.	1		
181	Flux 227 Grams	Tin	1		
182	Silicon Tube Clear RTV 300ml	No.	1		
183	Cementex Solution NT-80 1 Kg	kg	1		
184	Pop Rivet 1.5mm	Box	1		
185	Pop Rivet 2mm	Box	1		
186	Pop Rivet 3mm	Box	1		
187	Pop Rivet 4mm	Box	1		
188	White Spray Paint 400 - CC	Cane	1		
189	Black Spray Paint 400 - CC	Cane	1		
190	Epoxy Solution Fins Pasting 2	kg	1		
191	Glycerin Solution 1	kg	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
192	Foam Spray 400 - CC	Cane	1		
193	Chilled Water Pipe Insulation Cloth 100	Meter	1		
194	Craft Paper Chilled Water Pipe Insulation	Roll	1		
195	Glue For Pasting Chilled Water Pipe Insulation Cloth 50	kg	1		
196	U-Pvc Pipe Solution (Make: EZ- Weld US) 0.24 Liter	Cane	1		
197	High-Temp Red Silicone Sealant (Make: Magic) 20 Grams	Tube	1		
198	Steel Nail 1"	Box	1		
199	Steel Nail 1-1/2"	Box	1		
200	Pump Coupling Rupper	No.	1		
201	Temperature Gauges 6" Length 1/2" (Make: WEISS Instruments) 0 to 30 Celsius	No.	1		
202	Temperature Gauges 4" Length 1/2" (Make: WEISS Instruments) 0 to 30 Celsius	No.	1		
203	Pressure Gauges Liquid Fill 4" Dia 1/2" (Make: WEISS Instruments) 0 to 160 Psi	No.	1		
204	Pressure Gauges Liquid Fill 2" Dia 1/2" (Make: WEISS Instruments) 0 to 60 Psi	No.	1		
205	P3 Duct Sheet Aluminum Foil Coated Length 4000mm Width: 1200mm Thick: 20.5mm (Make: P3-Preinsulated Panels System)	Sheet	1		
206	P3 Duct Pasting Solution (Make: P3-Preinsulated Panels System) 5-Litre	Gallon	1		
207	Service Shut Off Valve (Make: Alco Controls/ Danfos/Castel) 5/8"	No.	1		
208	Duct Type Air Temperature Sensor (Make Mamac) (Model TE-702-A-5-C)	No.	1		
209	Immersion Temperature Sensor (Make Mamac) (Model TE-703-A-5-C)	No.	1		
210	Duct Air Humidity Sensor (Make Grystone) (Model RH200A03)	No.	1		
211	Duct Air Firestat Sensor (Model TC-108-1A-3C)	No.	1		
212	Duct Air Flow Sensor (Make Grystone) (Model LP3B)	No.	1		
213	0 to 10 Volt Chilled Water Motorize Actuator (Make Honeywell))	No.	1		
214	24Volt Relay For Start/Stop (Make Schneider)	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
215	IP Controller (Make Easy IO) (Model FW-14)	No.	1		
216	IP Controller (Make Easy IO) (Model FW-08)	No.	1		
217	Network Controller (Make Easy IO) (Model FS-32)	No.	1		
218	24 Volt Power Supply Card (Model PS-01)	No.	1		
219	24 Volt Transformer (Model XFMR)	No.	1		
220	Pressure Sensor (Make Danfoss) (Model MBS-3000)	No.	1		
221	De-Scaler Chemical	Liter	1		
222	AHU Coil Cleaning Chemical	Liter	1		
223	Flame Sensor AM06060108	No.	1		
224	Mechanical Seal Condenser Water Pump (Make: VILO)	No.	1		
225	HEPA Filter H-14 For FA-AHU's	No.	1		
226	HEPA Filter H-14 LAM-14 (size: 90x914x914mm) For FA-AHU's	No.	1		
227	G-4 Aluminum Filter (size: 24"x24"x2") For AHU's	No.	1		
228	G-4 Aluminum Cleanable Filter (size: 592x287x048mm) For AHU's	No.	1		
229	Insulation Chilled Water Pipe Aluminum Foil Coated 3/4" X 2'	No.	1		
230	Insulation Chilled Water Pipe Aluminum Foil Coated 1" X 2'	No.	1		
231	Insulation Chilled Water Pipe Aluminum Foil Coated 1-1/2" X 2'	No.	1		
232	Insulation Chilled Water Pipe Aluminum Foil Coated 2" X 2'	No.	1		
233	Media Filter Sheet Use For FA- AHU's 1" Thickness 4 Ft Width 20 Meter Length 20-Meter	Roll	1		
234	Media Filter Sheet Use For FA- AHU's 2" Thickness 4 Ft Width 20 Meter Length 20-Meter	Roll	1		
	Total Rs.				

B. BUILDING MANAGEMENT INFORMATION SYSTEM (BMIS):

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

Table B1							
S.#	Staff	Qty.	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
1	BMS In charge /Supervisor	01	DAE in Electronics / Mechanical	05/08 Years of Experience in relevant field.			
2	BMS Technicians	03	DAE in Electronics / Mechanical	05/08 Years of Experience in relevant field.			
3	BMS Operator	04	Intermediate	03/05 Years of Experience in relevant field.			
	Total	08		Total B1			

NOTE: All staff would be interviewed and selected by the consent of competent authority after verification of their relevant documents (Qualification and Experience)

WORKS UNDER SCOPE OF BMIS WORK:

Provide complete and maintenance services to building management.

Ensure that operation and preventive maintenance of each unit will be carried out on regular basis.

The contractor will provide uniform, identity cards to each and every deployed staff.

The contractors shall provide the list of the staff with telephone numbers to the department.

The contractor should ensure all safety precautions for its staff.

The contractor should be equipped with proper hand tools and similar equipment's.

The contractor shall be responsible for the execution of minor repairs and adjustments related to activities of ordinary wear and tear maintenance.

The contractor must notify by written notice to procuring agency prior to the making of any repair.

Procuring agency will provide an office to contractor for administrative purposes only.

The detailed service report and log book of each unit should maintained as per manufacturer

Mandatory Note: The Contractor will enter into an agreement with the manufacturer / sole agent of building management system (BMIS) for their consultancy, Software updates etc. Contractor will bear all charges of that contract.

Replacement of parts for both sections A&B:

The contractor will ensure that the spare parts etc. are replaced only when it is considered essential and approved by the Competent Authority. Maximum care should be taken to repair the old parts for re-use. New parts should only be substituted when the old parts cannot be satisfactorily repaired. The old replaced parts will be returned to the Competent Authority's nominated representative.

Spare part will be procured on market competitive rate as and when required. Contractor will submit at least three quotations of each part to the Competent Authority and obtain approval before actually purchasing the same. Bill of the part will be submitted along with the monthly bill of the contractor, accompanied by the approved quotation.

In case any part or parts of the generator are damaged or destroyed as a result of negligence on the part of the contractor's employees, the contractor shall be liable to pay for rectification of all such damages or losses.

Parts being replaced must be brand new and original.

Sales Tax, Income Tax and other Duties on spare parts and services shall be the responsibility of the Contractor. Deductions will be made according to government applicable rules.

TOOL LIST REQUIRED FOR BIMS:

S.No	DISCRIPTION	Unit	QTY
1	Safety helmet	No's	7
2	Safety Shoes	Pair	7
3	Air Blower 600 watt	No's	1
4	Plier	No's	2
5	Cutter Plier	No's	2
6	Nose Plier	No's	1
7	Screw Driver	Set	2
8	Star Key	Set	1
9	Ellen Key	Set	1
10	Knife Blade	No's	2
11	Measuring Tape 30m	No's	1
12	Multi Meter	No's	2
13	Ampere Meter	No's	1
14	Drill Machine with Hilti 2 in 1	No's	1
15	Bits set for Drill Machine	Set	1
16	Hammer Pin Ball	Set	2
17	Hawk Saw	No's	2
18	Tool Bag	No's	2

Note: All Tools should be provide by Contractor for any repair / checking / rectification of fault whereas listed or not listed

**SUMMARY FINANCIAL (HVAC EQUIPMENT AND BUILDING MANAGEMENT INFORMATION SYSTEM
(BIMS) WORKS:**

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

S.#	Items	Total Price (Per Month)	Total Amount (Per Year)
01	A1: Chiller Operations		
02	A2: Preventive Maintenance, Troubleshooting strength		
03	B1: Building Management Information System (BMIS)		
04	Miscellaneous charges		
	Total		

(ANNEXURE – C-2)

SCOPE OF CIVIL & PLUMBING WORKS / SCHEDULE OF REQUIREMENTS**Schedule Of Requirements Operation, Running, Repair And General Maintenance Of Sindh Infectious Diseases Hospital & Research Center at NIPA, Karachi.**

Tender Reference No:- PD(W&S)/SIDH/(O&M-01)/2022-23

Civil & Plumbing works Operation Strength:

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

Table A (Civil & Plumbing Works Team)							
S. #	Staff	Qty	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
1	Supervisors	1	D.A.E (Civil)	05 years in relevant field			
2	Pump Operator cum technician	2	Middle	02 years in relevant field			
3	General Skilled Labor	3	Middle	03 years in relevant field			
4	Welder	1	Middle	03 years in relevant field			
5	Plumber	2	Middle	03 years in relevant field			
6	Mason	1	Middle	03 years in relevant field			
7	Mason Helper	2	Literate	02 years in relevant field			
8	Painter	1	Middle	03 years in relevant field			
9	Gardener (Skilled Mali)	1	Middle	03 years in relevant field			
10	Carpenter	1	Middle	03 years in relevant field			
11	Carpenter's Helper	2	Middle	03 years in relevant field			
12	R.O. Operator		Matric	03 years in relevant field			
13	Fire Panel Operator	3	Intermediate/ Certificate Course	03 years in relevant field			
14	Fire Fighter / Fireman	3	Matric	03 years in relevant field			
	Total Number of Staff	23		Total			

NOTE:

1. All staff would be interviewed and selected by the consent of competent authority after verification of their relevant documents (Qualification and Experience).

2. Contractor should be attached CV, Academic documents and Experience certificates. (According to above mentioned criteria).

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

WORKS UNDER SCOPE OF CIVIL & PLUMBING WORKS

1. Provide complete operations & preventive maintenance services of plumbing fittings, fixtures, sanitary fixture, High Pressure over head Pumps, Submersible pumps, Fire pumps etc.
2. Repair & Maintenance of water supply fittings & fixtures, sanitary fittings & fixtures, Drainage work & all Pumps.
3. Replacement of water supply fittings & fixtures, sanitary fittings & fixtures, Drainage work & all Pumps when required.
4. Periodic checking & cleaning of drain pipes to avoid blockage at every floor.
5. Attending blockage of drains pipes, gully traps & manholes. Cleaning of all manholes from foreign materials, shoppers etc. in coordination with janitorial supervisors.
6. Periodic checking the pressure of water supply and Pressure Reducing Valve (PRV) in the water lines.
7. Daily summary of operations at pumping station, a daily report providing information at each pumping station on the hours of pumping.
8. Repaired/ maintenance of metallic false ceiling, Gypsum False Ceilings and their respected network.
9. Periodical white washing, color washing, red oxide, oil painting and external painting, and whenever require antifungal coloring.
10. Weld/joints trolleys, grill gates, Statures, Beds, Barriers, Boiler fittings, S.S Doors and other metallic work.
11. Wherever and whenever required, the contractor will provide sufficient staff at site for maintenance of required civil works.
12. Wherever and whenever required, the contractor will be responsible to provide required staff at site for repairing & maintenance of civil elevation construction work.
13. Repair & maintenance of drive way ramps, plain & tiles flooring, oxygen plant room, SSGC sub-station and pavements of external area include.

14. All tools and tackles, plants machineries, equipment and material required to carry out the civil works at site shall be provided by contractor at his own cost.
15. The contractors shall carry out all facility operation and waste water disposal operations indicated in accordance with Good Operating practices set out in the contract.
16. Any leakage / rain water collected in lift pits shall be removed immediately.

Duties and responsibilities

Supervisor

1. Will be responsible for all operations running smoothly.
2. Will be responsible for arranging alternate staff in case of absence of regular staff.
3. Will maintain daily work record, daily complain log book.
4. The detailed service report and log book of each work should be maintained and submitted to the authorized representative of Procuring Agency on daily, weekly & monthly basis.
5. The Contractor will be responsible to arrange all tools and tackles, plants machineries, required equipment (including consumables like drill bits, grinder blades, greases, paint brushes & rollers, W.D 40 etc.) to carry out operations smoothly.
6. Daily inventory management log (dead stock & new stock).

Plumber

1. Repair/maintenance of R.O plant.
2. Repairing / Maintenance of all plumbing fittings, fixtures, sanitary etc.
3. Repairing / Maintenance of all Drain pipes & fittings.
4. Repairing / Maintenance of all pumps.
5. Periodic checking the pressure of water supply and PRV in the water lines.
6. Replacement of plumbing fittings, Pipes & Fixture, Pumps when required.
7. Repaired/maintenance of MS pipe G.I pipe NRV, Strainer, valve etc. at pump room and overhead tank.

Welder

1. Maintenance trash chute and their gates.
2. Provide lubrication grill gates.
3. Repaired/ maintenance of the S.S carpenter sheets on the doors and the S.S corners.

4. Weld/joints trolleys, grill gates, Stretcher, Beds, Barriers, Boiler fittings, S.S Doors and other metallic work.
5. Any other work regarding welding will be done.

Pump technician

1. Responsible for the pump machinery including inspecting pump, ensuring they are in working order.
2. A pump technician turns valves and begins pumps to regulate the flow of water.
3. Monitor gauges and inspects equipment to make sure that the flow is running smoothly.
4. A pump operator responsible for filling the underground tank and overhead tank.
5. A pump operator makes sure that all valves are open before starting the pump.
6. Trouble shooting and other add-on maintenance and repair work & determine technical issue.
7. Disassembling and reassembling pumps & other mechanical equipment like strainer, valves whenever required.
8. Day to day inspection and observation of the pump machinery in their work place.

R.O Plant

1. Provide complete operations & preventive maintenance services of R.O Plant.
2. Repair & Maintenance of water supply fittings and pump.
3. Replacements of water supply fittings and pump when required.
4. Maintaining of log books for recording water level, monitoring the TDS level of water, hardness of water etc.
5. Daily summary of operations at R.O Plant, a daily report providing information at each
6. Daily maintenance and service log book should be required for Boiler.
7. All tools and tackles are required to carry out for operation, running and repairing of R.O Plant by contractor at his own cost.
8. Dosage of chlorine, back washing filter or etc.
9. Washing filters to be replaced when required.
10. One set of tools along with equipment & machinery from the firm should be kept near R.O plant to look after scope of the work as specified for routine maintenance works.

Note: All required consumable for Boiler and R.O Plant, Daily, Weekly, Monthly & annually arranged by the contractor and also borne all charges of that consumables.

R.O Plant operator

Duties and responsibilities

1. Control treatment plant machines and equipment to purify and clarify water operates and controls electric motors pumps and valve to regulate flow of raw water into treating plant.
2. Provide specifically amount of chemicals like chlorine etc.
3. Make ensure that agitators are working and flow of chemical into the R.O.
4. Tums valve to regulate water through filter beds to remove impurities.
5. Pumps purified water into main water.
6. Monitors panel board and adjust controls to regulate flow gates.
7. Clean sand filters bed using back washing.
8. Test water samples to determine acidity, color and impurities using colors meter turbid meter and conductivity meter.

GENERAL CONDITION FOR CONTRACT:

1. The contractor must notify by written notice to Administration Department or any other concerned person, SIDHARC, Karachi prior to the making of replacement.
2. SIDHARC will provide an office to contractor only to be used for administrative purposes and to be used as an easy contact location SIDHARC will provide adequate storage facilities to contractor for storage of all contractor`s equipment & supplies used for this contract.
3. All staff employed by contractor will mark their attendance as per their Rota.
4. One set of tools along with equipment & machinery from the firm should be kept at office to look after scope of the work as specified for routine maintenance works. The contractor shall arrange alternate staff in case of absence of regular staff.
5. The contractor shall ensure on its part that its team is well equipped with proper hand tools & required equipment`s (including consumables like drill bits, grinder blades greases, paint brush, rollers, W.D 40 etc.)
6. The contractors shall have to display on signboards, facilities manager/engineer/supervisors` name to be contacted with telephone Nos. in case of emergency or urgent requirement.
7. The Contractor shall provide complete details of staff & their telephone numbers to the Competent Authority`s nominated representative.
8. The Contractor will provide uniforms, protective clothing and Identity Cards to each and every deployed staff.
9. The Contractors should ensure all safety precautions for its staff.
10. Contractor will be responsible for any kind of accident, injuries, temporary and permanently disabilities of contractor`s employees, SIDHARC employs and other person Procuring Agency will impose penalty on the contractor.
11. Contractor must abide by child labor law.
12. The Contractor shall be responsible for the execution of minor repairs and adjustments related the activities, resulting from ordinary wear and tear.

Replacement of parts:

1. The contractor will ensure that the spare parts etc. are replaced only when it is considered essential and approved by the Competent Authority. Maximum care should be taken to repair the old parts for re-use. New parts should only be substituted when the old parts cannot be satisfactorily repaired. The old replaced parts will be returned to the Competent Authority`s nominated representative.
2. Spare part/ fitting will be procured on market competitive rate as and when required. Contractor will submit at least three quotations of each part/fitting to the Competent Authority and obtain approval before actually purchasing the same. Bill of the part/fitting will be submitted along with the monthly bill of the contractor, accompanied by the approved quotation.

3. Parts being replaced must be brand new and original.
4. Sales Tax, Income Tax and other Duties on spare parts and services shall be the responsibility of the Contractor. Deductions will be made according to government applicable rules.

TOOL LIST REQUIRED FOR CIVIL, PLUMBING:

S.No	DISCRIPTION	Unit	QTY
1	Alumunium Rectangular Pipe (Plainer Patti) 36" Long	No.	1
2	Alumunium Rectangular Pipe (Plainer Patti) 60" Long	No.	1
3	Carpenter Axe (Teysha)	No.	1
4	Chisel Different Sizes	Set	1
5	Chorsi 1", 3/4"	Set	1
6	Circular saw	No.	1
7	Crow Bar (Anchor Bar)	No.	1
8	Cutter Knife	No.	1
9	Digging Bar	No.	1
10	Drill Machine (Hammer) with Bits	Set	1
11	Earth Rammer (Durmot)	No.	1
12	Ln key Set 6, 12 Pell & Star Set	Set	1
13	Extension wire upto 30 Feet	No.	1
14	Float (Gurmala Wooden)	No.	1
15	Hacksaw	No.	1
16	Hammer	No.	1
17	Hammer (Sledge) for Stone Breaking	No.	1
18	Hand Level	No.	1
19	Hand Saw	No.	1
20	Head Pan (Taggari)	No.	1
21	Hoe (Phaowra)	No.	1
22	Jack Plane (Ranndah)	No.	1
23	Lawnmower machine	No.	1
24	Masonry trowel (Large) Karandi	No.	1
25	Masonry trowel (Small) Karandi	No.	1
26	Pick Axe (Gainti)	No.	1
27	Pliers (Cutter)	No.	1
28	Pliers (Grip)	No.	1
29	Pliers (Normal)	No.	1
30	Pliers (Nose)	No.	1
31	Pliers Nail Puller (Zanbhoor)	No.	1
32	Plumb Bob with rope (Saal Dori)	No.	1
33	Putty Knife (Scraper)	No.	1
34	Rightangle (Gunnia) 12" & 24"	No.	1
35	Sand screening Frame	No.	1
36	Screwdriver Set (-) & (+)	Set	1
37	Screwdriver Stubby Set (-) & (+)	Set	1
38	Silicon Gun	No.	1

S.No	DISCRIPTION	Unit	QTY
39	Spade (Belcha)	No.	1
40	Spirit level	No.	1
41	Steel Trowel (Karandi)	No.	1
42	Tape measure	No.	2
43	Tile Cutting Blade	No.	1
44	Toolbox	No.	1
45	Triangle (Tikona)	No.	1
46	Vise / clamp	No.	1
47	Welding Machine (PPR Pipr) with (06 Gutka)	Set	1
48	Wheel Barrow	No.	6
49	Wood Plainer (Randa) Hand Set	No.	1
50	Wood Plainer (Randa) Machine	No.	1
51	Wood RASp File (Marfa)	No.	1

Note: All Tools should be provide by Contractor for any repair / checking / rectification of fault whereas listed or not listed

CIVIL & PLUMBING MATERIAL

S.#	Item Description	Unit	Qty.	Rate	Amount
	Section A: Paint, Polish and Civil Work				
1	Plaster of Paris (5 kg per packet)	Packet	1		
2	Anti-Fungus paint (16 (Liter) per Drum more or less) Same as exiting	Drum	1		
3	Anti-Bacterial Paint for OT's (16 (Liter) per Drum more or less) Same as exiting	Drum	1		
4	Distemper Ash white (16 (Liter) per Drum more or less) Same as exiting	Drum	1		
5	Distemper white (16 (Liter) per Drum more or less) Same as exiting	Drum	1		
6	Oil paint White (3.7 (Liter) per Bucket more or less) Same as exiting	Bucket	1		
7	Oil paint yellow (3.7 (Liter) per Bucket more or less) Same as exiting	Bucket	1		
8	Oil paint black (3.7 (Liter) per Bucket more or less) Same as exiting	Bucket	1		
9	Oil paint Red (3.7 (Liter) per Bucket more or less) Same as exiting	Bucket	1		
10	Red Oxide (3.7 (Liter) per Bucket more or less) Same as exiting	Bucket	1		
11	Emery paper 120 No. =30 150 No.=30	Pcs.	1		
12	Cotton Waste	Pcs.	1		
13	Turpentine Oil	Liter	1		
14	Kerosene Oil	Liter	1		
15	Varnish	Liter	1		
16	Gauze (Malmal)	Meter	1		
17	Sindoor	Kg	1		
18	Glass (Clear) 5 mm	Sft.	1		
19	Frosted glass 5 mm	Sft.	1		
20	Cement / white (50 Kg)	Bag	1		
21	O.P.C. cement (50 Kg)	Bag	1		
22	Sand (Per Suzuki have 20 bags of sand each bag have approx. 40 to 50kg)	Suzuki	1		
23	Porcelain Tiles (16" x 16") Same exiting Color & Quality.	Meter	1		
24	Porcelain Tiles (24" x 24") Same exiting Color & Quality.	Meter	1		
25	Ceramic Tiles (12" x 12") Same exiting Color & Quality.	Meter	1		
26	Machine Block (4" x 8" x 12")	Pcs.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
27	Machine Block (6" x 8" x 12")	Pcs.	1		
28	PVC Pipe 2" Pak Arab or equivalent	Rft.	1		
29	PVC Tee 2" Pak Arab or equivalent	Pcs.	1		
30	PVC elbow 2" Pak Arab or equivalent	Pcs.	1		
31	PVC Socket 2" Pak Arab or equivalent	Pcs.	1		
32	PVC handle valve 2" Pak Arab or equivalent	Pcs.	1		
33	PVC Union 2" Pak Arab or equivalent	Pcs.	1		
34	PPR Pipe (20mm) Same as existing	Rft.	1		
35	PPR Pipe (25mm) Same as existing	Rft.	1		
36	Dadex End cap 110mm	Pcs.	1		
37	Dadex Socket (50mm)	Pcs.	1		
38	Dadex Elbow (50 mm)	Pcs.	1		
39	Dadex Tee (50 mm)	Pcs.	1		
40	Dadex Elbow (50 mm)	Pcs.	1		
41	Dadex Pipe (50 mm)	Rft.	1		
42	Solution White Dadex (125Grm)	Tin	1		
43	Solution Orange EZ-weld PVC (125Grm)	Tin	1		
44	S.S Pedestal Bolt Bracket Same as existing	Pcs.	1		
45	Spindle double bib cock Brass (Heavy Duty) Conforming to Existing as Site	Pcs.	1		
46	Basin Connection tubes heavy duty	Pair	1		
47	Tea Cock	Pcs.	1		
48	Muslim shower Heavy Duty inner side metal only.	Pcs.	1		
49	Muslim shower tube Heavy Duty	Pcs.	1		
50	Waste Jali (Basin) 1 1/4" , 1" 1/2	Pcs.	1		
51	Brass Spindle Screw (As per Sample)	Pcs.	1		
52	Dhaga (Gola)	Pcs.	1		
53	Teflon Tape (Big)	Pcs.	1		
54	Commode seat cover Porta Same as existing	Pcs.	1		
55	Basin bolt kit	Set	1		
56	Fisher 10 mm	Pcs.	1		
57	Thumble for commode Porta Same as existing	Pcs.	1		
58	Foam spray Large 800ml	Pcs.	1		
59	Wheels for stretcher (Wheel Pair) 5" ABS Material Same as existing	Pair	1		
60	Wheel for Trolley (Wheel Pair) "Same as existing"	Pair	1		
61	False Ceiling Gypsum Foil Coated at different floor of SIDH same as existing	Sqft.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
62	False Sealing Channel 12'	Rft.	1		
63	False Sealing Channel 4'	Rft.	1		
64	False Sealing Channel 2'	Rft.	1		
65	False Sealing L Railing	Rft.	1		
66	False Sealing wire	Kg	1		
67	WD 40 Spray 550ml or equivalent	Large	1		
68	Silicon Tube Big	Big	1		
69	Roller Blinds	Sqft.	1		
70	Acrylic Sheet 4x8 (5mm)	Sheets	1		
71	Frosting paper Blur Roll 4 ft.	Sqft.	1		
72	Frosting paper Black Roll 4 ft.	Sqft.	1		
73	Back Sheet for Cupboards (Pilai) 2mm Sheet	Sheets	1		
74	Wood Patti (Golden Teak) 1" x 1" x 10 Feet Length	Length	1		
75	Wood Patti (Golden Teak) 2" x 1" x 10 Feet Length	Length	1		
76	Wood Patti (Golden Teak) 4" x 1" x 10 Feet Length	Length	1		
77	Lipping (Golden Teak) 1 1/4" x 2mm x 10 Feet Length	Length	1		
78	Lipping (Golden Teak) 1 1/2" x 2mm x 10 Feet Length	Length	1		
79	16mm / (3/4") thick x 48" Wide x 96" Long, MDF Lamination Sheet (Code 7363) (Farmite Brand)	Sheet	1		
80	16mm / (3/4") thick x 48" Wide x 96" Long, Marine Ply Sheet (Patex/ Malaysian Brand)	Sheet	1		
81	4.5mm thick x 48" Wide x 96" Long, MDF Laminated Back Sheet.	Sheet	1		
82	0.45mm thick x 48" Wide x 96" Long Formica Sheet (CODE 7363) (Farmite Brand)	Sheet	1		
83	16mm / (3/4") thick x 48" Wide x 96" Long, Plain MDF Sheet (Zrk / Malaysia / Farmite Brand)	Sheet	1		
84	12mm thick x 48" Wide x 96" Long, Fiber Cement Board Sheet	Sheet	1		
85	10mm thick x 48" Wide x 96" Long, Fiber Cement Board Sheet	Sheet	1		
86	10mm / (1/2") thick x 48" Wide x 96" Long, Plain MDF Sheet (Zrk / Malaysia / Farmite Brand)	Sheet	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
87	4.5mm thick, 48" Wide, 96" Long Oak MDF Sheet	Sheet	1		
88	6mm / (1/4") thick x 3/4" Wide, Red Oak Wood Lipping.	Rft.	1		
89	6mm / (1/4") thick x 1-½" Wide, Red Oak Wood Lipping.	Rft.	1		
90	Solid Partal Wood 1" thick x 2" Wide 10' Long.	No.	1		
91	ICI Laquer Sealer Polish	Sq/Inch	1		
92	Cementex Solution	Sft.	1		
93	German Movilith Glue	Sft.	1		
94	GMSA Super Glue 50gm	No.	1		
95	Black Screw (1/2" x 8) (100 Pcs Each Box)	Box	1		
96	Screw (3/4" x 8) (100 Pcs Each Box)	Box	1		
97	Screw (1" x 8) (100 Pcs Each Box)	Box	1		
98	Screw (1 1/4" x 8) (100 Pcs Each Box) Dry Wall	Box	1		
99	Screw (1 1/2" x 8) (100 Pcs Each Box)	Box	1		
100	Black Screw (2" x 8) (100 Pcs Each Box)	Box	1		
101	Wood Screws (Drywall) 2½"	Pkt.	1		
102	Wood Screws (Drywall) 3"	Pkt.	1		
103	Wood Screws (Drywall) 4"	Pkt.	1		
104	Wood Nail (Head) 1" x 17	Kg.	1		
105	Wood Nail (Head) 3/4" x 17	Kg.	1		
106	Wood Nail (Head) 1 1/2" x 17	Kg.	1		
107	Wood Nail (Head) 2" x 14	Kg.	1		
108	Wood Nail (Head) 2 1/2" x 14	Kg.	1		
109	Wood Nail (Head) 3" x 14	Kg.	1		
110	Wood Nail (Head) 3/4" x 20	Kg.	1		
111	Without head Nail (2" x 14)	Kg.	1		
112	Without head Nail (1 1/2" x 17)	Kg.	1		
113	Wooden Nails with Head 3/4" x 20 No.	Pkt.	1		
114	Wooden Nails with Head 1" x 20 No.	Pkt.	1		
115	Wooden Nails with Head 3/4" x 17 No.	Pkt.	1		
116	Wooden Nails with Head 1" x 17 No.	Pkt.	1		
117	Wooden Nails with Head 1¼" x 17 No.	Pkt.	1		
118	Wooden Nails with Head 1½" x 17 No.	Pkt.	1		
119	Wooden Nails with Head 1" x 15 No.	Pkt.	1		
120	Wooden Nails with Head 1½" x 15 No.	Pkt.	1		
121	Wooden Nails with Head 2" x 15 No.	Pkt.	1		
122	Wooden Nails with Head 2½" x 15 No.	Pkt.	1		
123	Wooden Nails with Head 2½" x 14 No.	Pkt.	1		
124	Wooden Nails with Head 2½" x 12 No.	Pkt.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
125	Wooden Nails with Head 3" x 14 No.	Pkt.	1		
126	Wooden Nails with Head 3" x 12 No.	Pkt.	1		
127	Wooden Nails with Head 3" x 10 No.	Pkt.	1		
128	Wooden Nails with Head 4" x 12 No.	Pkt.	1		
129	Wooden Nails with Head 4" x 10 No.	Pkt.	1		
130	Wooden Nails Headless 3/4" x 20 No.	Pkt.	1		
131	Wooden Nails Headless 1" x 20 No.	Pkt.	1		
132	Wooden Nails Headless 3/4" x 17 No.	Pkt.	1		
133	Wooden Nails Headless 1" x 17 No.	Pkt.	1		
134	Wooden Nails Headless 1 1/4" x 17 No.	Pkt.	1		
135	Wooden Nails Headless 1 1/2" x 17 No.	Pkt.	1		
136	Wooden Nails Headless 1" x 15 No.	Pkt.	1		
137	Wooden Nails Headless 1 1/2" x 15 No.	Pkt.	1		
138	Wooden Nails Headless 2" x 15 No.	Pkt.	1		
139	Wooden Nails Headless 2 1/2" x 14 No.	Pkt.	1		
140	Drawer Lock 22mm	No.	1		
141	Drawer Lock 26mm	No.	1		
142	Drawer Lock 32mm	No.	1		
143	Drawer Lock 38mm	No.	1		
144	Drawer Handle 96mm	No.	1		
145	Drawer Handle 128mm	No.	1		
146	Drawer Handle 160mm	No.	1		
147	Drawer Handle 224mm	No.	1		
148	Cupboard Shutter Handle 160mm	No.	1		
149	Cupboard Shutter Handle 192mm	No.	1		
150	Cupboard Shutter Lock Type-1	No.	1		
151	Cupboard Shutter Lock Type-2	No.	1		
152	Cupboard Shutter Lock Type-3	No.	1		
153	Cupboard Shutter Lock Type-4	No.	1		
154	Cupboard Shutter Lock Type-5	No.	1		
155	Drawer Chennels Sliding	P/Inch	1		
156	Drawer Cut Knob with Pin	No.	1		
157	Drawer Knob Simple	No.	1		
158	Drawer Knob Plain Heavy	No.	1		
159	Drawer Knob Design Heavy	No.	1		
160	3/4" SS Piano Hinge	Rft.	1		
161	5/8" SS Piano Hinge	Rft.	1		
162	SS Magnate Catcher 1 1/2"	No.	1		
163	SS Magnate Catcher 2 1/2"	No.	1		
164	Normal Tower Bolt 4"	No.	1		
165	Normal Tower Bolt 6"	No.	1		
166	Normal Tower Bolt 8"	No.	1		
167	Normal Tower Bolt 10"	No.	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
168	Normal Tower Bolt 12"	No.	1		
169	Normal Tower Bolt 18"	No.	1		
170	Consealed Tower Bolt 8"	No.	1		
171	Consealed Tower Bolt 10"	No.	1		
172	Consealed Tower Bolt 12"	No.	1		
173	Floor Hinge Machine (New Star /Equulieant)	No.	1		
174	Floor Hinge Machine Main Door (New Star /Equulieant)	No.	1		
175	5" Door Hinge Normal	No.	1		
176	5" Door Hinge with Bearing	No.	1		
177	Door's Closer	No.	1		
178	Door's Lock	No.	1		
179	Panic Latch (Door Lock for stercher) same as existing	Pcs.	1		
180	Door Frame G.I 18 gauge	Rft	1		
181	Wooden Door Cylinder Brass (Single side key)	Pcs.	1		
182	Wooden Door Cylinder Brass (Double side key)	Pcs.	1		
183	Tower Bolt (4")	Pcs.	1		
184	Chapka Kundi Same as existing	Pcs.	1		
185	Wooden Gatti Big Pkt.	Pkt.	1		
186	Drawer locks	Pcs.	1		
187	Drawer locks (2 feet Long) Same as existing	Pcs.	1		
188	Chanel Patty for table Drawer (12") Same as Existing	Pair	1		
189	Chanel Patty for table Drawer (14") Same as Existing	Pair	1		
190	Chanel Patty for table Drawer (16") Same as Existing	Pair	1		
191	Concealed towel bolt Same as existing	Pcs.	1		
192	Glue (Movolith Germany) 20 Kg Pack	No.	1		
	Total:				

SUMMARY FINANCIAL (GENERAL MAINTENANCE WORKS):

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

S.#	ITEMS	TOTAL AMOUNT (PER MONTH)	TOTAL AMOUNT (PER YEAR)
01	A. CIVIL, PLUMBING AND OTHER STAFF		
TOTAL AMOUNT RS.			

(ANNEXURE – C-3)

SCOPE OF ELECTRICAL WORKS & POWER GENERATION SYSTEM / SCHEDULE OF REQUIREMENTS

Schedule Of Requirements Operation, Running, Repair & Maintenance of Electrical Works & Power Generation System of **Sindh Infectious Diseases Hospital & Research Center at NIPA, Karachi.**

Tender Reference No:- PD(W&S)/SIDH/(O&M-01)/2022-23

A. ELECTRICAL WORKS

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

Table A1							
S.#	Staff	Qty	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
A). Electrical Team:							
1	Electrical Supervisor	1	D.A.E.	05 years building & control experience in relevant field.			
2.	Electrical Technicians Control	1	D.A.E.	05 years building & control experience in relevant field.			
2.	Electrical Technicians	5	Matric	03 years building experience in relevant field.			
3	Electrical Helpers	5	Middle	Basic experience of electrical works.			
Total (A1+A2)		12					

Note: All staff would be interviewed and selected by the consent of competent authority after verification of their relevant documents (Qualification and Experience).

1. Contractor will provide complete operational management and preventive maintenance of electrical equipment related to power & lighting, electrical installations viz. electrical panels and allied accessories e.g. switchgear, distribution transformer, main breakers, main LT panel etc.
2. Contractor will provide repair (breakdown) maintenance services of electrical equipment and new installations as and when required.
3. Contractor will be responsible for repair, maintenance and rewinding of all fan motors, water pump motors, diesel pump motors & R.O. plant motors.
4. Contractor will be responsible for repair & maintenance of UPS installed different location at SIDH buildings.

5. Contractor will ensure that operation and preventive maintenance of each unit is carried out on regular basis related to electrical works.
6. The contractor shall be responsible for the execution of minor repairs and adjustments related to the activities of ordinary wear and tear maintenance.
7. The Contractor shall ensure on its part that its team is equipped with proper hand tools and required equipment.
8. Repairing & Maintenance of entire fire alarm system installed at SIDH buildings..
9. The contractor will carry out related work as and when assigned by the authorized representative of Procuring Agency.

Certain specific works to be done in Electrical department are categorized as below:

• **Auto transfer switching panel & LT panel:**

1. All control panels' works related to Electrical Department.
2. Repair & maintenance of main LT panel including Gensets' Panel, Power Factor Improvement panel etc.
3. Maintenance of all Main DBs including triple pole breaker and cables.

• **Electrical wiring / lighting works:**

1. Repair & Maintenance of electrical works of drive way, UPS and oxygen plant room etc.
2. Repairing & replacing of lighting fixture including L.E.D panel light, P.L.C light and all internal, external and peripheral lights etc.
3. Repairing, replacement & maintenance of all electrical rooms of the entire SIDH&RC (including equipment's, accessories, main DBs, SMDBs, L.T panel, power & electrical DBs, O.T., I.C.U. DBs in every floor including replacement of triple pole, double pole & single pole breakers & cables).

• **Testing equipment, which are to be used:**

1. Megger PF Tester, Capacitance & D.F. Bridge.
2. General Radio Megohmmeter.
3. Biddle Instruments Lo Resistance Ohmmeter, DLRO
4. Megger Ground Test Set, Earth Tester
5. AEMC Instruments Ground Tester
6. Schweitzer Electronic Time Travel Tester
7. Double Relay Test Set

8. Megger Transformer Turn-Ratio Test Set 9. EIL Instruments Protective Relay Test Set.

• **Mechanical and Electrical testing of all equipment related to L.T. etc.:**

1. Troubleshooting of any electrical system.
2. Complete relay system upgrade.
3. Full testing and commissioning.
4. Design modifications required for equipment replacement.
5. Electrical wiring replacement.

TOOL LIST REQUIRED FOR ELECTRICAL:

S.No	DISCRIPTION	Unit	QTY
1	Air Blower	No.	2
2	Ampere Metter	No.	3
3	Bearing Puller - 10"12"14"	Set	1
4	Brazing Set Portable Complete Mini	Set	1
5	Brazing Set With Fire Arrester Large	Set	1
6	Chisel - Medium	No.	3
7	Chisel - Small	No.	3
8	Drill Machine (Hammer) with Bid Set Complete	No.	1
9	Ellen Key Inch	Set	3
10	Ellen Key mm	Set	3
11	Flaring Tool Professional Kit	Set	2
12	Flat File - Diff sizes	Set	1
13	Grinder (Baby)	No.	1
14	Grinder (Table)	No.	1
15	Gun (Grease) Small	No.	1
16	Gun (Heat) For Soldering Removing	No.	1
17	Hack Saw Blade - 2 SIDED	No.	6
18	Hack Saw Frame	No.	3
19	Hammer - Flat	No.	3
20	Hammer - Pin Ball	No.	3
21	Hilti Machine with Bits & Core Bits	No.	1
22	Hole Punch	No.	1
23	Knife Blade	No.	6
24	Ladder (wooden) - 14'	No.	1
25	Ladder MS Folding - 6'	No.	2
26	Ln key Set 12 Pell	Set	2
27	Ln key Set 6 Pell	Set	2
28	Ln key Set Star	Set	2
29	Lugs Punch	No.	2
30	Multi Metter	No.	1

S.No	DISCRIPTION	Unit	QTY
31	Nitrogen Cylinder With Regulator Large	No.	1
32	Nylon Brush	No.	12
33	Oil Can For Oil Filing small	No.	1
34	Pipe Cutter	No.	3
35	Pliers (Cutter)	No.	4
36	Pliers (Grip)	No.	4
37	Pliers (Normal)	No.	4
38	Pliers (Nose)	No.	4
39	Punching Tools	Set	1
40	Round Cutter	No.	2
41	Round File - Diff sizes	Set	1
42	Safety Gloves	Pair	6
43	Safety Helmet	No.	24
44	Safety Shoes	Pair	6
45	Scaffolding (Pipe / Bamboos)	Sft.	400
46	Scissor Rubber Gas Kit	Set	1
47	Scraper - 2" - 3" - 4"	Set	5
48	Screwdriver (Starset)	Set	3
49	Screwdriver Set (-)	Set	3
50	Screwdriver Set (+)	Set	3
51	Soldering Iron With Soldering Wire	Set	3
51	Soldering Sucker	No.	3
52	Spanner (Filter)	No.	3
53	Spanner (Tommy) 10-32 Nos. (Rachet Box)	Set	3
54	Spanner Set Ring	Set	1
55	Tape Measure - 50' 20' 15'	Set	1
56	Torch light	No.	2
57	Triangle File - Diff sizes	Set	1
58	Vernier caliper	No.	1
59	Welding Plant (Electric) Complete Set	Set	1
60	Wire Brush	No.	6
61	Wrench (Adjustable/Screw) - 6" 8" 10" 12"	Set	1
62	Wrench (Pipe) - 8" 10" 12" 14"	Set	1
63	Wrench Fixed Set Inch	Set	1
64	Wrench Fixed Set mm	Set	1

Note: All Tools should be provide by Contractor for any repair / checking / rectification of fault whereas listed or not listed

ELECTRICAL & GENSET MATERIAL

S.#	Item Description	Unit	Qty.	Rate	Amount
1	LED Light (1x4)	Nos.	50		
2	LED Light (2x2)	Nos.	10		
6	LED Light Concealed 4" Dia 12 Watts	Nos.	25		
5	LED Light Concealed 6" Dia 18 Watts	Nos.	20		
4	LED Light Concealed 8" Dia 18 Watts	Nos.	50		
3	LED Light Fix Surface 8" Dia 18 Watts	Nos.	20		
7	LED Tube Light	Nos.	10		
8	Bulb Energy Saver 40 Watts	Nos.	50		
9	Bulb Energy Saver 18 Watts	Nos.	50		
10	LED Light External 200 Watts	Nos.	10		
11	LED Light External 150 Watts	Nos.	10		
12	LED Light Holder (Normal)	Nos.	20		
13	LED Bulb 12.5 W, 6000K	Nos.	500		
14	Jumbo Ceiling Bulb Holder Threaded type, E27 base	Nos.	500		
15	Ultra Violet Tube Light 2' length for Insect killer)	Nos.	500		
16	S2 Starter for UV Light 4-65 W, 220V	Nos.	500		
17	36W/40W choke (Electronic type)	Nos.	500		
18	Switch Sheet 1 Gang	Nos.	50		
19	Switch Sheet 2 Gang	Nos.	50		
20	Switch Sheet 3 Gang	Nos.	50		
21	Switch Sheet 4 Gang	Nos.	50		
22	Switch Sheet 5 Gang	Nos.	50		
23	SWITCH SHEETS MULTI 13 Amp	Nos.	50		
24	SWITCH SHEETS UNIVERSAL 13 Amp	Nos.	50		
25	SWITCH SHEETS THREE PIN 15 Amp	Nos.	50		
26	SWITCH LIGHT PLUG SHEET 5 Amp	Nos.	50		
27	SWITCH SHEETS MULTI FLAT PIN 13 Amp	Nos.	50		
28	3-pin plug 10A rating	Nos.	100		
29	CABLE LUGS 240 MM	Nos.	20		
30	CABLE LUGS 120 MM	Nos.	20		
31	CABLE LUGS 185 MM	Nos.	20		
32	CABLE LUGS 70 MM	Nos.	20		
33	CABLE LUGS 50 MM	Nos.	20		
34	CABLE LUGS 35 MM	Nos.	20		
35	CABLE LUGS 25 MM	Nos.	100		
36	CABLE LUGS 16 MM	Nos.	100		
37	CABLE LUGS 10 MM	Nos.	100		
38	CABLE LUGS 6 MM	Nos.	100		
39	CABLE LUGS 4 MM	Nos.	100		
40	2.5mm ² cable lugs	Nos.	6		

S.#	Item Description	Unit	Qty.	Rate	Amount
52	ELECTRIC CABLE SIZE 1 CORE 1.5 MM	Coil	5		
53	ELECTRIC CABLE SIZE 1 CORE 2.5 MM	Coil	5		
54	ELECTRIC CABLE SIZE 1 CORE 4 MM	Coil	5		
55	ELECTRIC CABLE SIZE 1 CORE 6 MM	Coil	5		
56	ELECTRIC CABLE SIZE 1 CORE 10 MM	Coil	5		
41	ELECTRIC CABLE SIZE 4 CORE 240 MM	Mtr.	10		
42	ELECTRIC CABLE SIZE 4 CORE 120 MM	Mtr.	10		
43	ELECTRIC CABLE SIZE 4 CORE 185 MM	Mtr.	10		
44	ELECTRIC CABLE SIZE 4 CORE 70 MM	Mtr.	10		
45	ELECTRIC CABLE SIZE 4 CORE 50 MM	Mtr.	10		
46	ELECTRIC CABLE SIZE 4 CORE 35 MM	Mtr.	10		
47	ELECTRIC CABLE SIZE 4 CORE 25 MM	Mtr.	10		
48	ELECTRIC CABLE SIZE 4 CORE 16 MM	Mtr.	10		
49	ELECTRIC CABLE SIZE 4 CORE 10 MM	Mtr.	10		
50	ELECTRIC CABLE SIZE 4 CORE 6 MM	Mtr.	10		
51	ELECTRIC CABLE SIZE 4 CORE 4 MM	Mtr.	10		
57	ELECTRIC CABLE SIZE 1 CORE 16 MM	Mtr.	10		
58	ELECTRIC CABLE SIZE 1 CORE 25 MM	Mtr.	10		
59	ELECTRIC CABLE SIZE 1 CORE 35 MM	Mtr.	10		
60	ELECTRIC CABLE SIZE 1 CORE 50 MM	Mtr.	10		
61	ELECTRIC CABLE SIZE 1 CORE 70 MM	Mtr.	10		
62	ELECTRIC CABLE SIZE 1 CORE 95 MM	Mtr.	10		
63	ELECTRIC CABLE SIZE 1 CORE 120 MM	Mtr.	10		
64	Handheld Power Meter HOPI HP-9800 Handheld Power Analyzer LED Metering Socket Measurable Current-voltage Power Factor, 85-265V, 50HZ, measures voltage, current, active power, active energy, power factor, annual electricity consumption, annual electricity consumption, annual consumption of carbon dioxide	Nos.	1		
65	Rawl Bolt M6, 6 x 55mm	Nos.	100		
66	Rawl Bolt M8, 8 x 65mm	Nos.	150		
67	Rawl Bolt M10, 10 x 75mm	Nos.	150		
68	Rawl Bolt M12, 12 x 105mm	Nos.	100		
69	Electrical Blank Sheet Square shaped	Nos.	200		
70	4C-2.5mm ² Cable (Pakistan Cable)	Coil of 90 Mtrs.	3		
71	TP-MCB 6KA 63A	Nos.	125		
72	55 micro-farad capacitor	Nos.	10		

S.#	Item Description	Unit	Qty.	Rate	Amount
73	24V-10A Battery Charger Fully Automatic Switch Mode Design, with Battery Reverse-Polarity, Battery over-charging, Over Current & Thermal Protection, LED lights indicator showing charging and battery status, Can charge different lead-acid batteries up to 260Ah	Nos.	2		
74	Volt Meter + Selector switch	Nos.	2		
75	Ammeter + Selector switch	Nos.	2		
76	Floor Standing DB Panel 36"x 60" 16 gauge with bus bar	Nos.	1		
77	Surface Mounted DB 24" x 36" 18 gauge with bus bar	Nos.	1		
78	400A TP MCCB Terasaki /ABB / Schneider	Nos.	2		
79	32A TP MCB Terasaki /ABB / Schneider	Nos.	2		
80	63A TP MCB Terasaki /ABB / Schneider	Nos.	22		
81	225A TP MCCB Terasaki /ABB / Schneider	Nos.	2		
82	300mm ² Copper Gland Brass	Nos.	2		
83	300mm*100mm cable tray (withcover) Perforated, powder coated with all fixing accessories	Rft.	500		
84	Current transformer 300/S	Nos.	3		
85	Current transformer 500/S	Nos.	3		
86	Under / Over Voltage Relay (EVR)	Nos.	3		
87	Timer with Base for Panel	Nos.	3		
88	Relay 220 Volt for Panel	Nos.	3		
89	Oil Cultus / Delo Gold	Liter	1000		
90	Radiator Coolant	Liter			
91	Generator Batteries 180 Ah	Nos.	2		
92	Generator Batteries 200 Ah	Nos.	2		
93	Cable CAT-6 (Make 3M / Corning) (308 Mtr. Coil)	Coil	1		
94	Cable Fiber 6 Core Multimode (2 Km)	Coil	1		
95	Cable Fiber 6 Core Singlemode (2 Km - above)	Coil	1		
96	Cable Telecom 25 Pairs Copper	Coil	1		
97	Cable Telecom 50 Pairs Copper	Coil	1		
98	Patch Cord (1 Mtr.) RJ45	Each	1		
99	Patch Cord (3 Mtr.) RJ45	Each	1		
100	Patch Cord (1 Mtr.) Fibre	Each	1		
101	Patch Cord (3 Mtr.) Fibre	Each	1		
102	Face Plate (Single)	Each	1		
103	Face Plate (Double)	Each	1		

S.#	Item Description	Unit	Qty.	Rate	Amount
104	RFID CARDS:ISO Standard, Credit Card size PVC proximity cards	Each	1		
105	ELECTROMAGNETIC LOCKS / DOOR LOCKS: Electromagnetic / Magnetic / drop bolt door locks with magnetic door contacts for single door as shown in the drawings and schematic diagrams, including all mounting accessories, power supply adapters.	Each	1		
106	Control and Communication Wiring for Door Access Control System from Door Controller, Interface Module to Readers / MHL etc. in appropriate size of PVC Conduit. Complete with all interconnections.	Each	1		
107	Industrial Socket: CEE-17 , 32A, 3-Pin Angled Industrial Sockets with male type connecting plugs (IP-67)	Each	1		
108	Room Access Controller with Keypad and Thumb Impression	Each	1		
109	7AH x 12V Sealed Maintenance Free VRLA Battery	Each	1		
110	Safety Fire Extinguishers CO2 2 kg	Each	1		
111	Mobiak Fire Extinguisher Trolley Type CO2 45KG	Each	1		
112	Fibre testing / Fibre Splicing Tool	Each	1		
113	Power Supply CPU	Each	1		
114	RAM DDR-4 (4 GB Single Slot)	Each	1		
115	RAM DDR-4 (8 GB Single Slot)	Each	1		
116	DVI Cable CPU to LED	Each	1		
117	HDMI Cable CPU to LED (1 Mtr)	Each	1		
118	HDMI Cable CPU to LED (3 Mtr)	Each	1		
	Total:				

B. POWER GENERATION SYSTEM (GENSETS):

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

Table 1							
S.#	Staff	Qty.	Minimum Qualification	Experience	Amount per month per person	Total Amount per month	Total Amount per year
1	Power Generation Supervisor	01	D.A.E Mechanical	05 to 07 years' experience in trouble shooting and overhauling of Gensets			
2	Diesel Gen-sets Technicians	05	Matric	3 years' experience in trouble shooting and overhauling of Gen-sets.			
Total 1							

NOTE: All staff would be interviewed and selected by the consent of competent authority after verification of their relevant documents (Qualification and Experience)

Contractor will ensure backup power supply to **Sindh Infectious Diseases Hospital & Research Center** by providing 24/7 operational support, preventive maintenance and repair (breakdown) maintenance (including replacement of faulty parts) of the following Gensets as and when required.

Sr. #	Item	Description & Location	Qty.
1	Diesel Gen sets (Functional)	500kw Cummins	2
2	Diesel Gen sets (Functional)	250kw Caterpillar	2

- All functional gensets shall be serviced / maintained after 3 months or running of 200 hours (whichever is earlier) should be carried out as follows:
 - Oil Change
 - Oil Filter Change
 - Fuel Filter Change
 - Air Filter Change
 - Filling of Battery Water
 - Chemical cleaning of radiator
 - Addition of coolant if and when required

- Any other servicing required periodically

Note: The Cost of above material will be borne by the Contractor

2. Bidder is required to quote the price for each Gensets item separately.
3. Contractor will be responsible to test all Gensets in each shift on daily basis.
4. Contractor will be responsible for cleaning / dusting of all Gensets in each shift on daily basis.
5. Contractor will perform A.T.S Panel / manual switching of electric power from K-Electric to Gensets and vice versa in case of power failure.
6. Contractor will undertake complete maintenance of 2 underground diesel tanks.
7. The contractor shall be required to depute the technical staff capable to handle the generator. In addition, s/he will ensure to arrange on call Senior Engineer for rectification of faults going beyond capacity of deputed staff.
8. Power Generation Supervisor, deployed by the contractor, will check the generator on a weekly basis and share report with Procuring Agency, indicating the working and maintenance condition of Gensets and his technical observations, if any.
9. The contractor shall ensure that the generator operates satisfactorily throughout the contractual period in accordance with the specifications laid down by the manufacturer.
10. Downtime (defined as failure in the generator operation resulting in inability to carry out the required routine functions) will start when the Procuring Agency notifies it verbally or in writing (the contractor will provide the service telephone numbers accessible round the clock). If the contractor is unable to rectify the problem within 24 hours, the Procuring Agency will get it repaired from local market at the risk & cost of contractor.
11. In case of fault reported at any Gensets requires more than 1 hour to repair, the Contractor would be required to provide power backup, i.e. standby generator of equal capacity and rating for smooth running of **Sindh Infectious Diseases Hospital & Research Center** system during the repair / maintenance period. Backup generator will be arranged on market competitive rate. Contractor will submit at least three quotations to the Competent Authority and obtain approval before actually arranging the same. Bill of the backup generator will be submitted along with the monthly bill of the contractor, accompanied by the approved quotation.

Penalty in case of non-provision

1. Payment will not be made for the non-operational days of that specific Gensets due to delay on the part of the contractor.
2. Additional penalty may also be imposed upon the contractor for the number of non-operational days of that specific Gensets.
3. Contractor will ensure that operation and preventive maintenance of each unit is carried out on regular basis.

4. The Contractor shall ensure on its part that its team is equipped with proper hand tools and required equipment (including consumables like drill bits, Grinder plates etc.)
5. The Contractor shall be responsible for the execution of minor repairs and adjustments related the activities, resulting from ordinary wear and tear.

REPLACEMENT OF PARTS FOR BOTH SECTIONS A&B:

1. The contractor will ensure that the spare parts etc. are replaced only when it is considered essential and approved by the Competent Authority. Maximum care should be taken to repair the old parts for re-use. New parts should only be substituted when the old parts cannot be satisfactorily repaired. The old replaced parts will be returned to the Competent Authority's nominated representative.
2. Spare part will be procured on market competitive rate as and when required. Contractor will submit at least three quotations of each part to the Competent Authority and obtain approval before actually purchasing the same. Bill of the part will be submitted along with the monthly bill of the contractor, accompanied by the approved quotation.
3. In case any part or parts of the generator are damaged or destroyed as a result of negligence on the part of the contractor's employees, the contractor shall be liable to pay for rectification of all such damages or loses.
4. Parts being replaced must be brand new and original.
5. Sales Tax, Income Tax and other Duties on spare parts and services shall be the responsibility of the Contractor. Deductions will be made according to government applicable rules.

GENERAL CONDITION FOR CONTRACT:

1. The Contractor must notify authorized representative of the Procuring Agency prior to performing any repair work.
2. The Procuring Agency will provide an office to contractor for administrative purposes only and at easy contact location. Procuring Agency will provide adequate storage facilities to contractor for storage of all contractor's equipment & supplies used for this contract.
3. The detailed service report and log book of each unit should maintained as per manufacturer's manual and submitted to the authorized representative of Procuring Agency on daily, weekly & monthly basis.
4. The Contractor shall provide duty rooster / work plan / complete details of staff (with assigned responsibilities) & their telephone numbers to the Competent Authority's nominated representative.
5. The Contractors should ensure all safety precautions for its staff.
6. The Contractor shall ensure on its part that its team is equipped with proper hand tools and required equipment.
7. The Contractor will provide uniforms, protective clothing and Identity Cards to each and every deployed staff.

8. Contractor will be responsible for any kind of accident, injuries, temporary and permanently disabilities of contractor's employees. Procuring Agency will investigate the incident. If negligence or violence of safety rules is determined, Procuring Agency will impose penalty on the contractor.
9. Contractor must abide by child labor law.
10. All staff employed by contractor will mark their attendance as per their Rota.

Note:

Fuel (Diesel) for Generators will be provided by the Hospital Administration.

TOOL LIST REQUIRED FOR POWER GENERATION:

S.No	DISCRIPTION	Unit	QTY
1	Safety Helmet	No's	7
2	Safety Shoes	Pair	7
3	Safety Gloves	Pair	7
5	Air Blower	Each	2
6	Pipe Wrench 8"10"12"14"	Each	4
7	Adjustable Wrench 6"8"10"12"	Each	4
8	Hammer	Flat	2
9	Hammer	Pin Ball	2
10	Pliers	No.	4
11	Cutter Pliers	No.	4
12	Nose Pliers	No.	4
13	Ellen Key	mm	3
14	Ellen Key	Inch	3
15	Spanner Set	Ring	2
16	Spanner Set	Fix	2
17	Screwdriver Set	Set	5
18	Mechanical Screw Driver	Set	1
22	Star Set	No.	4
23	Grip Pliers	No.	4
24	Tape Measure 50' 20' 15'	Each	3
25	Gauge Manifold Complete Set 5/16 .1/4	R22, R410a	
32	Flaring Tool Professional Kit	Set	2
33	Pipe Cutter	Each	3
34	Drill Machine	Each	1
35	Bids Set Complete Drill Machine	Set	1
36	Hilti Machine	Each	1
37	Ampere Metter	Each	2
38	Multi Metter	Each	1
55	Nylon Brush	Each	12
56	Wire Brush	Each	12

S.No	DISCRIPTION	Unit	QTY
70	Oil Can For Oil Filing	Small	1
71	Grease Gun	Small	1
72	Torch light	No.	2
76	Tommy Spanner 8", 10", 12", 14"	Set	2
80	Flat Spanner	No.	2
81	Filter Spanner	No.	4
82	Ring Fix Set	No.	2
83	Ring Spanner Set	Set	2
84	Pliers Nose	No.	2
85	Pliers Cutter	No.	2
86	Pliers Grip	No.	2
87	Pliers Normal	No.	2
88	Screwdriver Set	Set	2
91	Ln key Set Star	Set	2
92	Ln key Set 6 Pell	Set	2
93	Ln key Set 12 Pell	Set	2

GENERATOR SETS MATERIAL

S#	Item Description	Unit	Qty.	Rate	Amount
1	Oil Delo Gold	Lit.	1		
2	Air Filter (500 Kva NO. CH 11038)	No.	1		
3	Air Filter (250 Kva NO. 4881643)	No.	1		
4	Primary Fuel Filter 500 kva NO. CH 10930	No.	1		
5	Secondary Fuel Filter 500 kva NO. CH 10931	No.	1		
6	Primary Fuel Filter 250 kva NO. 4587258	No.	1		
7	Secondary Fuel Filter 250 kva NO. 4587259	No.	1		
8	Oil Filter (500 Kva NO. CH 10929)	No.	1		
9	Oil Filter (250 Kva NO. 4587260)	No.	1		
10	Water Separator (No.	1		
11	Water Separator (No.	1		
12	Hose Pipe 2" Dia	Ft.	1		
13	Hose Pipe 3" Dia	Ft.	1		
14	Hose Pipe 4" Dia	Ft.	1		
15	Hose Pipe Jublee Clip 2" Dia	Nos.	1		
16	Hose Pipe Jublee Clip 3" Dia	Nos.	1		
17	Hose Pipe Jublee Clip 4" Dia	Nos.	1		

SUMMARY FINANCIAL (ELECTRICAL WORKS & GENERATOR SYSTEM WORKS):

Amounts must be submitted only in financial proposal and not appear in technical proposal, else the offer will be rejected.

S.#	Items	Total Price (Per Month)	Total Amount (Per Year)
01	A. Electrical Works		
02	B. Power Generation System (Gensets)		
Total			