ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS)

ANSARI NAGAR, NEW DELHI

DATED : 13.12.2017

AMENDMENT No. – I

Project Name: Tender for "HVAC Work for Burn & Plastic Surgery Block & Other Associated Services and their Maintenance during Defect Liability Period at J.P.N. APEX Trauma Centre AIIMS, New Delhi"

Tender No. HSCC/AIIMS/HVAC/BURN&PLASTIC/2017; dated: 23.11.2017

Reply to Pre Bid Queries raised by bidders during pre -bid meeting held on 04.12.2017 at HSCC, Head Office, Noida

S.No	Clause, Section & Vol No	Description / As per Bid Document	Bidder's Queries/ Request	Reply/ Clarification by HSCC
1	Bill of Quantities of 'A' – Equipments 1.0 Water chilling units-1.	County of origin	We request you to kindly clarify for the country of origin for chillers. We understand that earlier chillers installed in AIIMS New Delhi campus are of U.S.A. origin, Therefore, we request you to kindly clarify the same for this project.	Shall be as per tender conditions.
2	Bill of Quantities of 'A' – Equipments 1.0 Water chilling units-1.	The max. IKW/TR shall not exceed 0.63	We request you to kindly consider IKW/TR upto 0.65 at 100% load at site conditons with due compliance to other performance parameters such as COP, IPLV etc.	IKW/TR less than equal to 0.65 is acceptable.
3	Bill of Quantities of 'A' – Equipments 1.0 Water chilling units-1.Tech specs- 1.1.7 capacity control	The unit shall be designed to unload up to 20% of its rated capacity at constant condenser water entering temp.	We request you to kindly accept chiller unloading upto 25% at constant condenser water entering temperature. For 425 TR chiller capacity, this shall mean trouble free operation of chiller upto 106 TR, which is around 12% of the base air-conditioning load of the entire building. Therefore, request you to kindly accept unloading upto 25% at constant condenser water entering temperature.	25% unloading at constant condenser entering water temp acceptated.
4	Bill of Quantities of 'A' – Equipments 1.0 Water chilling units-	The evaporator and condenser shells shall be ASME U stamped	ASME being a global standard followed by all leading manufcaturers for manufacturing of shells, only ASME to be allowed	ASME stamped.
5	Techncial specification 1.0 Water chilling units- Page No-19	refrigerant shall be R-134a.	We request you to please accept refrigerant R- 514a also.	Acceptable subject to its cost effective availability in india by the manufacturer at the time of submission of data sheet. AHRI selection sheet with the proposed refrigerant shall also be made available as per tender conditions.
6	Bill of Quantities of 'A' – Equipments 1.0 Water chilling units-1.1 S	BOQ (1.1 S)- Automatic Ball Tube cleaning system	Quantity of ATCS is not mentioned in Boq.Kindly confirm	Shall be as per tender conditions.
7	WATER CIRCULATION EQUIPMENTS Techncial specification page No-47	Consutruction deatails 3.2 (page No-47): The impeller shall be double suction, enclosed type, statically and dynamically balanced .	End Suction Pump is available with Single Suction Impeller.kindly confirm	Shall be as per tender conditions.

S.No	Clause, Section & Vol No	Description / As per Bid Document	Bidder's Queries/ Request	Reply/ Clarification by HSCC
8	List of approved makes (Specs – AC- Page -115) S.NO-19	Makes of /Centrifugal/Tube axial flow fans - Flakt/nicotra/Comferi/kruger	We request you to please approve "Greenheck " make for Axial flow fan.	Shall be as per tender conditions.
9	HVAC Specification AC Page No.58 Clause 3.0, Point a.	Axial Flow Fan: Impeller shall be of die cast aluminum alloy with integrally cast aerofoil sectioned blades and hub.	Blades shall be Cast /fabricated aluminum aerofoil shaped is accepatable ?kindly confirm	Shall be as per tender conditions.
10	VENTILATION FANS -HVAC Specification AC Page No.61-Axial flow fans	Axial Flow Fan: that sound level is lowest (max. 75 db at 3 m distance) while running.	We request you to clarify whether the noise level will be measured in room condition (Hemispherical reverberant room condition) or in free field condition (Spherical).	Shall be as per tender conditions.
11	VENTILATION FANS -HVAC Specification AC Page No.62-Axial flow fans	Axial Flow Fan: Motor shall be capable of running continuously with 5% drop in rated phase voltage at 15% increase in design power.	± 5% Voltage fluctuation .kindly confirm.	Shall be as per tender conditions.
12	VENTILATION FANS -HVAC Specification AC Page No.62-Axial flow fans	Axial Flow Fan: The speed if the fans shall not exceed 960rpm for fans with impeller dia above 1000mm and 1440rpm for fans with impeller dia 1000mm and less.	Fan Capacity (CFM)/ Static Pressure/ noise level/Efficiency/running Kw are most important parametrs for fans selection and same shall be adhered to while selecting a fan. We request you to limit the maximum RPM of fan to 2900 RPM.	Shall be as per tender conditions.
13	VENTILATION FANS -HVAC Specification AC Page No.62-Axial flow fans	Axial Flow Fan: Fans and accessories shall be painted with two coats of redoxide primer zinc chrome primer confirming to IS: 2074 or superior, over which two cots of synthetic enamel of approved shade shall be applied.	We request you to add that the casing can also be made from galvanized steel with a coating of Zinc with 275GSM thickness.	Standard design of manufacturer is acceptable.
14	VENTILATION FANS -HVAC Specification AC Page No.64-Axial flow fans	Axial Flow Fan(Fire Rated ventilation fan): The fire rated smoke exhaust fans generally shall be described above suitable for 250°C for minimum 2hrs	We request you to change the same to “all high temperature fans to be used for fire application shall bear the certification/listing of UL/CE (in addition of being AMCA certified) conforming to UL-705 “Power Ventilator for smoke exhaust” or EN12101-3-2002 smoke and heat control system specification for powered smoke and heat exhaust ventilator.”	Shall be as per tender conditions.
15	VENTILATION FANS -HVAC Specification AC Page No.64-d-	Axial Flow Fan(Fire Rated ventilation fan): The coller shall be long to cover fans and motor	As per AMCA, short casing/Long casing/ Medium Casing fans are not specified. Every manufacturer has different casing lengths where some motors may fit inside the fan casing and some motors may extend outside the casing. Kindly confirm either the minimum length of casing required or modify the same as “casing length shall be as per manufacturer."	Shall be as per tender conditions.
16	HVAC List of Make - Sr. no- 10 and 14 Specs – AC- Page -115 Air Handling Units (High Static) with cooling coils and Fan Coil Units	Carrier/Caryaire/Blue-star/ZECO/Voltas/VTS/ Flaktwood/ Waves/Edgtech	As Our AHU's and FCU's are already approved in HSCC- PMSSY Govt medical College Projects. We request you to please approve "**Unique"** make AHU's and FCU's in Approved List of Make.	Shall be as per tender conditions.
17	List of approved makes (page No- 117) S.NO-60-Buterfly valves	Audco/L& T/Honeywell	We request you to kindly approve "**Advance**" make Butterfly valves in Approved list of make.	Shall be as per tender conditions.

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18	List of approved makes (Specs – AC-Page -115) S.NO-31-AHU/ventliation Electrical panel	Tricolite/Adlec/Sterling/jackson engineers/Milestone/Khokhar	We request you to kindly approve SPC make AHU/ventliaiton panel in Approved list of make.	Shall be as per tender conditions.
19	Bill of Quantities of 'C' – Air Distribution 1.0 16.12.1.	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting	We understand that only rectangular ducting is required on the site. We request you to please remove word round from the BOQ specification.	Rectangular.
20	Bill of Quantities of 'C' – Air Distribution : Item No. 14 (GSS Ducting) - DSR 1.0 16.12.1.	Note :- Approved Fire retardent paint on all smoke exhaust duct to be applied	We request you to please make new line item Fire retardent paint to be applied on smoke exhaust duct with quantity (Unit-Sqm) .	Item No. 14.1 (18 guage GSS duct) shall be with fire retardent paint. Bidders are advised to quote their rates accordingly.
21	EMD / Bid Security Bank Guarantee BG)	As per NIB Page No.12, Cl.1.9, EMD of Rs.23.89 Lacs is required to be submitted in the shape of Demand Draft or Bank Guarantee in favour of HSCC (India) Ltd. from any scheduled bank.	We Request you to provide us your bank details which is required to process EMD BG.	1. Name of the bank : Punjab National Bank. 2. Address : Sector-27, Noida 3. Beneficiary Name : HSCC (India) Ltd 4. Beneficiary A/c No. : 2726001800000011 5. Branch Code : 2726 6. Bank IFSC Code : PUNB0272600
22	Cl. No. 1.4.1 "Eligibility Criteria" of Vol.-I (NIT/PQ)	*"Similar Works" shall mean "Centralized HVAC works comprising of Supply, installation testing and commissioning of Chiller having individual capacity not less than 340 TR.	In your biding document (Page No.-4,VOL-1Seriel No-1) it was started that the Minimum Chiller Capacity should be 340 TR, we have reservations/queries regarding the basis of this criteria. Is it compulsary that the minimum capacity of the chiller be 340TR in each of the similar work?	Shall be as per tender conditions.
23	NIT, Time of Completion, 6 Months		Considering the quantum of work involved, It is requested to provide at least 12 to 15 months for completion of this work.	Shall be as per tender conditions.
24	Vol-III, SCC, Page - 42, Power and water supply		It is given that Power is required to be arranged by contractor at his own cost for commissioning & testing also. But keeping in view the capacity of plant it will not be feasible to arrange electric connection of that much capacity. Therefore you are requested to provide power & water free of cost for Installation, testing & commissioning of this work.	Shall be as per tender conditions.
25	Vol-III, SCC, page - 43, clause - 46, Cash flow targets		Since It is not possible to maintain a separate account for each project, we will be using our existing account for the same. Please accept.	No Change, Shall be as per tender conditions.
26	Vol-III, SCC, Page 54, 24(a)		It is given to submit a guarantee on stamp paper for water proofing treatment. We understand that the same is applicable in this work.	Not applicable.
27	BOQ item no.- 1.2 (SH:A), Plant Room Manager		In BOQ, It is given that IO summary of plant room manager is given in specs but the same is not given there. Therefore it is requested to provide the same.	Provided as **Annexure- A** (enclosed).
28	BOQ item no.- 2.0 (SH:A),Water Circulation Pump		In BOQ, condenser water pumps are given as Horizontal spilt casing whereas all other pumps are given as vertical split casing end suction type. We request you to accept all pumps as vertical split casing end suction type.	Shall be as per tender conditions.
29	PUMP Set & Coolong Tower		Also the make of motor shall be as per manufacturer standard for Pump-set & Cooling Tower. Please accept.	Acceptable.

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30	BOQ Item No. 9, Condenser water piping & valves		The condenser water header size is given as 300 mm which is not suitable for 3400 USGPM. The flow velocity in this case will increase to 3.04 m/s. Therefore it is requested to change the same to 350 mm having flow velocity within permissible limit i.e. 2.5 m/s. Also please accept the make of 350 mm dia pipe as "Jindal" because "Jindal Hisaar" doesn't manufacture pipe above 300 mm dia.	Item no 9.1 is ammended as below:- 300mm Dia ammended to 350 mm Dia.
31	BOQ item no.- 27 (SH:D), Electrical Panels		The makes of main AC panel are given as L&T, Siemens, ABB, Schneider. Kindly note that keeping in view the order value these manufactures do execute the order through their system integrators only. Therefore you are requested to accept the same makes of electrical panels as that given for AHU/ Ventilation electrical panel.	Shall be as per tender conditions.
32	BOQ item no.- 14 (SH:C), Ducting		Considering the quantum of ducting work & timely delivery of the same, please accept few additional makes for Ducting like EcoDuct&Zeco: **Please consider following makes in addition to the makes given** Butterfly: Advance/ C&R NRV/ Balancing: C&R Expanded polystyrene: Styrene Packing/ SHI Cable Tray: Venus/ Pilco/ Maheshwari Electrical or equivalent	Shall be as per tender conditions.
33	SCC, Clause 42.2.4	The Contractor shall also make his own arrangements for power supply at Site for construction, testing & commissioning of all services and general use at his own cost	Power for construction purpose shall be arranged by us. However power for testing & commissioning shall be provided by client free of cost	Shall be as per tender conditions.
34	SCC (HVAC), Clause 13.2/12.3	All the arrangements required to make the entire system operational /running ,for the performance test as above, including cost of electricity, manpower, and fuel etc will have to be arranged & paid by the contractor.	Power/electricity for testing & commissioning shall be provided by client free of cost	Shall be as per tender conditions.
35	SCC (HVAC), Clause 17.0	The quantities given in the BOQ are for the guidance of the Bidder. The Contractor shall, however, be paid on the basis of actual quantities of works carried out.	The prices shall be valid for a variation of +/-25% of contract value. For variation beyond this value, prices shall be mutually discussed	Shall be as per tender conditions.
36	SCC (HVAC), Clause 22.0	Terms of Payment The following norms shall be followed for terms of payment of HVAC equipments& installation: A) 70% of BOQ rate shall be paid on receipt of equipment at Site and after inspection and passing on prorata basis B) 15% of BOQ rate shall be paid on satisfactory erection and installation of equipment on prorata basis C) 10% after successful completion of running tests D) 5% after provisional taking over & after final performance -cum seasonal test to be conducted in summer or monsoon and removal of all defects pointed out during previous tests.	We request you to accept the following Terms of payment: A) 80% of BOQ rate shall be paid on receipt of equipment at Site and after inspection and passing on prorata basis B) 10% of BOQ rate shall be paid on satisfactory erection and installation of equipment on prorata basis C) 5% after successful completion of running tests D) 5% after provisional taking over & after final performance -cum seasonal test to be conducted in summer or monsoon and removal of all defects pointed out during previous tests.	Shall be as per tender conditions.

S.No	Clause, Section & Vol No	Description / As per Bid Document	Bidder's Queries/ Request	Reply/ Clarification by HSCC
37	Vol-II, GCC, page - 15 of 121, clause - 1A, Recovery of Security Deposit		Clause 1 A (Recovery of Security Deposit) : The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 2.5% of the tendered value of the work. ...	Clause 1 A (Recovery of Security Deposit) : **Shall be read as follows :** The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of **5%** of the gross amount of each running and final bill till the sum deducted will amount to security deposit of **5%** of the tendered value of the work. ...
38	Vol-II, GCC, page - 15 of 121, clause - 1A, Recovery of Security Deposit		As per the said clause, recovery of security deposit shall be maximum of 2.5% of total tendered value. Whereas as per Schedule 'F' & Vol-III, SCC, Page - 33, clause - 31 (e), Retention Money, security deposit/ retention money shall be maximum of 5% of total tendered value. Both are contradictory. so please accept security deposit/ Retention money as per prevailing CPWD norms, i.e. 2.5% of total contract value.	Security deposit/ Retention money shall be as per Cl.No. 31 (e) (Retention Money) of Vol-III (SCC) : Within 30 days of award of work, The contractor shall furnish a bank Guarantee from any nationalised/Scheduled bank for an amount of 2.5% (Two & half) of the contract price in the form approved bythe Engineer and having validity upto completion period with a claim period of three months as per format attached at Annexure-F and shall be released after taking over of the work by the Employer. Further retention money @ 5% (Five) shall be Deducted from each interim certificate from First RA bill subject to a maximum of 2.5 % (Two & half) of the contract price and shall be released after successful completion of defect liability period. Alternatively/or Retention money at the rate of 10% (ten percent) shall be deducted from each interim certificate subject to the maximum of 5%(Five percent) of the contract price after approval by engineer. (50% of retention money shall be released after taking over of work by the Employer and balance 50% shall be released after successful completion of defect liability period.
39	SCC, Clause 31 (e) "Retention Money" :	Further retention money @ 5% (Five) shall be Deducted from each interim certificate from First RA bill subject to a maximum of 2.5 % (Two & half) of the contract price and shall be released after successful completion of defect liability period.	We request you to release the retention on completion of project on submission of additional BG of 2.5% valid till DLP.	Shall be as per tender conditions.
40	SCC, Clause 25 b)	On satisfactory completion of works by contactor as per the scope of all works as detailed out in package/ contract, the works will be taken over by Client/ HSCC after one year of defect liability period / operation period, as owner after submission of certification	Please clarify whether operation of the plant shall be in contractor' scope	The contractor shall carry out maintenance of the entire system during DLP.
41	SCC, Clause 4	Obtaining approval from local authorities for the works,	Obtaining fire approval from local authorities shall be in scope of HSCC/ other contractors	Fire approval not in the scope of HVAC contractor.
42	SCC, Clause 42.2.6	The Contractor shall at his own expense, erect and maintain in good condition temporary fences all around the working premises	As this is a purely service contract, therefore this clause shall not be applicable	Shall be as per tender conditions.
43	SCC (HVAC), Clause 4	However, final choice of make shall lie with the Engineer.	Final choice of make shall lie with contractor	Shall be as per tender conditions.

S.No	Clause, Section & Vol No	Description / As per Bid Document	Bidder's Queries/ Request	Reply/ Clarification by HSCC
44	GCC, Clause 2	(i) Compensation @ 1.5 % of tendered value per month of delay for delay of work to be computed on per day basis Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Tendered Value of work	We request you to accept a LD clause of 1.5% per month (to be computed on weekly basis) subject to a max. of 5% of contract value	Shall be as per tender conditions.
45	BoQ Item 1, Chiller	o. Lot-RCC/Cement concrete foundation i/c necessary spring isolators with 25 mm deflection from OEM for the chilling unit.	Chiller shall be mounted on rubber pads instead of spring isolator	Shall be as per tender conditions.
46	BoQ Item 9, Condenser water piping	Pipe - buried in ground excavation and refilling etc. as per specification and as required complete in all respect.	Excavation and refilling shall be part of civil works and not in our scope of supply	Shall be as per tender conditions.
47	BoQ Item 10.6, 12.5 Y strainer	Y strainer of ductile CI body	Y strainer shall be of CI/MS body	Shall be as per tender conditions.
48	BoQ Item 7 Expansion Tank		Please provide dia. of air separator	Shall be as per tender conditions.
49	List of Makes	Main AC Panel - L&T/ Siemens/ ABB/ Schneider	We request you to allow panels from autorized Channel partners of L&T/ Siemens/ ABB/ Schneider	Shall be as per tender conditions.
50	Technical Spes, Page 59, Fans	Noise level shall not exceed 75 db(A) at 1 mt	Since the size of fans is very high, noise level of 75 dB @ 1 m cannot be achieved. We therefore request you to accept a noise level of 80 dB @ 3 m	Shall be 75 dB (A)at 3m.
51	List of Makes		As per specs Clause 4.7 Page 81, fire dampers shall be as 120 mins certified by CBRI while list of makes call for UL listed fire dampers. Please clarify	CBRI approved as per UL 555.
52	Technical Spes, Page 78, Ducting, Clause 2.2	Ducting with angle iron flanges	The specs call for ducting with angle iron flanges. We request you to allow ducting with TDC flanges as per SMACNA standard	TDC Flanges as per SMACNA acceptable.
53	Technical Spes, Page 29, Ducting, Clause 2.4 AHU	The outer wall shall be of pre coated CRC sheet of 0.8 mm thickness chemically treated, having scratch free pre plasticized coating	We request you to accept AHU casing outer sheet of 0.8 mm thick pre coated GI sheet instead of CRCA sheet	Pre coated GI sheet 0.8mm acceptable.
54	Technical Spes, Page 11	Tenderers shall work out the heat loads on their own and satisfy themselves that the plant specified in this tender shall be able to maintain the inside conditions as per specification	Heat loads shall be done during detailed engineering after award of work	Shallbe as per tender conditions.

S.No	Clause, Section & Vol No	Description / As per Bid Document	Bidder's Queries/ Request	Reply/ Clarification by HSCC
55	List of Approved Makes and Manufacturers: Centrifugal Chilling Units with VFD (ARI Certified)	We request for your kind attention on approval of Dunham – Bush make for Water Cooled Centrifugal Chiller for aforesaid project. We would like to highlight that Dunham – Bush is already an approved make for Screw & Scroll Chillers under S.No 2 & 3 respectively, Page No: Specs – AC- Page -115, Volume – IV – Technical Specification of same tender. We wish to highlight that chillers manufactured at same works have been working at various sites across India from last 23 years successfully. We have met with considerable success and list of few of our recent India as well as Global installations is enclosed as Please note Dunham - bush centrifugal chillers are AHRI certified and manufactured at respective factories as per latest international standard specifications and being tested at AHRI certified test bed. Aforesaid manufacturing facility is accredited with all applicable international performance and manufacturing standards few of them are: (i) AHRI, (ii) AHRI Testing Facility, (iii) ASME (iv) ETL, (v) ISO 9001:2008, (vi) JKKP, (vii) EC, (viii) NB & (ix) PRC Dunham-Bush chiller is approved make in tenders from NBCC, CPWD, PWD, UPRNN, IISER, AAI etc. Please note the following points: Dunham Bush – Voltas association is 23 year old., We have more than 85000 TR Dunham-bush chillers operational in India. More than 50 Numbers of technically strong service person fully trained on service and after sales of Dunham-Bush chillers. We have 5 Number of warehouses in India to stock the after sales requirement of spares for Dunham-Bush chillers. Remote process monitoring facility is fully operational to provide next generation preventive maintenance to our customers. Several solutions are offered to the building owner to achieved optimized chiller plant room controls, operation and performance. Service team is currently catering to AMC requirement of more than 300 customers in India. In reference to above submission we sincerely request to you to include Dunham - Bush brand for Centrifugal Chiller also in approved list of makes for subject tender in addition to makes mentioned in tender.		Shallbe as per tender conditions.
56	Volume – V, Bill of Quantities (BOQ): S.No. "e", 1.1 on Page: B.O.Q. – AC2 & S.No. "s", 1.1 on Page: B.O.Q. – AC3,	Marine Water Box & Automatic Tube Cleaning System on Condenser	BOQ calls for both Marine Water Box as well as Automatic Tube Cleaning System on condenser, if we install ATCS than there is no requirement of Marine Water Box on condenser side, please clarify.	Marine water boxes are deleted.
57	a)	Chiller Performance sheet	The AHRI performance sheetof chillers which includes IKW/TR or COP should be inclusive of losses of active harmonic filters. Sheets without considering losses of active harmonic filters do not give true indication of actual chiller performance	IKW/TR and COP is inclusive of VFD lossed.
58	b)	The max. IKW/TR shall not exceed 0.63	We request you to kindly consider IKW/TR upto 0.65 at 100% load at site conditons with due compliance to other performance parameters such as COP, IPLV etc.	IKW/TR less than equal to 0.65 is acceptable.
59	c)	**Automatic tube cleaning system :-** Automatic tube cleaning system is asked in the chiller and marine water box is also asked with it.	a) We request you to remove marine water box from the chiller scope as the same is required for manual tube cleaning which is not needed in case of automatic tube cleaning system. b) We request you to accept combined tube cleaning system for all the three chillers instead of dedicated ATCS for each chiller.	a) Marine water boxes are deleted. b) shall be as per tender conditions.
60	d)	Chiller	We request you to approve an additional make of Blue Star in centrifugal chillers. We are complying all technical spesificatiosns for the same.	Shall be as per tender conditions.
61	Item 2.3 of BOQ	**Condenser Water Pump** - The BOQ asks for Horizontal Split Casing Pump.	We request you to accept End Suction pump as it wuold have better efficiency and the same is accepted in all the other pumps also.	Shall be as per tender conditions.
62	Item No. 5 of BOQ - a)	**AHU** - The tender asks for IP54 enclosure for VFD.	This being a vendor procured item, some of the vendors are providing IP54 and some are providing IP55. We request you to accept both IP54 & IP55 enclosure for VFD.	IP-55 is acceptable.

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63	a)	Magnehelic Gauges	Kindly clarify if magnehelic gauges are required across fine and Hepa filters.	Shall be as per tender conditions.
64	b)	AHU Static - The tender asks for 80 mm static pressure.	The static pressure seems to be on very higher side. The standard working atatic pressure with fine filters is 65 mm. We request you to kindly recheck the static pressure.	Shall be as per tender conditions.
65	c)	AHU Thermostat - Thermostat is asked under the head of AHU as well as seperate item rate.	Kindly clarify if thermostat is to be considered in the cost of AHU.	Shall be as per tender conditions.
66	Item No. 5.4 of BOQ	Heat Reclaim Units	We request you to accept the makes of Heat Reclaim Units same as the makes for AHU's.	Shall be as per tender conditions.
67	Item No 14 of BOQ	Ducting - "Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required."	Kindly clarify whether rectangular or round ducting is to be considered as the same would have an impact on our pricing.	Rectangular ducting.
68	Item No 13 of BOQ	Drain Piping - The tender asks for EPS insulated drain piping.	Kindly specify the density and thickness of EPS required for drain Piping	Shall be as per tender conditions.
69	Item No 27 of BOQ	Electrical Panel	We request you to accept the makes of main panel same as the makes of AHU / Ventilation panels.	Shall be as per tender conditions.
70	Item No 29 of BOQ	Cable Tray	We request you to accept the following makes for cable tray:- MEM / Rico / Picco / Slotco	Shall be as per tender conditions.
71	Point No 42.2.4 of SCC	Power & Water for Installation	We request you to provide power for installation works, free of cost at one point. The further distribution will be in our scope.	Shall be as per tender conditions.
72		Power for Testing and Commissioning	We request you to provide power for testing and commissioning works, free of cost at one point. The further distribution will be in our scope.	Shall be as per tender conditions.
73	Clause 38, Page 70, GCC	GST variation	We request for the variation in GST rates after the submission of bid to be payable to us on submission of documentary proof.	Shall be as per tender conditions.
74	Clause 38, Page 70, GCC	Labour Cess	Kindly clarify whether labour cess is to be considered in our prices or not.	Refer Cl.No. 2.3.7 "Contents of Financial Package" of Vol.-I (NIT/PQ).

All other terms & Conditions of the Tender shall remain unchanged.

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

(-Sd-)
Dy. General Manager, HSCC (India) Ltd.,
For & on Behalf of Director, AIIMS, New Delhi

Data Point Summary for Plant Manager **ANNEXURE-A**

Sr. No	Description	Qty	Total Points					Required signal
			DI	DO	AI	AO	SW	
A	**Chiller Plant (Water Cooled Chiller)**	**3**						
1	Chiller On/Off command			0			3	Software Integration signal
2	Chiller Run status		0				3	Software Integration signal
3	Chiller Fault/Alarm status		0				3	Software Integration signal
4	Chiller CHW Temperature Reset Setpoint					0	3	Software Integration signal
5	Chiller Current Limit Setpoint					0	3	Software Integration signal
6	Chiller inlet isolation valve Open/Close command			3				NO/NC Relay Command to Valve
7	Chiller inlet isolation valve Open/Close status		3					NO/NC Potential free contact from Valve
8	CW inlet isolation valve Open/Close command			3				NO/NC Relay Command to Valve
9	CW inlet isolation valve Open/Close status		3					NO/NC Potential free contact from Valve
10	Common CHW supply header temperature				1			
11	Common CHW return header temperature				1			
12	Outside Air Temp/Humidity				2			0-10VDC from RH cum temp sensor
#	**Total points for Chiller Plant**		**6**	**6**	**4**	**0**	**15**	
B	**Primary Chilled Water Pumps (PCHP)**	**3**	**DI**	**DO**	**AI**	**AO**	**SW**	
1	Pump Auto/Manual status		3				3	NO/NC Potential free contact from MCC Panel/Pump VFD
2	Pump On/Off command			3			3	NO/NC Potential free contact from MCC Panel/Pump VFD
3	Pump run status		3				3	NO/NC Potential free contact from MCC Panel/Pump VFD
4	Pump trip status		3				3	NO/NC Potential free contact from MCC Panel/Pump VFD
#	**Total points for Chilled Water Pumps**		**9**	**3**	**0**	**0**	**12**	
C	**Condenser Water Pumps (CWP)**	**3**	**DI**	**DO**	**AI**	**AO**	**SW**	
1	Pump Auto/Manual status		3				0	NO/NC Potential free contact from MCC Panel/Pump VFD
2	Pump On/Off command			3			0	NO/NC Potential free contact from MCC Panel/Pump VFD
3	Pump run status		3				0	NO/NC Potential free contact from MCC Panel/Pump VFD
4	Pump trip status		3				0	NO/NC Potential free contact from MCC Panel/Pump VFD
#	**Total points for Condenser Water Pumps**		**9**	**3**	**0**	**0**	**0**	

D	**Cooling Tower (CT)**	**3**	**DI**	**DO**	**AI**	**AO**	**SW**	
1	Fan Auto/Manual status		6				0	NO/NC Potential free contact from MCC Panel/CT VFD
2	Fan On/Off Command			6			0	NO/NC Potential free contact from MCC Panel/CT VFD
3	Fan Run status		6				0	NO/NC Potential free contact from MCC Panel/CT VFD
4	Fan Trip status		6				0	NO/NC Potential free contact from MCC Panel/CT VFD
5	CT inlet/outlet Isolation valve Open command			6				TE-632AM-1+WZ 1000-5
6	CT inlet/outlet Isolation valve Open/close status		6					TE-632AM-1+WZ 1000-5
7	Common CW supply header temperature				1			NO/NC Relay Command to Valve
8	Common CW return header Temperature				1			NO/NC Potential free contact from Valve
#	**Total points for Cooling Tower**		**24**	**12**	**2**	**0**	**0**	
E	**Secondary Chilled Water Pumps (SCHWP)**	**3**	**DI**	**DO**	**AI**	**AO**	**SW**	
1	Pump On/Off command			3			0	Software Integration signal
2	Pump run status		3				0	Software Integration signal
#	**Total points for Chilled Water Pumps**		**3**	**3**	**0**	**0**	**0**	
F	**Chiller Diagnostic Points (including VFD) from main chiller control panel**	3	**DI**	**DO**	**AI**	**AO**	**SW**	
1	Leaving chilled liquid - setpoint						3	
2	Motor current limit -setpoint						3	
3	Leaving chilled liquid - temperature						3	
4	Entering chilled liquid - temperature						3	
5	Leaving condensor liquid - temperature						3	
6	Entering condensor liquid - temperature						3	
7	% Amps						3	
8	RLA						3	
9	VFD Frequency						3	
10	Evaporator pressure						3	
11	Condensor pressure						3	
12	Oil – low differential pressure						3	
13	Motor FLA current						3	
14	Discharge pressure						3	
15	Operating hours						3	
16	Unit safety fault code						3	
17	Unit cycling fault code						3	
18	Opreation code						3	

19	Evaporator – low pressure						3	
20	Evaporator – low-pressure – smart freeze						3	
21	Evaporator – transducer or leaving liquid probe						3	
22	Condenser – high pressure						3	
23	Condenser – pressure transducer out of range						3	
24	Discharge – low temperature						3	
25	Oil – high temperature						3	
26	Oil – low differential pressure						3	
27	Oil – clogged filter						3	
28	Motor controller – loss of current						3	
29	Oil – high pressure						3	
30	Oil – separator – low level						3	
31	Leaving chilled liquid - low temperature						3	
32	Motor controller – loss of current						3	
33	Sys Oil Temperature						3	
34	Sys Oil Pressure						3	
35	Sys Oil Filter Pressure						3	
36	Slide Valve Position						3	
37	Sys Discharge Temp						3	
38	SYS.EVAPORATOR SATURATION TEMPERATURE						3	
39	SYS.EVAPORATOR SUB TEMPERATURE						3	
40	SYS.CONDENSER SATURATION TEMPERATURE						3	
41	EVAPORATOR REFRIGERANT TEMPERATURE						3	
42	EVAPORATOR SMALL TEMPERATURE DIFFERENCE						3	
43	CONDENSER SMALL TEMPERATURE DIFFERENCE						3	
44	SYS. START TIMES						3	
	Total diagnostic points						**132**	

All the plant room equipments of HVAC System shall be monitored by Plant Room Manager.