भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान पुणे
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH PUNE
डॉ. होमी भाभा मार्ग, पुणे 411008, महाराष्ट्र, भारत | Dr. Homi Bhabha Road, Pune 411008, Maharashtra, India
T +91 20 2590 8001 W www.iiserpune.ac.in

IISER PUNE

Date of issued: 08 / 03/ 2021

Name of work: Centralized Chiller plant expansion at IISER Pune (1 X 470TR)

NIT NUMBER: 13/ IISER/PUNE/2020-21

MINUTES OF PRE BID MEETING

Pre bid meeting held on 05 /03/ 2021 at 11:00 AM

IISER Pune	M/s CRN	Representative of Bidders
1. Col. G. Raja Sekhar (Retd), Engineer In Charge	1. Er Surendra Prasad Yadav	1. Mr. Mahesh Shinde , M/s Blue star India
2. Er . C.B. Bhoyar (C)	2. Er Bharat Iyer , HVAC consultant	2. Mr. Vivek Bhalerao , M/s Logoman Energy Pvt Ltd.
3. Er . Nilesh Kulkarni (E)		3. Mr. Shailesh Kini , M/s Aqua Chill System
4. Er . Ganesh Pingalkar(C)		4. Mr. Nayan Rungata, M/s ABS Fujitsu General Pvt Ltd.
5. Er . Abdul Samad (M)		5. Mr. Rahul Gupta, M/s ABS Fujitsu General Pvt Ltd.
6. Er. Milind Sathe (C)		6. Mr. Parth Kulkarni, M/s Neptune Engineers
		7. Mr. Manoj Tarale, M/s Shesair Automation
		8.Mr. Sundar Pagare , M/s Micropool systems Pvt ltd.
		9.Mr. Vivek Kankal , M/s Aircon sales and services
		10. Mr. Akshay patil , M/s BBP Electricals
		11. Mr. Mohd jameel Manihar , M/s Brite industries

Online prebid meetings for the above work was held at 11:00 hrs on 05/03/2021in the presence of above said members and representative of bidders. The original tender documents terms and conditions uploaded on website shall stands modified to the extent of modifications defined in this MOM including attached Annexures & this Mom shall form part of tender documents. Bidders are requested to take note of modifications & work out their market rates considering the modification listed in the MOM and terms and other terms and conditions in the bid documented. Accordingly bidders should work out and quote accordingly. Soft copies of Mom are uploaded on https://eprocure.gov.in/eprocure/app & IISER Pune website. The following points raised by the intending bidders were discussed and clarified to the bidders by IISER Pune.

Sr. No.	Ref to NIT/BOQ	Points Discussed	IISER Clarification
1	BOQ item no 1	COP at AHRI Condition: 6.7 IPLV at AHRI Condition: 0.36 Kw/TR (This is as per Super ECBC Norms) As per Super ECBC norms, chiller shall comply either full load COP or IPLV. Kindly confirm whether We shall offer chiller with IPLV less than 0.36. Request your acceptance for the same.	No change in BOQ Specification

2	**BOQ item no 1**	COP at AHRI Condition: 6.7 IPLV at AHRI Condition: 0.36 Kw/TR (This is as per Super ECBC Norms) Kindly confirm if final performance of chiller i.e Ikw/TR, NPLV, IPLV & COP to be considered with losses of active harmonic filter. Is it required to submit AHRI certified sheet with filter.	Yes, AHRI certified sheet with filter shall be submitted.
3	**BOQ item no 1**	Fouling factor Chiller 0.0005 British units Fouling factor Condenser 0.001 British units As per good design practice, it is recommended to have chiller designed with AHRI fouling factors (0.0001 and 0.00025 FPS for evaporator and condenser respectively and have auto tube cleaning system which ensures no fouling gets built up on tube surface, there by not only ensures chiller heat exchanger efficiency remains intact but also eliminates need of condenser descaling annually. With higher fouling, chiller power consumption increases as scaling built up, leading to increased power consumption.	No change in BOQ Specification
4	**BOQ item no 1**	The heat exchanges shall be designed and certified as ASME Pressure Vessel code. Kindly Confirm whether we need ASME U Stamp or in accordance with ASME The heat exchangers shall be designed in accordance with ASME Section VIII Div 1 and PED Certified which is equivalent to ASME. Heat exchangers shall carry the ASME Sec VIII Div 1 and CE mark on the nameplate.	In accordance with ASME is accepted.
5	**BOQ item no 1**	THD less than 5 %.Active / passive filters must be use to achieve desired THD levels which will be in scope of Drive authorized supplier of OEM As good design practices, active harmonic filters are designed after analyzing harmonic in complete system and are installed at point of common coupling, while chillers are taken without active filters. This is due to the fact that apart from chillers, there are multiple other equipment's with VFD, such as pumps, AHUs and LED lights which generate much higher harmonics, hence even if chillers are taken with active harmonic filters, overall system still contains lot of harmonics unaddressed.	No change in BOQ Specification

6	**BOQ item no 1**	Unit Mounted VFD with Electrical Panel and Min IP21 Protection for VFD.The THiD (Total Harmonic Distortion) at Chiller level not to exceed 5% at Full Load.OEM to use necessary harmonic filtration method to maintain the same. Kindly clarify if we have to consider active filters in line with IEEE guidelines to limit THD less than 5 % at all loads. Kindly note passive filter can meet with THD less than 5 % till 80 % chiller load only. Below 80 % load THD will be in range of 20-25 %. Active filter as per IEEE guidelines comply with THD less than 5 % at all loads (100-20%).	Active filter in line with IEEE guideline shall be followed.
7	**Volume II, Technical Specification HVAC , Section 03, page no. 17**	Unit shall suitable to operate down to 10% of full load capacity with ARI relief on condenser water entering temp. Without hot gas bypass. To check stability of compressors it is recommended to have chilled designed which can unload up to 15% at constant condenser water temp. (Not with relief) without any accessories bypassing compressors such as hot gas bypass / envelope stability controls etc. at **CW design temp. + 2oC (considering possibility of** cooling tower or pump malfunction) We recommend for modification of the specification with respect to above point.	As per recommendation, chiller design with no load up to 15% is accepted.
8	**Volume II, Technical Specification HVAC , Section 03, page no. 26**	Witnessing of pressure vessel testing at manufacturer's work. We request you to kindly remove witnessing of pressure vessel testing and accept pressure vessel testing report for the same.	Pressure vessel testing report, without witnessing pressure vessel testing, shall be accepted.
9	**Volume II, Technical Specification HVAC , Section 03, page no. 20**	Tubes shall be of cooper, with a minimum thickness of 0.99 mm at plain end and 0.635mm after fining. Tubes shall be of cooper, with a minimum thickness of 0.99 mm at plain end and 0.635mm after fining. Can we offer uniform thickness of 0.635mm across tubes?	No change in BOQ Specification
10	**Volume II, Technical Specification HVAC , Section 03, page no. 23**	Starter is with VFD and built in filters for controlling RFI emissions and built in chokes to suppress harmonics up to THvD <5% and THiD<30%: Starter is with VFD and built in filters for controlling RFI emissions and built in chokes to suppress harmonics up to THvD <5% and THiD<30%: Kindly Confirm whether the same shall be factory fitted or site fitted	Accepted as per OEM technical specification.
11	**Volume II, Technical Specification HVAC , page no. 102**	Hot Water inlet Temperature. Hot Water Inlet Temperature mentioned in Cooling tower Datasheet & Specification are different i.e 34 deg C & 35 Deg C. Kindly Confirm	Consider Hot Water Inlet Temperature in Cooling tower is 35 Deg. C.

12	**BOQ item no. 02**	Pump Motor Rating. For Primary Pump, Motor rating is mentioned as 75KW, But the same shall be as per manufacturer selection with respect to pump design. This may or may not match with Motor rating mentioned in BOQ.	Pump selection shall be done as per Pump flow and head requirement. Motor KW rating accepted as per Pump OEM technical specification.
13	**BOQ item no. 1**	ASME Stamping for chiller. Please confirm whether ASME stamping is required for both cooler or condenser	No change in BOQ Specification
14	**BOQ item 5 to 12**	**Request you to clarify on this point as below point is repeated in 7 line items. Whether this optimizer is same as plant manager?** The Optimizer should have in built templates for showcasing iKW/TR graph for the system, iKW/TR values for individual equipment and diagnostic graphs for showing performance of the field instrumentation used in the circuit for ease of proactive maintenance and serviceability, with a backup of at least a year in the controller (flow meter/temperature transmitter/pressure transmitter). All the internal cabling within the panel of optimizer and external power and control cables with related accessories to be in scope of contractor. Data related to Chiller Performance Matrix (at different loadings), flow meter configurations, power and control cable schedule to be jointly discussed between all stakeholders for seamless integration and execution.	No change in BOQ Specification
15	**BOQ item 20,21**	Balancing valves - 200 mm dia. with built in measuring facility. Please confirm what is built in measuring facility?	No display unit for measuring facility is required. No change in BOQ Specification.
16	**BOQ item no 04**	Chiller plant manager. Whether existing chiller and other existing equipment should be included in CPM or only new chiller have to include?	It is for all existing and new pumps, chillers, cooling tower etc.
17	**BOQ item 48,49**	**Water Treatment Plant:** Please provide more technical details of this plant along with make list.	Refer technical specification, tender drawings and make list.
18	**BOQ item 59**	Self-adhesive aluminum foil bitumen. Please explain the purpose.	It shall be used for plant room floor and terrace water proofing work.
19		Which BOQ item to refer for all equipment's power panel	Existing Electrical panel shall be used for new set up.

20	**Volume I, NIT clause no. 2 bii) Page No 9**	NIT Clause 2 b)(ii) Associated agency should having successfully completed Three similar works each costing not less than Rs. 120 lakh and installed Individuals Chiller minimum capacity of 380 TR OR Completed two similar works each costing not less than Rs 180 lakh and installed individuals Chiller minimum capacity of 380 TR OR Completed one similar work costing not less than **Rs 360 Lakh** and installed individual Chiller minimum capacity of 380 TR.	**Modified NIT clause No. 2, b ii)** Associated agency should having successfully completed Three similar works each costing not less than Rs. 120 lakh and installed Individuals Chiller minimum capacity of 380 TR **OR** Completed two similar works each costing not less than Rs 180 lakh and installed individuals Chiller minimum capacity of 380 TR **OR** Completed one similar work costing not less than **Rs 240Lakh** and installed individual Chiller minimum capacity of 380 TR.
21		**While we downloaded the tender documents from IISER site,** we could get only first 145 pages and the part II and part III is missing. Please guide us as to how to get the balance details in Part II and Part III of the tender.	All details are available on website, https://eprocure.gov.in/eprocure/app.
22	**BOQ item no. 1**	ASME Certification for Heat exchangers: The heat exchangers shall be designed in accordance with ASME Section VIII Div 1 and PED Certified which is equivalent to ASME. Heat exchangers shall carry the ASME Sec VIII Div 1 and CE mark on the nameplate.	In accordance with ASME is accepted. No change in BOQ Specification
23	**BOQ item no. 1**	Tubes shall be of cooper, with a minimum thickness of 0.99 mm at plain end and 0.635mm after fining. Query - Can we offer uniform thickness of 0.635mm across tube- pls clarify	No change in BOQ Specification
24	**BOQ item no. 1**	Evaporator & Condenser shall be Shell & tube type and in accordance with ASME: *Query* – do IISER need ASME U Stamp on Evaporator and Condenser or it is to be design and manufactured in accordance with ASME – Please clarify	No ASME U stamp required. No change on BOQ specification.
25	**BOQ item no. 1**	Pressure drop of Evaporator & Condenser shall not be more than 8 mtr of water: *Query* – can we get some relaxation on this... Please clarify	No change in BOQ Specification

26	**Volume II, Technical Specification HVAC , Section 03, page no. 23**	Starter is with VFD and built in filters for controlling RFI emissions and built in chokes to suppress harmonics up to THvD <5% and THiD<30%: *Query –* Do you need Active Harmonic Filter or Passive Harmonic Filters .	Active harmonic filter is needed.
27		Is there any concession for MSME bidders? for price preference	No change in NIT clause and tender specification
28		As per new circular of GFR – 2017, Rule 170(iii) of govt of India, the EMD need not be deposited and an undertaking in the format enclosed is sufficient. Do we till need to deposit EMD into your account?	No change in NIT clause and tender specification
29		Is there concession in EMD for bidder who are having udyog adhar as per MSME policy?	No change in NIT clause and tender specification
30	**BOQ Item no 01**	In BOQ item no 01, Single stage type compressor is given. Please considered multistage compressor also.	Single stage and multi stage type compressor shall be accepted as per OEM specification. Other parameters in BOQ item no 01 remain same.
31	**BOQ Item no 11**	In BOQ item no 11, Energy meter for chillers size is not given. Please confirm energy meter size.	As per site requirement.
32	**BOQ Item no 04**	I/O summary is required for BMS system	Please refer I/O summary sheet attached with MOM
33	**BOQ Item no 01**	Unit Mounted or Free standing VFD for chiller is required	Unit mounted and Free standing, both type of VFD are acceptable.
34	**BOQ Item no 01**	Instead of IP21 protection for Chiller VFD can we offer IP54 rating?	No change in BOQ Specification

The Bidders are requested to submit the MOM and all its enclosures in original along with the tender documents on due date of submission of tender. The bidders are further requested to take note of above modifications & quote their rates accordingly. Soft copies of MOM are uploaded on https://eprocure.gov.in/eprocure/app and IISER Pune website.

Engineer In charge
IISER Pune

Enclosed: 1. I/ O Summary

I/O Summary

Equipment Name	Qty	Signal Details	AI		AO		DI	DO	Remark
			4-20mA	0-10V DC	4-20mA	0-10V DC			
CHILLER (CH)	5	Running Feedback					5		
		Healthy Feedback					5		
		LOCAL/REMOTE Feedback					5		
		Start Command						5	
Chilled Water Isolation Valve of Chillers	5	Open Feedback					5		
		Close Feedback					5		
		Open/Close Command						5	
Condenser Water Isolation Valve of Chillers	5	Open Feedback					5		
		Close Feedback					5		
		Open/Close Command						5	
Chilled Water Pump (CHWP)	5	Running Feedback					5		
		Healthy Feedback					5		
		LOCAL/REMOTE Feedback					5		
		Start Command						5	
		Speed Reference				5			
Condenser Water Pump (CWP)	5	Running Feedback					5		
		Healthy Feedback					5		
		LOCAL/REMOTE Feedback					5		
		Start Command						5	
		Speed Reference				5			
Cooling Towers Fan - Single Cell	5	Running Feedback					5		
		Healthy Feedback					5		
		LOCAL/REMOTE Feedback					5		
		Start Command						5	
		Speed Reference				5			
Cooling Tower Inlet Isolation Valve	5	Open Feedback					5		
		Close Feedback					5		
		Open/Close Command						5	
Cooling Tower outlet Isolation Valve	5	Open Feedback					5		
		Close Feedback					5		
		Open/Close Command						5	
Chilled Water Supply Temperature transmitter	1		1						
Chilled Water Return Temperature transmitter	1		1						
Condenser Water Supply Temperature transmitter	1		1						
Condenser Water Return Temperature transmitter	1		1						
Chilled Water Flow Meter	1		1						
DPT across Chiller-01	1		1						
DPT across Chiller-02	1		1						
DPT across Chiller-03	1		1						
DPT across Chiller-04	1		1						
DPT across Chiller-05	1		1						
FT for Chiller-01	1		1						
FT for Chiller-02	1		1						
FT for Chiller-03	1		1						
FT for Chiller-04	1		1						
FT for Chiller-05	1		1						
DPT across Load-01	1		1						
DPT across Load-02	1		1						
DPT across Load-03	1		1						
Wet bulb Temperature	1		1						
Bypass Valve	1	Open Feedback		1					
		Open Reference			1				
Remote Start/Stop	1						1		
UPS Supply Healthy	1						1		
SPARE			4			8	26	24	
		Total	23	1	1	23	128	64	
			24		24				