

Pre-bid Queries of HVAC

1. The tender specification calls for R134A, R407C and R410A refrigerant for chillers, whereas the BOQ calls for only R134A refrigerant, we request your approval for considering refrigerant for chillers as per tender specification.
 - **R 134A, R 407C & R 410A are acceptable.**
2. We request your kind approval in considering Single compressor for chillers in addition to multiple compressors mentioned in the tender specifications for attaining the desired IKW/TR mentioned in the BOQ.
 - **Single as well as multiple compressor models are acceptable if it can achieve the COP and ikW as indicated in the BOQ specifications.**
3. The tender specification calls for 0.8mm thick inner and outer skin for air handling units, whereas the BOQ calls for 0.6mmthick inner and outer skin. We request your kind confirmation on considering 0.6mm thick inner and outer skin as per manufacturer standard.
 - **Follow BOQ. 0.6mm thick inner and outer skin is sufficient.**
4. The tender specification calls for 0.5mm thickness for cooling coil, we request your kind approval in considering thickness ofcooling coil for air handling units as per manufacturer standard (ie. 0.34 to 0.38mm).
 - **0.38mm is acceptable**
5. As per the drawings shared with us, we found that all the 37 air handling units are ceiling suspended type. Request you to kindly confirm the same.
 - **Clearly specified in BOQ.All AHU's areCeiling suspended only**
6. VFD control for forward curved fans is not advisable due to their overloading characteristics. We request you to kindly look into the same.
 - **AHU with VFD controlled fan is required only for item no 4.29 & 4.30 senate hall AHU's. All other AHU to be without VFD. So consider all AHU's except senate hall AHU with backward curved fan.**
7. Sl. No. 4.2, Moisture free store air handling units calls for strip heaters in the unit description, kindly specify whether the heater banks has to be considered within the air handling unit itself or to be placed in the duct.

- **Not necessary. Follow BOQ specifications. Place the heater inside duct.**
8. 60 dB(A) at 1m noise level is specified for air handling units, we request you to kindly approve 65 to 70 dB(A) at 1.5m for airhandling units as per manufacturer standard.
- **65dB acceptable at 1.5m distance**
9. Fan Coil Units and Cassette Units – Kindly confirm whether the fan coil units and cassette units have to be selected based on the Air Quantity (CFM) or Tonnage (TR) specified in the BOQ.
- **Both shall be achieved.**
10. Condensate Drain Piping – Kindly confirm the thickness of insulation to be considered for condensate drain piping as the same is not specified in BOQ.
- **Provide min 9mm thick nitrile rubber**
11. Thermal and Acoustic Insulation – Tender specification calls for anti-microbial coating for thermal and acoustic nitrile rubber insulation, we request your kind approval in considering normal nitrile rubber insulation for the same due to longer delivery schedule for insulation with anti-microbial coating.
- **Not acceptable. Follow specifications.**
12. Delivery: - As the completion schedule for the project as specified in tender is 4 months, we request your kind approval in considering energy efficient EFF2 motors instead of EFF1 motors specified in tender, as delivery schedule of EFF1 motors are 14 to 16 weeks from technical approval.
- **Not acceptable. Follow specifications.**
13. Civil Works – As per tender specifications, pedestals for equipment's / underground pipes are in HVAC contractor scope, we request you to kindly remove the same from our scope of work.
- **Not acceptable. Follow specifications.**

14. We request you to kindly remove clause 6 “Fall Clause” of page no 12 of GCC of the tender.

➤ **Integrity part is statutory. No changes are possible in it.**

15. We request you to kindly remove milestone penalty from this project and also mention In case you need any clarifications, please consider us at your disposal.

➤ **Not acceptable**

16. Against clause no.2.1.0 page no.124 in GCC, the chiller asked for imported units. We request you to accept the indigenous chiller. Since the most of the chiller suppliers are having their own factory in India itself.

➤ **Acceptable if it can achieve the COP and kW as indicated in the BOQ specifications.**

17. Against clause no.2.1.2 page no.124 in GCC, please accept for single/multiple compressors. Hence the specification called for twin compressor with independent refrigerant circuit.

➤ **Single as well as multiple compressor models are acceptable if it can achieve the COP and kW as indicated in the BOQ specifications.**

18. Against clause no.3.2.(i) page no.133 in GCC, the specification says the cooling tower shall be rated for the heat rejection capacity specified in the tender specifications. We request you to provide us the heat rejection capacity to be considered.

➤ **Consider 150TR/hr cooling tower.**

19. Against clause no.6.2.(vii) page no.141 in GCC says the noise level at a distance of 1M from AHU shall not exceed 60 dBA. We confirm that the noise level shall be 65+/-3dB(A) around the the AHU at 1m distance from the wall side, The noise levels are confirmed provided the units are fully ducted/commissioned, air/water side balanced & any wall/unit is at least 2m from the measuring point. Please confirm.

➤ **Already clarified in point no.8 - 65dB acceptable at 1.5m distance**

20. Against clause no.6.3.(ii) page no.141 in GCC, the AHU scope says double skin panels shall be 25mm thick, made of 0.8mm thick GSS with powder coated

finish on the outside and 0.8mm thick GSS inside, with Polyurethane foam insulation of density not less than 38 kg/cum injected in between by injection molding machine. But the BOQ page no 8 sl.no.4, says double skin AHU's of 0.6mm GSS skin of 120gsm of and Fan sections of 25mm panel thick duly sandwiched with PUF. Please clarify.

➤ **Already clarified in point no.3. 0.6mm panel is acceptable.**

21. Against the BOQ item 25.1 page no 17 says the duct thermal insulations shall be 12mm thick closed cell elastomeric nitrile rubber insulation with adhesive. However the manufacturer standard shall be 13mm thick only. Please confirm.

➤ **12mm is min thickness. So can provide 13mm.**

22. Against clause no.6.6.(ii) page no.143 in GCC says the supply air fan shall be AMCA certified centrifugal type with forward / backward curved blades double width type. However as per the list of makes provided in page no 170, some of the manufacturers are proposing plug fans with inbuilt VFD as a part of their scope of supply. We request you to confirm the same and the VFD shall be as per the AHU manufacturer's standard.

➤ **Already clarified in point no. 6. AHU with VFD controlled fan is required only for item no 4.29 & 4.30 senate hall AHU's. All other AHU to be without VFD. So consider all AHU's except senate hall AHU with backward curved fan.**

23. Please confirm that the client having any duty benefits like EPCG / Form C / E1 transaction.

➤ No

24. We request you to provide us the power and water required for erection and commissioning at free of cost.

➤ **Not acceptable. Water & Electricity is in contractor's scope.**

25. We request you to provide us minimum two weeks' time to submit our valuable BID from the receipt of your queries reply.

➤ **Last date of submission of tender extended to 19/06/2013 at 11.30 am
Opening of tender on 19/06/2013 at 3.00 pm.**

26. Primary tank for the system is not mentioned in the BOQ so this may be included.

➤ **Provided in BOQ Item no 17**

27. Makes for Pre- insulated MS pipes is mentioned(eg- Zeco, seven star).

➤ **Zeco, Shreevenus, Aerovent, Seven Star makes are acceptable.**

28. Makes for Expansion tank .

➤ **Anergy, ITT, Emerald, Grundfos makes are acceptable.**

29. Confirm which one is superseding (BOQ supersedes Specification or Specification supersedes BOQ).

➤ **BOQ to be followed.If BOQ does not clarify the detailed specification to be followed. If it contradicts, follow as per engineer in charge's instruction.**

30. In BOQ sheet thickness for AHU panels is 0.6mm But in specification shows 0.8mm. please clarify .

➤ **Already clarified in point no.3. 0.6mm panel is acceptable.**

31. Tender specification calls for multiple compressor Dx chiller.Kindly note that a high efficiency of 0.67 Ikw/Tr can be met only by a flooded single compressor chiller.Moreover most of the manufacturers in the approved makes listmanu facturing floodedchiller with single compressor only.

➤ **Already clarified in point no. 18.Both are acceptable if it can achieve the COP and ikW as indicated in the BOQ specifications. Flooded and DX chillers are acceptable.**

32. Ahu skin thickness of .6 mm mentioned in the Boq where as specification calls for .8 mm thickness GSS.As an industrial standard and for faster delivery(As the project duration is 4 months) we request you to kindly go as per the thickness in the Boq ie 0.6 mm GSS.

➤ **Already clarified in point no.3. 0.6mm panel is acceptable.**

33. AHU coil thickness of 0.5 MM mentioned in the Specification.To have a better budgetary control and to have a better delivery (As the project duration is 4 m

onths) period we request you to go for 0.38 mm thick cooling coil as per the industrial standards.

- **Already clarified in point no.4. 0.38mm panel is acceptable.**

34. Kindly clarify the scope of control and power cabling of Pump Vfd Panel.

- **Power cabling up to VFD panel from pump panel for secondary pumps will be done by client. Remaining VFD Panel and necessary cabling inside VFD panel and up to modulating valves in the scope of HVAC contractor. Consider 200m armored control cabling between DP switches, VFD and modulating valve in the item VFD Panel (item no 2.4).**

35. Kindly mention the AHUs with VFD and Backward curved fans separately.

- **Already clarified in point no. 6.AHU with VFD controlled fan is required only for item no 4.29 & 4.30 senate hall AHU's. All other AHU to be without VFD. So consider all AHU's except senate hall AHU with backward curved fan.**

36. We refer clause no.2 of GCC page number 40,We request you kindly waive Mile stone Ld clause from the GCC of the tender.Which is extreme non standard for HVAC works.More over there is separate clause for compensation for delay in the GCC.

- **Not Acceptable, As per tender conditions**

37. We request you to make Compensation For delay of work @1.5% per month of delay to be computed on per day basis to a maximum of 5% of the unfinished portion of the work instead of 10% of the contract value.

- **Not Acceptable**

38. Separately for your reference. Kindly note that most of the items in a HVAC project is finished products such as Chillers, Pumps, AHUs and cooling tower. Hence the total supply price of HVAC equipment will be approximately 90% of the total contract value. Total labour part of any HVAC will be 10-15% of the contract value. So by considering above fact along with various purchase orders/Tender documents issued by CPWD/MES/Government of India, We request for a minimum payment 85% against delivery of equipment and total 95% of the contract value against the installation of the equipment and balance against testing and commissioning.

➤ Payment terms as below

| Sl.No | Payment terms | Machine & Equipment | Other Items |
|-------|--|---------------------|-------------|
| 1 | After initial inspection (if specifically) & delivery at site in good condition on pro- rata basis | 80 % | 70% |
| 2 | On completion of pro- rata installation | 10 % | 20% |
| 3. | On Commissioning | 5% | 5% |
| 4 | On Completion of running in period of 7 days subject to minimum --- of 120 days | 5% | 5% |

In additional ,the supplier has to submit Performance Bank Guarantee of 5% valid till completion as per original tender condition and security deposit of 5% will be deducted from the running bills which will be released after DLP as per class of GCC in original tender condition.

39.All our running account bill should be paid within 15 days of bill submission and final bill within 30 days of bill submission.

➤ **As per original tender condition.**

40.Chiller to be proposed is indigenous or Imported?

➤ **Acceptable if it can achieve the COP and kW as indicated in the BOQ specifications**

41.Please confirm whether there are any taxation benefits for the subjected project.

➤ **Nil**

42.Normally Labour welfare cess is not applicable to HVAC contractor, Pls clarify the same.

➤ **The supplier may confirm with tax authorities before quoting.**

43.Please ensure that the Electricity, Water and Store have to be provided by the client (HLL).

- **No. Water & Electricity in contractor's scope. Storage area if available can be provided. But lock and key shall be arranged by contractor.**

44. Pls confirm that the modulating thermostat for 2 way motorized valves to be included in the offer? It can be handled by the BMS vendor also.

- **It is already specified in BOQ specification.**

45. If thermostat will be in the scope of HVAC contractor pls clarify the type of modulating thermostat? (digital or analogue)

- **Digital. This is already specified in BOQ.**

46. Pls confirm the chiller outlet and inlet water temp for proposed project.

- **5-6degC outlet and 12-13 degC inlet. Already specified in the BOQ specification.**

47. As the DX type chiller is an outdated model, we request you to approve the flooded type chiller.

- **DX type and flooded type acceptable. The chiller should achieve 0.67kW/TR .**

48. All masonry work like foundations for equipments and core cutting, wall breaking etc has to be under customer scope.

- **Not Acceptable. In contractors scope.**

49. Pls clarify that the chiller refrigerant for the proposed project. R 134a is widely accepted as Eco friendly refrigerant.

- **R 134A, R 407C & R 410A are acceptable. It's clearly specified in detailed specifications.**

50. Kindly approve the Honeywell make for the following valves.

- a) Butterfly valve
- b) Balancing Valve
- c) Ball valves
- d) Check valves

- **Acceptable**

51. Please approve for Belimo make 2 way modulating valves for this project.

➤ **Acceptable**

52. We request you to approve ETA make AHUs, FCUs and Alpha make factory fabricated ducts for the proposed project. Since these makes are widely approved by consultants and clients in India and overseas.

➤ **Acceptable**

53. Pls clarify whether to go with short coupled or long coupled end suction back pullout pumps.

➤ **Consider short coupled.**

54. Kindly approve for Midea make 4 way Cassette indoor unit.

➤ **Acceptable**

55. Kindly confirm COP/IKW for the chiller proposed in the BOQ.

➤ **Already specified in detailed specification. 6.00 at ARI conditions and 5.70 at standard design conditions. (page 129 GCC).**

56. Please clarify Auto bye-pass is mandatory for secondary chilled water pumps panel.

➤ **Yes**

57. Kindly confirm the power and control cabling works for secondary pump panel comes under HVAC contractor scope, if so quantify the same in BOQ.

➤ **Power cabling up to VFD panel from pump panel for secondary pumps will be done by client. Remaining VFD Panel and necessary cabling inside VFD panel and up to modulating valves in the scope of HVAC contractor. Consider 200m armored control cabling between DP switches, VFD and modulating valve in the item VFD Panel (item no 2.4).**

58. Please explicit the inner and outer panel thickness for AHU's.

➤ **Already mentioned in BOQ specification, 0.6mm sheet double skin with 25mm sandwich PUF Panel**

59. Shall we consider weldable joints for pipes?

- **Yes. Pipes to be welded joints only.**

60. As per the standards the factory fabricated ducts doesn't come with bracing, but spec calls for that. Please clarify.

- **Bracing not mentioned in BOQ specification. It's not required.**

61. For UV protections of ducts, kindly differentiate the exposed and concealed ducts.

- **No exposed ducts considered.**

62. Kindly specify suppliers for pre insulated pipes which are not mentioned in approved list of makes.

- **Zeco, Shreevenus, Aerovent, Seven Star makes acceptable.**

63. Pls approve single compressor model chiller also for the proposed project.

- **Single as well as multiple compressor models are acceptable.**

64. Pls liberalize the penalty clause, normally mile stone penalty and liquidated damages will not apply together.

- **Not Acceptable , As per original tender condition.**

65. We request you to increase the project completion period from 4 months to 6 months.

- **Not possible**

66. In general condition B grade electrical supervisory license is required as qualification criteria. Pls remove the clause.

- **Any electrical works shall be carried out by "B" license holder only.**

67. We request you remove GCC page 34 clause 16.

- Modified GCC enclosed.

68. We request you to remove electrical, civil and plumbing clauses from HVAC GCC.

- Modified GCC enclosed.

69. For imported items 100% LC or TT to be opened

- Imports if any shall be the responsibility of supplier and payment will be made only in Indian rupees to the bidder