



Date: June 25, 2024

Title: Back-up Primary Chiller and Absorption Chiller System Removal for the High Commission of Canada to India, in New Delhi

Solicitation Number: 23-228242

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The following Questions & Answers is in link with the solicitation document mentioned above.

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### Questions & Answers # 2

Q17. "Section 23 64 00, Water Cooling Units, Screw Compressor Chiller Characteristics, Page 9. On interactions with York, we have come to understand that:

- a) The model specified is no longer available and superseded
- b) Requirement is for multi compressor whereas presently available in single compressor
- c) Presently at site the Chiller is with single compressor"

A17. Addendum MEC-001 modifies the chiller model and technology. The technology required is Centrifugal magnetic chiller, single compressor.

Q18. "As per ASHRAE / ISHRAE standards the NEW DELHI WBT is 83 Deg F and considering 7 Deg F Approach Condenser inlet of 90 Deg F may be looked into. The asked Condenser inlet is 105 Deg F. This would also need the Refrigerant R 513 a which has an optimum performance between 100 to 101 Deg F. Above may need to change of Refrigerant to R 1234 ze (Low Global warming Potential) as per York."

A18. Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered.

Q19. "Above would need a relook on the offering of the Chiller from York."

A19. Answer: See addendum MEC-001. Same as above.

Q20. "Certain emails and options as from M/s York are also enclosed for ready reference and with the above the inlet and outlet flow parameters for the Cooling Tower may be also needed to be reviewed."

A20. Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered. See cooling adjusted cooling tower specifications.

Q21. "The Tender Details are quite elaborate and with the above and detailed clarifications / directions in yesterdays meeting we would in all sincerity need time for our interactions with various OEM's / Vendors and also give them adequate response time as well as our own evaluation to come with an appropriate and applicable bid."

A21. The bid close date has been amended previously to July 10, 2024. Please see Addendum 3.

Q22. "The specification given your good self is probably related to the Canadian market. I have the following observations: -



- a. The condenser water temperature entering and leaving are not ideal for Indian Conditions especially Delhi. The ambient wet bulb in monsoon in Delhi is 83°F and with a approach of 5°F the entering condenser water to chiller should be 88°F and leaving should be 98°F with every 1°F increase in condenser water temperature the chiller power consumption would go up by 2% (two percent ).”

A22. Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered. See cooling adjusted cooling tower specifications.

Q23. “Is the chiller chosen variable on both the evaporator and the condenser side?”

A23. Answer: Variable speed pump on the evaporator side and constant speed pump on the cooling tower side.

Q24. “The same holds good for the 400TR Chiller that you are offering as an optional.”

A24. There is no mention of a 400 TR chiller in the technical documents. The required chiller is 250 TR.

Q25. “Please find given below the data sheet for the most efficient YORK Centrifugal Chiller available in 250TR. The advantage of this is:

- i. LOW GWP refrigerant – R1233zd ( e )
- ii. COP at AHRI conditions - 6.6 +
- iii. IPLV Kw/TR – 0.33
- iv. Operating Weight – 8500/Kg”

A25. Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered. See cooling adjusted cooling tower specifications.

Q26. “Comparison chart enclosed for your ready references.

YORK			Magnetic Bearing Chiller with HFO and VFD	Premium Eff Screw Chiller with VFD	High Eff Screw Chiller with VFD	Chiller as proposed by CHC
S. No	Parameter	Units				
1	Capacity	TR	250	250	250	254
2	Type of Compressor		Centrifugal	Screw	Screw	Water Cooled Screw
3	Starter		VFD	VFD	VFD	VFD
	Refrigerant		R-1233zd ( e )	R-134a	R-134a	R-134a
4	CHW In Temperature	Deg C	12.55	12.55	12.55	11.11
5	CHW Out Temperature	Deg C	7	7	7	5.55



6	Fouling Factor	FPS	0.00025	0.00025	0.00025	0.000100
7	Pass		Odd	Odd	Odd	Even ( 2 )
8	CDW In Temp	Deg C	32	32	32	40.55
9	CDW Out Temp	Deg C	36	36	36	46.11
10	Fouling Factor	FPS	0.00075	0.00075	0.00075	0.000250
11	Pass		Even	Even	Even	Even ( 2 )
12	COP at AHRI Conditions		6.6+	6.2+	5.6+	Not mentioned
13	IPLV	Kw/TR	0.33	0.31	0.33	0.409
14	Dimensions					
15	L	m	4.8	5	4.4	4.175
16	W	m	2.1	2	1.8	1.404
17	H	m	2.4	2.35	2.1	1.823
18	Operating Wt	Kgs	8500	7500	6200	13453

**Magnetic Bearing Chiller with HFO and VFD is available in 16-20weeks at site. The chiller you have proposed (as highlighted in yellow color) will come from Mexico in 45weeks time.”**

A26. Answer: Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered. See the adjusted chiller and cooling tower specifications.

Q27. “Cooling Tower: The approach of cooling tower considered seems very high of 20°F. The entering high condenser water temperatures will lead to higher power consumptions of chiller. Generally, in India, we select 5°F as the approach for cooling tower, so leaving water temperature from cooling tower should be 88°F.”

A27. Addendum MEC-001 modifies the condenser side temperatures that have been optimized and lowered. See the adjusted chiller and cooling tower specifications.

Q28. “Request you to give us one months’ time for tender submission from the date of clarification, received from your side.”

A28. The bid close date has been amended previously to July 10, 2024. Please see Addendum 3.

Q29. “Please let us know as to how you will check the authenticity of pre-qualification of organizations, who have completed two jobs of 200TR chiller installation.”

A29. Please refer to item “3.0 Mandatory Requirements” of the RFP. The Bidder, including those representatives of the bidding company and all their subcontractors, shall have had a majority role (i.e. greater than 50% of the overall total project value) in the installation of two 200TR chillers and in the removal and demolition of chiller systems as stated. The installation experience may be with 1 or 2 separate clients. To be compliant, Bidders are required to provide all detailed information as outlined in the “Compliance” column of “3.0 Mandatory Requirements” table. GAC reserves the right to contact any/all clients provided by the Bidder in response to the Mandatory Requirements item.