

Indian Institute of Technology Hyderabad

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Sub: Pre-Bid queries and responses w.r.t. the Tender for “Turn Key solution for Clean Room set up at IIT Hyderabad (IITH)

1. With respect to our Tender No. IITH/EE/SVANJARI/2016/T116 dated 23 Dec 2016, the Institute has received Pre-Bid queries by email within specified date and some queries were raised during the course of Pre-Bid Meeting held on 31 Dec 2016. The Institute has given due consideration to all queries and has incorporated change(s) as far as suitable to the Institute requirement, in the modifications notified on 02 Jan 2017.
2. The responses to the queries are also stated below for information of all concerned parties-

S.No	Description	Query	Response from IIT Hyderabad
1.	Due date of submission: Page ¼ sl no 1 states 20/1/17 by 3.00 pm whereas page ¼ states 16/1/17 by 10.30 am.	To confirm due date and time.	Due date is 16/1/17 by 10.30 am. Error is corrected. Kindly go through the modifications which are uploaded in the website
2.	...vendor should come with BOQ and arrive at a price bid.	Please specify whether this will be a BOQ based tender or design based LUMPSUM tender. In case “design based” LUMPSUM then various item qty are not furnished. As client will not pay more for excess qty. For BOQ based tender, please furnish tender BOQ to submit price bid.	It is a turnkey solution. Basis of Design and BOQ is mandatory for technical and price evaluation.
3.	Payment schedule: Payment schedule is too negative. 30%	This will result in increase in project cost. We propose the following:	Payment Schedule has been modified. Kindly go through the modifications which

	of contact value along with BG of 10% will be released after commissioning and handing over. Thus effectively 40% of contract amount is hold with client till commissioning.	10% advance against BG 70% against prorate receipt at site 10% against prorate installation 10% against comm. Handing over	are uploaded in the website
4.	Gas Room: We note all gases are proposed inside one space adjacent to IP RL-6.	Dangerous /Explosive gases (NH4, H2 etc) require separate room. The room shall have explosion proof walls on all sides, except on outer wall, which may blow off in case of explosion. This is not clear in layout. Bulk gases to be placed in a separate room / area outside specialty gas room. Gas rooms are too far from user point, resulting in long pipe network, which is costly.	There is no alteration in the location of gas room.
5.	DI water: We note there is no mention of DI water. But there are wet benches.	Werequest you to please confirmDI water (15 MΩ or so) arenotrequired. We have in general provided DI water for suchapplications. Whether modular units have been considered (Millipore Elix 10 or equiv). Even in that case small length of DI water piping with zero dead leg valves are required.	DI water is out of scope of execution of the project.
6.	General	Cover page calls the due date for bid submission as 16.01.2016, whereas sheet ¾ Clause 1 indicates the due date as 20.01.2016.	Due date is 16/1/17 by 10.30 am. Error is corrected. Kindly go through the modifications which are uploaded in the website

		We presume that 20.01.2016 shall be the due date for bid submission. Please clarify.	
7.	Bid submission	We understand that Bids to be submitted off line at P&S IITH. Please clarify.	Yes it is an offline bid. Online submissions are considered invalid.
8.	Layout	Please provide us soft copies of Cleanroom drawings in Autocad version for design and estimation purpose	All the dimensions are provided in the pdf drawings. We are happy to answer any queries regarding the same. As a policy, we are not providing CAD drawings to any vendors
9.		Please provide us I/O list to be considered for BMS	BMS is out of scope of the tender
10.	Cleanroom false ceiling panels	As per tender, Infill is mentioned as Expanded polystyrene (EPS) with density 18-20 kg/m3. Iclean propose to consider PUF as infill which is superior and have more load bearing capacity than EPS panel. Also, there shall be colour mismatch between powder coated and precoated. Hence, we request to consider 0.8mm GI powder coated sheet for ceiling. Please confirm.	This genuine request is considered. Kindly go through the modifications which are uploaded in the website
11.	Chiller	Tender specification calls for Air cooled screw Chiller of 10 TR which is not available and as an alternative we have 10 TR Air cooled scroll Chiller. Please confirm.	Scroll Chiller is also acceptable. Kindly go through the modifications which are uploaded in the website
12.	Gas	Scrubbing system required for CH4 & H2? Why abatement system is needed for	Yes. Gas Cabinet is our requirement. It cannot be avoided.

		CH4 and H2?	
13.		Gas cabinet can be avoided if we H2, CH4 outside open to atmosphere thus saving costs	Gas Cabinet is our requirement. It cannot be avoided.
14.	Clause no 3.2	Since Si4H is not used why do we need Si4 scrubbing system	Scrubbing System is our requirement. Also, kindly note that the category of this equipment is mentioned as supplementary
15.	Clause no 3.3	Please specify the DISS connector number	We expect vendors to figure this out.
16.		Why only 1 micron for conical filter gasket? Why not lower sizes?	Lower is also acceptable. We have modified the tender specifications accordingly. Kindly go through the modifications which are uploaded in the website
17.		Enclosure should be minimum 12 SWG and fire resistance. We must add In tender for valid third party test certificate must be there for such statements with FAT report	Third party certification is added in the tender specification. Note that the category of this certification is supplementary. Kindly go through the modifications which are uploaded in the website
18.		Enclosure must have 2 exhaust to meet 250 CFM Why two ports are needed as we can do with one port only	The port number may be one as long as it meets the CFM requirement. Tender specifications are modified accordingly. Kindly go through the modifications which are uploaded in the website
19.		Enclosure to be provided with 2 sprinklers of wax coated from TYCO, why two and why only from TYCO. Tender must include U.L certification approved sprinkler	Brand requirement removed. Tender specifications are modified accordingly. Kindly go through the modifications which are uploaded in the website
20.		Gas cabinet must have safety access window with self-latching and auto door	This point already is in the tender document. Kindly refer to the same.

		closure. We must add this point in tender, very basic safety especially in flammable gases	
21.		Gas cabinet must be validated by 3rd party as per Semi 2 standard compliance and certificate should be produced for the same. We must ad this key point to ensure safety of product, facility and persons	This point is considered. Kindly go through the modifications which are uploaded in the website. Kindly note that this is considered under the category of supplementary
22.		PLC / Controlling system must be equivalent to allen bradley on gas cabinet. Must be having customising configuration as per. Touch screen must be 10" in size for better ease of access and vision. What kind of gas cabinet we are expecting semi-automatic/ automatic? Data is insufficient. Automatic means all operations will be done or sense automatically without human interference	Control system is beyond the scope of the tender. It is not included. Gas cabinet is semi-automatic.
23.		There should be polyester powder coat, than any other normal powder coat. This will provide better corrosion resistance	Polyester powder coat is also accepted. But it is not made mandatory.
24.		Why are we mounting on mirror finished? Mat finish can also satisfy the same.	Mirror finish is our requirement.
25.		What kind of panel is requested automatic/ semi/ manual.	Semiautomatic
26.		Do they expect purge system & auto shut of system?	Purging requirements are mentioned in section 3.3. No Auto Shut is required.
27.	Height of the clean room mentioned is 11.74 m.	In page 9. Chapter 1.1, it is mentioned 3.58m(11.74ft). So we have considered	It is 11.74 ft/3.58 m. Kindly go through the modifications which are uploaded in the

		the 3.58 M as true height	website
28.	The specification of ceiling panel is contradictory with light specification	We need t grid ceiling Panels for fixing tear drop lights. However specification of ceiling panel asked for continuous ceiling panel with factory made cut out to house filters and lights. Please confirm which specification to follow for lights and ceiling?	Request is considered. Kindly go through the modifications which are uploaded in the website
29.		How many cylinders to connect. Manual/ semi/ automatic changeover	Single Cylinder and Manual changeover
30.	The roof is open to terrace and is thermally insulated with PUF foam.	We understand that pu foam is fixed under the ceiling roof. Kindly confirm.	Yes it is.
31.	Door orientations	Doors orientations for change room entry and yellow room have to be changed as per the pressure gradient. Otherwise provision for push bar set up with tower bolt has to be made to keep the door closed at opposite pressure condition.	This point is well taken. Kindly go through the modifications which are uploaded in the website
32.	The specification of door indicates infill of PUF for air shower and other doors. Doors should be double skin pu insulated with viewing window, door closers, handles etc.	The weight of puf insulated door will be higher than the aluminium honey comb filled doors. Moreover most of the manufacturer prefers doors with 1.2 mm thick sheet with honeycomb infill which makes the door more durable. Please confirm whether we can go for the aluminium honey comb infill doors?	This point is considered and Kindly go through the modifications which are uploaded in the website
33.	Pressure of Change Room is not mentioned specifically.	To identify and plan for the infiltration and exfiltration between service bay and change room, we need to know if any gradient exist between the two area	Pressure of Change room and service bay are the same.
34.	Should have a recessed male edge on one side and roll formed female edge on the other side,	Is that specification is for tongue and Groove panel? If yes, the rigidity and impact strength of the tongue and groove wall panel is low. Even the quality of this kind of panels are inferior as compared to	After doing a thorough discussion, the technical committee agrees to the point raised. Tongue and groove type panels are not preferable. Kindly go through the modifications which are uploaded in the

		<p>standard profile panels. Hence we request you to avoid the use of tongue and groove type of panels by removing the same from technical specification. If your specification are directed towards continous profile panel, then you can our observation.</p>	<p>website</p>
35.	<p>Air lock is not there between different classification of clealiness</p>	<p>An active airlock is genarally recommended to prevent contamination between class 1k and class 10k area. If you have intentionally avoided airlocks we will as per the drawing.</p>	<p>Recommendation is not considered.</p>
36.	<p>Orginal cataloge dully signed by principals</p>	<p>Taking signed hard copies of catalogues from OEM is not possible within the timeline. We request you to wave-off this requirement for tender submission. We can submit downloaded catalogues from OEM websites. We believe this are legible enough to get clear understanding of choosen component in our submission.</p>	<p>Kindly go through the modifications which are uploaded in the website. Catalogues have to be signed by vendor.</p>
37.	<p>Beams that hold the roof are 450 mm deep. The clearance from bottom to top of the roof is 3.58 m.</p>	<p>The available gap between the beam and ceiling of clean room is 400 mm, after deducting for insulation, flanges etc., Hence the area of cross section of ducts to accomdate the required cfm of air into clean room. Will not be met within W:H ration of 4:1 as specified by SMACNA standards. As a result we will be force to split the air supply through two ducts. This will increase the quantity of ducting and consequently cost.We wish to reconfirm, if deviation is allowed to use ducts of more than 4:1 ration(W:H)</p>	<p>To easen this situation, we have decided to lower the false ceiling height. The desired false ceiling height is 8 ft now. Vendors can design accordingly to meet the tender specifications. Kindly go through the modifications which are uploaded in the website</p>
38.		<p>Makes of Dehumidifier and humidifier. The makes are not mentioned. Hence we request you to specify the same</p>	<p>The relevant preferred makes are added in the specifications. Kindly go through</p>

			the modifications which are uploaded in the website
39.	Pass box	We did not observe any passbox in the layout. Kindly confirm, if it is intentionally left out.	Pass box is not a part of tender specification.
40.	Emergency door location	Kindly share which of the doors considered in the layout will be used as emergency door.	The 8 feet door is emergency door for yellow room and non-yellow room. For service corridor, a separate door is clearly provided which is not in the scope of tender specification
41.		Minimum width of the panel is preferably more than 1200 mm and of any suitable length as required in a continuous length lamination If you are intending to use continuous profile panel the maximum possible panel width will be 1180 mm. Request your attention	Point considered. Kindly go through the modifications which are uploaded in the website
42.	Wall panel details for gas cylinder storage room.	You have indicated 50 mm wall panels in this room. We wish to reconfirm, if this is indeed required. Thenically we don't see any requirement for this room.	Kindly consider 100 mm wall panels for the gas room as well. Kindly go through the modifications which are uploaded in the website
43.	Location of tools and space for gas storage	Location for exhaust blower for gas cabinet and scrubber is not mentioned.	Location of exhaust and scrubber is just above IPRL 6 on the terrace.
44.	Canister should be adaptable to accommodate additional gases.	As long as additional gases belongs to same group of gas, then it can be accomedated in the same canister, else additional canisters scrubber need to be installed.	Ok.
45.	Besides catering to scrub gas from cabinet exhaust the dry scrubber should also serve as catastrophic release abatement tool having capacity to absorb full contents of any of the toxic gas cylinders in case of an	The exhaust from the gas cabinets are not scrubbed, they are only diluted with requisite amount of air and released into the general exhaust through blower. The outlet from the vent lines from gas cabinets are scrubbed. The scrubber is	Scrubber rating remains unaltered.

	accidental release.	rated for 2000 cfm only. In case of catastrophic release, the flow will be more than the rated cfm and would require the very large capacity scrubbers. If the cylinder explodes, it is considered as catastrophe and there is no way it can be directed into the scrubber.	
46.		Do they want reading on the PLC / scada system.	No
47.		What is the capacity, inlet/ outlet pressure? Flow rate for each gas is required.	In-let pressure is same as that of standard full cylinders of respective gases (200 bar maximum) . Outlet flow rates are already mentioned in the tender document.
48.		Kindly add equivalent make like SSC and Gas Arc	For any make other than preferred makes given in the tender, quality assurance certificates need to be provided by the vendor. Technically committee reserves the authority to decide whether it is acceptable or not.
49.		For purifier what type we are expecting. Auto regeneration type/ Cartridge type? How much is the usage of gas, as that will decide the size and lifespan of purifier. Flowrate, Time and days required for such findings.	Cartridge type and 10 year of life span is expected.
50.		Kindly add name of Entegris and SVT in make list.	Entegris make is already there in the list
51.		Kindly provide the impurities available in 4N grade gas that will be input. Provide the impurities ppm count required in the output for 6N grade.	We expect the vendor to know these details.

52.		Details of SCADA requirement to be given in detail.	Tender specification asked for SCADA compatibility not SCADA. SCADA is out of the scope of this project.
53.		Customer must finalise the process to be used for dry scrubber.	Dry scrubber is targeted towards Silane based processes.
54.		IF there is no source gas for toxic, corrosive and pyrophoric gases then why do they need such scrubber?	Scrubber is our requirement. Kindly note that this is quote as supplementary
55.		Need LPM of each gas CORT gas to finalise the design basis.	Details are already provided in the tender. Kindly go through the same carefully.
56.		BOQ / FUM to be provided with detail drawing.	BOQ should be provided and justified by the vendor based on their design
57.		Scope of FRP/ SS/ PVC is undefined. It should be clearly mentioned.	FRP is for corrosive gases and SS is for non-corrosive gases. In the modified tender document, PVC is removed and replaced with FRP.
58.		IF PVC asked then reason to be provided.	Committee decided to remove PVC based ducts.
59.		Why ATEX approval is not mentioned which is well known and special used I gas industry for equipment safety?	ATEX is an European directive. Committee decided to stick with Indian Standards.
60.		<p>Specs mention in the tender is for safe environment. Which can be used outside the gas cabinet, what about the facility or clean room. Such detectors are incapable to work, we need diffusion type of detectors.</p> <p>How are we defining the requirement of detectors for facility and equipment's?</p> <p>What about corrosive and toxic gas detectors? If scrubber are required why not detectors?</p>	<p>No gas detectors are envisioned in the facility at this particular point of time.</p> <p>For any make other than preferred makes given in the tender, quality assurance certificates need to be provided by the vendor. Technically committee reserves the authority to decide whether it is acceptable or not.</p>

		<p>ATEX approval should also be consider for leak detectors.</p> <p>We would propose Riken Keiki make.</p>	
61.		<p>We must ask to include the scope of gases in the tender that will make turnkey solution. Very competitive to quote.</p>	PART-A and PART-B will not be merged
62.		<p>In fittings make list kindly add equivalent make like SSC.</p>	For any make other than preferred makes given in the tender, quality assurance certificates need to be provided by the vendor. Technically committee reserves the authority to decide whether it is acceptable or not.

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