UCH COMPRESSION PROJECT

Design Engineering, Procurement (Supply), Construction, Installation/Erection, Pre-Commissioning, Commissioning & Start-up (including performance testing and Reliability Guarantee Test) of Compression System at UCH Compression Project

Tender Enquiry No. PROC-FC/CB/PROJ/UCH(COM)-4462/2019

PRE-BID CLARIFICATION - 32

SR No.	Tender Document Reference	Statement	Query	Response
1	(1) PRE-BID CLARIFICATION # 28 Item No. 3; (2) Line List 0221-LS-9335-0; (3) P&ID.	The Design Temperature (200°F) and Design Pressure (1350psig) not matching with the design parameters in PIDs and DC piping spec.	As per the Company Response of PRE-BID CLARIFICATION # 28-Item No. 3, it's shown that the design pressure/temperature for DC classes in Line List 0221-LS-9335-0 (1350Psig / 200°F) should be followed. But the pressure-temperature rating of DC class (F304L, Class 600) couldn't meet the design parameters of 1350Psig/200°F, the DC1 (and DC2) piping spec couldn't meet the design parameters also because F316L and F304L are the same material group and have same pressure-temperature ratings as per ASME code. Besides, Bidder found some other issues in Line List 0221-LS-9335-0 and piping spec "DC", "DC1"&"DC2", some of them are shown as below: (1) 0221-LS-9335-0 (Line List): The design temperature (200°F) is lower than the operating temperature (255.8°F) of some lines. Please see the red rectangle marked in Attachment #1 Issues about 0221-LS-9335-0 (Line List). (2) Wall thickness of "DC", "DC1"&"DC2" specs: Some of piping and components wall thickness are not enough based on design condition 1350Psig / 200°Fof "DC", "DC1"&"DC2" specs after checked. Please see the checking result in Attachment #2 Wall thickness checking of "DC", "DC1"&"DC2" specs. (3) "DESIGN CONDITIONS" which listed in "DC", "DC1"&"DC2" specs: "DESIGN CONDITIONS" which listed in "DC", "DC1"&"DC2" specs are not match with ASME B16.5 code. Please see the Attachment #3 Issue about "DESIGN CONDITIONS" which listed in "DC", "DC1"&"DC2" specs. For the above issues Bidder has some preliminary advice and solution as followings: **(1)** Bidder considered that how to determine the Design pressure/Design temperature should be clarified first, please kindly check whether below recommended principle could be accepted: **(2)** If the above recommended principle is OK, then Bidder will re-check and correct the specs (wall thickness, pressure-temperature ratings, etc.). Some of the specs maybe changed to EC (F316L, Class 900; then it will be a big cost impact on piping, instrumentation, equipment etc. materials for this project compared to "DC" spec which shown on FEED P&ID, line list, etc.). Please kindly check / confirm. **Maximum Design Temperature** Generally, the maximum design temperature is obtained by adding 25°C to the normal operating temperature (NOT), with a minimum of 85°C for piping or equipment operating at ambient conditions and exposed to solar radiation. In addition to this, the requirements detailed in section 5 also apply.	1) Please note that operating temperature range is mentioned in referred Line list i.e. 172-255.8 °F which does not mean that operating temperature shall be higher than the design temperature (200°F). Bidder to further check during detailed engineering stage. 2) Bidder to propose suitable wall thicknesses of required pipe sizes after carrying out calculations and submit for OGDCL/ENAR review/approval (as already mentioned in previous clarifications) 3) Please note that existing piping specs of UCH-II GPF have been used in this project. Also, bidder to consider all aspects for the suitability of material with respect to design parameters as per P&IDs and Line list (part of tender document). Moreover, bidder to adhere with the tender requirements stipulated in SEC-III (Scope of Work); specifically on page # 9 & 10 of 114 regarding "Vetting/Endorsement/Verification/Updation of FEED data and Performance of any additional studies or calculations required to further define equipment or system requirements, or to demonstrate the adequacy of the proposed design."

Normal Operating Pressure (NOP)	Maximum Operating Pressure (MOP)	Pressure Alarm High (PAH)	Pressure Trip High-High (PAHH)	Design Pressure
Below 10 barg	NOP + 5% of NOP	MOP + 5% of MOP	PAH + 5% of PAH (minimum 1 bar)	110% of PAHH
10 to 35 barg	NOP + 5% of NOP (minimum 1 bar)	MOP + 5% of MOP (minimum 1 bar)	PAH + 5% of PAH (minimum 1 bar)	105% of PAHH
35 to 70 barg	NOP + 5% of NOP (minimum 2 bar)	MOP + 5% of MOP (minimum of 2 bar)	PAH + 5% of PAH (minimum 2 bar)	105% of PAHH
70 to 140 barg	105% of NOP	105% of MOP	105% of PAH	105% of PAHH
Above 140 barg	NOP + 5% of NOP (maximum 10 bar)	MOP + 5% of MOP (maximum 10 bar)	PAH + 5% of PAH (maximum 10 bar)	105% of PAHH