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TENDER DOCUMENT NO.IGL/ET2/CP/CP18797
ARC for Supply, Installation, Commissioning and Comprehensive Maintenance of Compact Field Regulating Stations (FRS) of 5000 SCMH

REPLY TO PREBID QUERIES

S.NO	Section	Tender Clause.	Page No.	Description	Bidder Query	IGL Reply
1	Technical Volume	Datasheet - Cartridge Filter	244	QOC Requirement for Cartridge Filter	Bidder understand that QOC is not required for Cartridge Filter	Tender condition prevails. Refer filter datasheet- Top cover With Quick opening closure as per ASME Sec VIII is required.
2	Technical Volume	Impact	-	Impact Requirement at 0deg C for Mechanical Items	Bidder understands that if the impact test is carried out at -29°C, then there is no requirement to conduct the impact test at 0°C, as impact test at -29 degC is more stringent.	Impact testing at 0°C shall be sufficient and acceptable for the intended application
3	Technical Volume	AVL	-	Approved bidder List - SLAM SHUT VALVES AND SHUT DOWN VALVES & PRESSURE REGULATORS	Kindly approve make Tormene Autometers make for Pressure Regulator (active & Monitor) & SSV. Tormene is an Italian manufacturer and is having joint venture in India with Autometers Energitec. We have supplied Tormene make Regulators & SSV for IOCL CGD project. Tormene is already approved in many CGD Companies i.e. GAIL, IOCL, HPCL, GSPL & GIGL etc. PTR is attached for your reference. Product catalogue is also attached for your reference	Bidder's request is acceptable. Tormene Autometers make for pressure regulator (active & monitor) and SSV is acceptable
4	Technical Volume	AVL	-	Approved bidder List - Valve	Kindly approve Valve Tech Make for Manual Valves as they are regular supplier of Manual Valves in CGD companies. PTR is enclosed for your reference.	Tender condition prevails
5	Technical Volume	AVL	-	Approved bidder List - Valve	Kindly approve Hina Make for Manual Valves as they are regular supplier of Manual Valves in CGD companies.	Tender condition prevails
6	Technical Volume	-	103	Skid installation, test and commissioning is in supplier's scope. Any minor civil work during installation of skid, cable laying and panel or damages shall be done by skid supplier	We understand that bidder's scope includes supply, supervision of installation and commissioning of FRS skids at site. Any kind of civil/electrical/mechanical works shall not be part of bidder's scope. Kindly confirm our understanding is correct.	Tender condition prevails. Any cable laying, panel-related work and rectification of damages during installation of the skid shall be carried out by the skid supplier/bidder. However, civil work shall be excluded from the bidder's scope.
7	Technical Volume	-	107	Dual Stream USM Meter (2x100%) for 5000 SCMH with bypass arrangement	We understand that as per P&ID, 1X100% USM meter is required with bypass arrangement. Kindly confirm our understanding is correct.	As per P&ID, 1X100% USM meter is required with bypass arrangement. Provision for spectacle blinds in bypass line shall also be provided.
8	Technical Volume	-	150	Pt. no. 2.7 - USM Meter	We understand that USM meter needs to be air calibrated. Kindly confirm.	USM meter shall be Type approved as per OIML R137 and certification from Weights & Measures Department, India with Model & Make details included. bidder to submit calibration report (on Air / Nitrogen from NABL approved Lab) of the ultrasonic meter (along with the flow profiler, if used) to achieve the accuracy class. The maximum permitted velocity through USM shall be 20 meter/ sec. The calibration lab/ testing facility shall be GATC approved.
9	Technical Volume	-	151	Pt. no. 3.3 - Flow Computer	We understand that 1 no. AO shall be considered in FC for ordo riser controller. Also Ordo riser Controller shall not be in bidder's scope. Kindly confirm our understanding is correct.	Bidder's understanding is correct. Additional flow output signal (4 to 20 mA) for ODORISER controller etc is required however the odoriser controller supply shall not be in bidder's scope.

10	Technical Volume	-	181	Data Sheet for Pressure Regulated Valves	<p>We understand as the skid inlet pressure will vary considerably and in wide range (15 to 35 Bar G) as per the provided data. In such case the regulator design should be such that the inlet/upstream high pressure should not come in direct contact with the regulator main diaphragm as per Loading type regulator design.</p> <p>In otherwise case (unloading type), 1. If inlet pressure comes in direct contact with diaphragm it will affect performance due to hunting issues as regulator will be sensitive to inlet pressure variation also. This will increase the maintenance activity and will reduce life of diaphragm. Such regulator also have impact on the accuracy and lockup pressure of regulator. Hence, we request you to kindly accept the Loading type regulator only</p>	As per the datasheet, the regulator shall be self-actuated pilot operated type and shall meet all specified performance requirements including regulator accuracy better than 1% of set pressure and maximum lock-up zone of 5%. Bidder may offer suitable regulator design, including loading type configuration, provided all tender/datasheet requirements and operating conditions are fully complied with.
11	Technical Volume	-	188	Appendix 2 Process Parameters/Piping Specification - Pipes	<p>As per process parameters, design temp. is -29-65 DegC. As per piping specifications on pg 138,</p> <p>LTCS MOC needs to be considered for pipes for given design temp. We request IGL to kindly confirm the MOC to consider for entire skid inclusive of pipes, valves, flange/fittings etc. Piping specifications for flange/fittings, valves etc. states MOC as Carbon Steel not LTCS. Also looking at the operating process parameters, LTCS material shall not be required. Even all datasheets are also with CS MOC. We request IGL to accept and confirm piping material including all MOC will be carbon steel.</p>	<p>BBidder's request is acceptable.</p> <p>LTCS is not required as piping material in construction/manufacturing of the FRS. The use of CS for piping material is acceptable.</p>
12	Technical Volume P&ID	-	-	-	<p>As per Tender, Dual stream (2 x 50% for 5000 SCMH) Ultrasonic Flow meter (USM) type gas flow meter skid with pressure, temperature element, Flow Computer (FC) battery operated along with inbuilt or external GSM modem as per P&ID. Kindly confirm usm shall be design 50% or 100% flowrate each stream. PI confirm</p>	As per P&ID, 1X100% USM meter is required with bypass arrangement. Provision for spectacle blinds in bypas line shall also be provided.
13	-	-	-	-	<p>Supply, erection, installation & commissioning of 12/24 V DC solar power system along with solar cell, mounting pole, flame proof LED to illuminate skid area, 72 hrs battery backup with charger and interconnecting cable. Please confirm we have supply LED light along with skid. If yes please provide details – QTY, Watt & other detail</p>	The scope includes Supply, erection, installation & commissioning of 12/24 V DC solar powersystem along with solar cell, mounting pole, flame proof LED to illuminate skid area, 72 hrs battery backup with charger and interconnecting cables. Flame Proof LED light shall be mounted on same solar cell pole for illumination. The quantity and wattage of LED light(s) shall be designed by the vendor in such a manner that the complete skid area is adequately illuminated.
14	Filter Approval	-	-	-	<p>We are approved in all CGD & supplying i.e approved in BPCL, IOAGPL, MNGL, Gail, Gail gas, NECGD, Torrent Gas, Megha all other CGD company etc. However, We are supplying in IGL for FRS 2000 & 9000 SCMH. we request you to kindly accept our make filter. PI find attached our Filter PTR for ready references.</p>	Tender condition prevails
15	Gas Detector	-	-	-	<p>Please confirm Gas Detector is required or not, Kindly confirm qty.</p>	Skid shall be supplied with 2 nos. of point gas detectors
16	Ball Valve 300# & 150#	-	-	-	<p>As per Datasheet from 4" and above all valve shall be TMBV &. Kindly note as per standard particles all CGD & EIL accept floating up to from 6". Please note lead time of TMBV is also very high. Kindly accept floating up to 6".</p>	Tender condition prevails
17	Skid dimension width	-	-	-	<p>As per tender document, skid width shall be 1.5 meter. Skid width dimension mention is very less, kindly extended up to 2 meters</p>	Tender condition prevails
18	Line size in P&ID	-	-	-	<p>In tender P&ID line size is mention 4" at inlet, as per velocity calculation @20m/sec we can select 3". Kindly provide us acceptances to revise line size.</p>	The P&ID has been provided for reference. The sizing shall be done by the vendor during detailed engineering post tender award which shall be subsequently approved by IGL as per process parameters. The minimum inlet line should be 4".
19	Flow computer or EVC	-	-	-	<p>Kindly confirm EVC or flow computer is required.</p>	EVC or Flow computer with inbuilt or external GSM modem both are acceptable. Datasheet for EVC is attached below as Annexure - EVC Datasheet
20	Pressure Regulator accuracy, Hydro test & RT 100#	-	-	-	<p>As per PRV datasheet, Accuracy +/-1% , Hydrotest witness & 100% RT, Lead time of PRV shall be 16 weeks. We requested u to accept Accuracy +/-2.5% & without RT, it will impact fast delivery schedule, kindly provide us acceptances.</p>	Bidder's request for providing PRV with accuracy of +/-2.5% is acceptable. However, the requirement of 100% RT shall remain unchanged and shall be complied with by the bidder.

21	ITP- Witness	-	-	-	As per ITP in following instrument & item is mention witness as every individual stage, but tender document it mentions all brought items are with 3.1 certificate. Kindly note this witness point, it will increase lead time & also impact project cost. Kindly remove all individual stage witness. PRV, Transmitter, PSV, CRV, Gauges, RTD, USM	For pressure guage, pressure ,levl,diff. pressure transmitter, RTD and thermowell 3.1 certificate is acceptable. For rest items tender condition prevails.
22	Technical Volume PCV Accuracy – 1%	-	181	-	We request you to kindly accept PCV with 2.5% accuracy as same is acceptable in other CGDs DRS/FRS tender.	Bidder's request is acceptable.
23	CAMC	-	-	-	We understand that spares for USM & FC need not to be considered for CAMC. During CAMC if spares required for USM & FC then that shall be provided by customer. Kindly confirm.	The vendor has to provide CAMC for 05 years after the completion of standard warranty period which includes the spares for USM & FC as well.
24	CAMC	-	-	-	We understand that USM calibration need not to be included in CAMC scope.	USM calibration need not be included in the CAMC scope under normal operating conditions.However, in case the USM becomes damaged, non-functional, or faulty during the warranty/CAMC period, recalibration may be required after repair/replacement activities. Otherwise, no calibration is required during the warranty/CAMC period.
25	CAMC Leak testing of joints, flanges, and valves	-	-	-	We understand that valves servicing is also included in CAMC. Kindly confirm if our understanding is correct.	Bidder's understanding is correct. Valves servicing is also included in CAMC
26	Certification	-	-	-	We understand that 3.1 certification is required for bought out items.	For pressure guage, pressure ,levl,diff. pressure transmitter, RTD and thermowell 3.1 certificate is acceptable. For rest items tender condition prevails.
27	Filter shell cover	-	-	-	We understand that bidder has to consider davit arm for filter shell. Kindly confirm if our understanding is correct.	Quick Opening Arrangement is required

DATA SHEET FOR ELECTRONIC VOLUME CORRECTOR

Rev.

		DATA SHEET FOR ELECTRONIC VOLUME CORRECTOR		Rev.
General	1	Type	Microprocessor based battery operated volume corrector with integral pressure transmitter and temperature sensor suitable for mounting in the field location and applicable for custody transfer	
	2	Service	Natural Gas	
	3	Site conditions	Temp.: 0 - 55 deg.C, Hot, Humid, tropical, Saline environment	
	4	Governing Standard	EN 12405-1+A1 or Latest	
	5	Approval	Type Approval Certificate as per Governing Standard	
	6	Area Classification	Zone 1 Group IIA /IIB T3 Ex ' d'	
	7	Enclosure Protection	IP 65	
	8	Quantity	As applicable	
	9	Function	To measure actual gas volume, pressure, temperature and compressibility factors of the gas and based on which calculates standard volume of gas. The unit shall be complete in all respects to achieve functionality.	
	10	Accuracy	Typical accuracy better than $\pm 0.5\%$ as per governing standard	
Electronic Volume Corrector	12	Input	1.EVC input shall be either LF/ HF pulse	
	13		2.Temperature signal form RTD measured value PT100/1000.All interconnecting cable shall be screened and Armoured	
	14		3.Pressure sensor shall be directly mounted on the meter and wired to EVC with a range in accordance with max. working pressure and design pressure	
	15	Output	1.Correct Flow rate in standard cubic meter per hour (SCMH)	
	16		2.Correct Totalized volume (sm3)	
	17		3.Temperature	
	18		4.Pressure	
	19		5.Correction factor	
	20		6.Uncorrected flow rate	
	21		7.Uncorrected volume	
	22	Isolation	All Inputs, Outputs and power supply shall be individually isolated	
	23	Display	2 line LCD with 16 characters / 1 Line LCD with 8 characters	
	24	Power Supply (Note 5)	Lithium battery along with mounting hardware.	
	25	Calculations / Corrections	Compressibility : AGA8 (Detail method), NX-18,S-GERG	
	26	Features	Built in diagnostics to detect proper functioning	
	27		Data security to password / key-lock. Hardware and software seals required.	
	28		Parameters and programmed constants shall be stored in EEPROM / non- volatile memory	
	29		Conduit connection of 1/2" NPTF with plugs shall be provided for output.	
	30		Alarm output for unit malfunctioning.	
	31		EVC can store hourly data for 60 days	
	32		Large and configurable database and can store hourly, daily, monthly data with date & time stamp for pressure, temperature and corrected flow and consumption up to 1500 records or better.	
33	Facility for entry and accessing live and stored data through Keypad / Laptop / SCADA system.			
34	Identification	Unique Addressing Facility		
35	Communication Ports	1. RS 232/ 485 serial port for SCADA facility (configurable up to 9600 bps) along with required connector, convertor and cable for USB output.		
36	Software	Suitable communication protocol adaptor with 2.5 mtr of communication cable along with driver software to communicate with EVC and Windows 7 and Windows 10 based laptop shall be supplied with each EVC		
37	Automatic Meter Reading (AMR)	Required, In built AMR with compatible technology for Data transmission		
38	Mounting Accessories	Required		
39	Fittings	1.Pressure sensor: 1/4"NPTM 2. Temperature Sensor : 1/4" NPTM (RTD Diameter Max.6mm)		
40	Cable Entry	1/2" NPTF		
41	Communication Cable	Required, 2.5 mtrs length		
Misc.	42	Make	*	
	43	Model	*	
Notes:				
1	Vendor to specify. *			
2	EVC shall be certified for type test from NMI / PTB or equivalent independent international laboratories as per EN standards.			
3	The Calibration certificate for RTD & PT (original + soft copy) shall be provided to IGL. One copy of the certificate shall be provided within the packing box of each EVC.			
4	Vendor shall provide 5 sets of volume corrector documentation including product literature, software / hardware manual, operation manual, maintenance instruction, certificates etc.			
5	Battery life shall be not less than 5 years if replaceable and if not replaceable then battery life shall be 10 years. Battery capacity shall be sufficient for 24 hr.continuous operation with all the equipment powered.			
6	The communication protocol and message structure details to be used on the RS 232 / 485 serial communication port (for SCADA) shall be supplied after placement of order.			
7	Data hosting and associated service agreement shall be required for the respective gas meters for the duration of 05 years and Cloud services shall be as per the compliances of Ministry of Electronics and Information Technology and should be located inside the India only.			
CLIENT:		INDRAPRASTHA GAS LIMITED (IGL)		
PROJECT:		FRS SKID FOR CGD PROJECTS		
REV.	DATE	PRPD	CHKD	APPD