



A Joint Venture of Andhra Pradesh Gas Distribution Corporation
Ltd. and Hindustan Petroleum Corporation Ltd

CORRIGENDUM – 4

Date: 31.01.2020

Tender Document No: GGPL/KKD/C&P/PR 2044/2019-20/11 dt. 02.12.2019

Subject: Tender for Procurement of Integrated Compressor Package

The following modifications to the subject tender is hereby authorized.

S. No.	Description	Page No. / Clause No.	Amendment/Addition/ Modification
1	Response to Bidders Queries	-	As per Annexure –1 attached to this document
2	DUE DATE AND TIME OF BID-SUBMISSION	Pg. 1 & 4	14.02.2020 at 14:00 Hrs. (IST)
3	DATE AND TIME OF UN-PRICED BID OPENING	Pg. 1 /Pg. 4 IFB 2 (H)	14.02.2020 at 15:00 Hrs. (IST)

All other terms and conditions of tender document remain unchanged.

For & on behalf of
Godavari Gas Private Limited

(Authorized Signatory)
Name :A RAMESH NAIK
Designation :Chief Manager (C&P).
E-mail ID :rameshna@gail.co.in
Contact No. : 7661029777

Sub : TENDER NO: GGPL/KKD/C&P/PR 2044/2019-20/11 for Supply of CNG Electric Motor Driven Integrated Compressor Package for GGPL

Sr no.	Section / Tender page no.	Clause no.	Subject	Bidder's Query	GGPL Reply
1	115 of 358	26.4	The maximum value of PRS shall be limited to 5% (five percent) of total contract price as per Price Schedule excluding amount pertaining AMC (O&M charges), if any. For PRS purpose, the above mentioned contract price shall be excluding taxes and duties	we request you to modify the claus to " The maximum value of PRS shall be limited to 5% (five percent) of undelivered package price...	tender condition prevails
2	157 of 358	1.1	The field trial run of the Integrated CNG Compressor package will be for minimum of 4 hours and the package should be kept under observation for 72 hours for stable operation and no major breakdown in which satisfactory performance of the package together with all accessories auxiliaries and controls shall be established for satisfactory performance for specified operating conditions.	As Full load performance test will be carried out at bidders works for 4 hours on guarantee parameter on Natural gas, we request customer to consider 30 mins field trial run and also performance test at site.	tender condition prevails
3	158 of 358	1.1	Periodic inspections of Safety Valves, Transmitters, Pressure vessel gauge and any other equipment as per statutory norms of Factory Rules 1950. SMPV and Gas Cylinder Rules shall have to be carried out by the bidder at his own cost during the period of maintenance by the bidder. The inspections have to be carried out by competent persons as per advice of Engineer-in-Charge and certificates have to be submitted to GGPL.	Hydro testing of pressure vessels to be excluded from bidder scope. The vessels are part of a process equipment and are to be designed as per ASME Sec VIII. The process vessels have not been covered under Gas Cylinder Rules 2016 / Static and Mobile Pressure Vessels Rules. Clauses applicable for vessels in compressor package are not present in Gazette notifications of Gas Cylinder Rules 2016 / Static and Mobile Pressure Vessels Rules. Thickness check will be carried out every year and same report shall be provided. We have supplied almost 400 + CNG package and operated successfully.	accepted
4	159 of 358	1.1	Receipt at site, storage in warehouse as per manufacturer's recommendation and safety and security from theft and breakage during transportation, handling including security guard at site.	Storage at site and providing security at site is excluded from bidder's scope.	storage of compressor with all necessary wooden blocks and torpolene covers shall be in bidders scope, any damages during loading, transportation, unloading and erection bidder shall be responsible
5	163 of 358	2.0	The bidder shall carryout calibration of gas detectors and flame detectors every six months or earlier as per requirement or instruction of EIC of GGPL. Also yearly calibration of all instruments such as pressure gauges, transmitters, switches, mass flow meters etc shall be in the scope of the bidder. In addition to the above all safety relief valves shall also be tested and calibrated every year.	For mass flow meters, Only Zero calibration of mass flow meters will be provided. We have supplied almost 400 + CNG package and operated successfully.	accepted, calibration for all instruments except MFM will prevails as per tender condition
6	179 of 358	3.2	API 618	API 618 is generally applicable for reciprocating compressors required for installation in refinery loaction and same will not be applicable for required compressors.	all applicable sections for engineering and construction of reciprocating compressors shall be applicable in API 618
7	173 of 358	2.2	Air Cooler Design degC - 47.5 degC DBT& 90% RH	Package discharge temperature specified is 52 degC. If 47.5 deg C is to be considered as design temperature for air cooler then the discharge temperature considering sufficient margin on differential temperature of air for cooler design shall be 55 deg C.	tender condition prevails
8	168 of 358	6.0	One no. relief valve at each stage discharge, first (1st) stage suction and Blow Down Vessel.	Relief valve at first stage suction is not required in addition to one on blow down vessel as suction line and blow down vessel are connected to each other. We have supplied almost 400 + CNG package and operated successfully.	accepted
9	168 of 358	6.0	Y- type strainers, valves, sight flow indicators, check valves, auto & manual drain traps etc. as required for various auxiliary systems i.e. frame lube oil, cylinder lubrication system, cooling water systems etc. according to manufacturer safe design.	Please note that as per Manufacturer's standard practice the lubricator will be divider block type. Y type strainers, Sight flow indicators, check valve etc are applicable for Single Plunger per point lubricator, thus not applicable. We have supplied almost 400 + CNG package and operated successfully.	accepted
10	168 of 358	6.0	Only air cooled and lubricated compressor with suction/discharge volume bottles (dampers) for each stage (separators) with manual drains and automatic drain system, lube oil system, closed circuit cooling water system (console type)/Air cooled according to manufacturer safe design.	The proposed CNG package has suction volume bottle at each stage and discharge volume bottle at final stage discharge only. The volume bottles at suction are connected to condensate drain system through auto-drain valves. These volume bottles shall act as scrubbers/ condensate removal system. No separate separators shall be supplied. Manual drains are not recommended and not provided considering safety reasons. We have supplied almost 400 + CNG package and operated successfully.	accepted
11	168 of 358	6.0	Duplex suction filters to be provided at the inlet of package with DP gauge after Y type strainer.	A conical strainer is provided in compressor suction line instead of Y-type strainer. We have supplied almost 400 + CNG package and operated successfully.	accepted
12	169 of 358	6.0	Secondary lubrication system with check valve protector, HP Filter (for all lubricating points) & DNFT flow switches with standby pump according to manufacturer safe design. Secondary lubrication system with divider block shall be provided.	Standby pump is not envisaged and therefore will not be provided. Oil pump mounted on compressor is sufficient for cylinder lubrication.This system is available in all our packages and accepted by al the CGD companies and 400+ CNG compressor are running successfully.	tender condition prevails
13	170 of 358	8.0	Supplier shall arrange its own ups supply for testing, installation and commissioning compressor control circuitry. UPS of adequate rating along with battery backup to be part of vendor's scope.	We understand that UPS is to be arranged by bidder only for testing, installation and commissioning activities and does not constitute as bidder's scope of supply.	tender condition prevails
14	170 of 358	8.0	Silencer has to be provided in the starting air vent line.	Starting air is not required for motor driven compressors hence silencer is not applicable.	accepted
15	171 of 358	9.0	Bidder shall make his own provision for Instrument air if required with an electric motor driven air compressor with a suitably sized receiver & Refrigerant type air drier system.	Air drier sytem will be "Heat Less "type, dessicant is used to remove moisture in compressed air. Advantage of this system over refrigerant type dryer is that it does not require power supply for operation.	accepted

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16	171 of 358	9.0	Gas based actuator to used for compressor & dispensers hence no air compressor is required	We understand that, Gas based actuators for compressor & dispensers are also acceptable and gas used for instrument actuation will not be considered as loss and no penalty will be imposed on bidder on account of same.	accepted, but gas consumption for actuation needs to be mentioned in the bid.
17	173 of 358	1.0 A -1.4	Horizontal / Vertical Balanced Opposed design with lined cylinder/ trunk piston Design.	Cylinders are unlined as per manufacturer's standard design.	accepted
18	173 of 358	1.0 B -2.2	255 Kg/Cm2 g at 52 deg. C (Max)	Gas discharge temperature shall be air cooler design temperature + 7.5 degC over ambient temperature of 47.5 Deg C (i.e.55 degC)	tender condition prevails
19	180 of 358	3.21	Direction of flow should be marked on the pipe line and nomenclature of all vessel (e.g. 1st stage discharge dampener etc.) should be written on them. Cross head inspection windows should be transparent for easy of inspection during running. Set values should be prominently marked on the gauges.	Crosshead covers are not transparent as per manufacturer's standard design.	accepted
20	180 of 358	3.21	Cross head inspection windows should be transparent for easy of inspection during running. Set values should be prominently marked on the gauges.	Crosshead covers are not transparent as per manufacturer's standard design. We have supplied almost 400 + CNG package and operated successfully.	accepted
21	180 of 358	3.22	Gas tight crankcase.	Crankcase is not gas tight and vented to atmosphere. There is no gas loss through crankcase to atmosphere as packing leak gas is vented before it could reach crankcase. We have supplied almost 400 + CNG package and operated successfully.	accepted
22	181 of 358	3.22	Crankcase breather piped back to suction.	Crankcase is non pressurized type hence breather is open to atmosphere and not piped to compressor suction. We have supplied almost 400 + CNG package and operated successfully.	accepted
23	185 of 358	Preferable Makes	FLP motors:- ABB / Crompton Greaves / Kirloskar / Siemens / Bharat Bijlee / Weg.	We request to approve Laxmi Hydraulics (LHP) & Hindustan Electric Motors MFG Co. As motor vendor.	tender condition prevails
24	185 of 358	Preferable Makes	On off ball/needle valve - Parker/Swagelok / ABAC / Spirax Sarco /Worcester for CNG application	Please let us know whether "SSP" make is acceptable for On off ball/needle valve.	tender condition prevails
25	188 of 358	4.2	All package mounted transmitters & temperature elements shall be intrinsic safe as per IEC 79-11 and solenoid valves, switches and related junction boxes shall be flame proof 'd' as per IEC 79-1. Other special equipment / instrument, where intrinsic safety is not feasible or available, shall be flame proof/ explosion proof as per IEC 79-1. All pressure gauges shall have an accuracy of + 1% of FSD and 100mm dial size. Pressure sensing elements shall be minimum of SS316 and movement of SS304. All pressure gauges on process lines having range more than 40kg / cm2g.	We are using flame proof temperature elements and not considering transmitter for the same	tender condition prevails
26	188 of 358	4.5	The temperature gauge shall be generally mercury in steel field type. Capillary tubing shall be min. SS304 with SS flexible armouring. The gauge shall have an accuracy of +1% FSD and 65mm dial size. The range shall be 1.5 times of operating temperature. In PLC pressure process values should be taken from pressure transmitters and should be independent from pressure gauges installed on local gauge panel. Temperature process values should be taken from temperature transmitters and should be independent from temperature gauges installed on local gauge panel. The compressor package instrumentation & control is to be configured for manual as well fully automatic control system including starting, shutdown as applicable for unattended operation.	We shall provide temperature element like RTD, K-type thermocouple instead of transmitters. All temperature elements shall be directly connected to PLC with appropriate protection.	tender condition prevails
27	189 of 358	4.13	Pressure indicator each stage suction and discharge.	We are providing pressure indicator each stage suction only	tender condition prevails
28	189 of 358	4.6	Individual (2/3 core) cabling is required for each field instrument from field JB to avoid multiple JB's and multicore cables in field for easy trouble shooting & replacement.	Local control panel (With PLC) is mounted on package itself hence junction boxes are not required. Hence Multicore cable not required. This system is available in all our packages and accepted by all the CGD companies and 400+ CNG compressor are running successfully.	accepted
29	189 of 358	4.11	Separate junction boxes shall be provided for each type of signal i.e. analog, digital, solenoids RTD, thermocouple, intrinsic safe and for power supply. No cable shall share power & signal.	Local control panel (With PLC) is mounted on package itself hence junction boxes are not required. Instruments will be directly wired to Local control panel. This system is available in all our packages and accepted by all the CGD companies and 400+ CNG compressor are running successfully	accepted
30	189 of 358	4.11	Separate junction boxes shall be provided for each type of signal i.e. analog, digital, solenoids RTD, thermocouple, intrinsic safe and for power supply. No cable shall share power & signal.	Local control panel (With PLC) is mounted on package itself hence junction boxes are not required. Instruments will be directly wired to Local control panel. This system is available in all our packages and accepted by all the CGD companies and 400+ CNG compressor are running successfully. undelivered	accepted

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31	190 of 358	4.18	ESD button (3 Nos.) shall be provided (Customer Interface room, locally mounted on package and Panel). A separate hooter for customer interface room shall be provided with annunciation window alarm of individual protection device.	We are not providing annunciation window.	tender condition prevails
32	191 of 358	4.21	Redundancy in PLC is required. PLC shall incorporate all process parameters (specified elsewhere) and status of compressor, engine & priority panels and shall be modular in construction with 100% redundancy with respect to CPU, Power suppl, Interface. PLC components/ system shall be tropicalized, MIL standard adopted with complete wiring and necessary terminals. Wiring to be color coded with cross ferruling in position. PLC shall be capable of carrying out on line routines for at least ten separate loops without affecting the scan, cycle & updating time etc. PLC shall be configured as a remote terminal unit of supervisory computer and data acquisition system complete with GPRS and Ethernet connectivity. One card for transferring and accessing data from minimum twenty devices with RS485 port shall be provided. In case of failure of master/ active controller/ CPU, standbycontroller/ CPU should take over the control in bump less manner. All values & data should be available through both the controllers immediately, i.e. there should be no data loss.	Please note this is additional requirement and will impact price of the machine. However, we can provide extra port in our PLC for GPRS connectivity.	tender condition prevails
33	191 of 358	4.21	Successful bidder to include in scope live demonstration of remote monitoring of all PLC logged parameters in one machine at his works. OWNER may ask for the same. However, this may be required to be demonstrated at site.		tender condition prevails
34	191 of 358	4.21	PLC shall be housed inside flameproof IIA/ IIB (Ex'd'). Local operator panel shall also be provided on the flameproof enclosure. The operator panel is provided for parameterization, indication, monitoring, and alarms and first out sequence of the system. PLC system shall have memory modules for storing user programs, symbol lists, program comments and should facilitate debugging/ trouble shooting without the application program. Program shall be ladder logic and communication shall be in English for each run. Program should have signal/ parameter tags as labels for easy identification/ troubleshooting. Each section of the program whether it is in the form of rung or page or network should have comment to classify the interlock being executed. A soft copy of the program should be sent by email/ CD.	Kindly confirm PLC & HMI software with cable will be required against set of package or per package	Program logic ladder should be provided along with the required softwares to access PLC and HMI per set of package
35	192 of 358	5.0	Each compressor module shall be housed within a purpose built SS 304 acoustic enclosure only.	We will use GI sheets for enclosure as per standard design. Please confirm whether same is acceptable. We have supplied almost 400 + CNG package and operated successfully.	tender condition prevails
36	192 of 358	5.0	The units shall incorporate a rigid framework with a combination of fixed and removable panels. Filling of Class A melamine self-extinguishing polyurethane (PU) foam specifying the maximum burn extent, with UL certification or better shall be used in acoustic enclosure.	We will provide doors instead of removable panels. Rockwool is provided instead of polyurethane foam. We have supplied almost 400 + CNG package and operated successfully.	Tender condition prevails
37	193 of 358	5.0	The maximum temperature within the enclosure shall be limited to ambient + 8 degC. Adequate ventilation fans shall be provided to meet the above and also to account heat dissipation of the coolers/ all other components.	Air cooled heat exchanger fan is of forced draught type which throws air out of the enclosure. Hence a separate ventilation fan is not required. Temperature inside the enclosure shall be limited to ambient + 8 degC without the use of additional ventilation fans.	accepted
38	194 of 358	5.0	For handling of all heavy parts for maintenance purpose suitable lifting arrangement shall be provided according to manufacturer standard i.e. beam fitted with chain hoist arrangement or similar. The chain hoist arrangement i.e. chain pulley block shall be removable type, which can be disassembled and shifted onto the other machines. 1no. each shall be provided for tendered quantity of compressors.	For removal of motor from package, slide rail arrangement will be provided in lieu of chain pulley block. We have supplied almost 400 + CNG package and operated successfully.	Tender condition prevails
39	194 of 358	5.0	The bidder shall be providing a degree of protection equivalent to IP44 as defined in AS 1939.	Compressor enclosure will be weatherproof.	Tender condition prevails
40	195 of 358	6.1	Mechanical running test (MRT)	MRT shall be as per Bidders standard QAP and same shall be discussed during detailed engineering.	Accepted

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41	195 of 358	6.2	Mechanical string test - Mechanical String Test for 4 hrs is a mandatory requirement to be performed at package's shop before despatch in presence of Owner's representatives (or a third party as arranged by OWNER). This test can be clubbed up with the Mechanical Run Test of compressor as specified above, provided the job driver & lube Oil system is used for the test. At least 25% of the package lot ordered shall be string tested. String test on N2 or air is not acceptable. It shall be on natural gas.	We advise string testing of all the packages in manufacturer's works.	accepted
42	200 of 358	7.0 a (ii)	Details of Penalty for non performance of equipments - On normal day (i.e. the day other than the schedule maintenance day): upto 12 hours : Rs. 20,000/- Beyond 12 hours: Rs. 40,000/- per day.	Penalty for breakdown or shutdown shall be as below: up to eight hours: NIL up to 24 hours: INR 10,000/-	Tender condition prevails
43	200 of 358	7.0 b (iii)	In any case, the maximum penalty imposed in a month for non-performance of the equipment turns out be 50% or more of the amount of O&M charges to be paid to the party per month per compressor (a complete cost break up of O&M charges need to be furnished by the bidder during bid), GGPL will take necessary actions as per terms and conditions of the contract for such non-performance.	The maximum penalty imposed in a month for non performance of the equipment shall be limited to 50% of the amount to be paid to bidder per month per compressor.	Tender condition prevails
44	210 of 358	COMPRESSOR DATA SHEET (7.1)	Lubricator equipped with sight flow indicator for each point storage tank with level gauge	Please note that as per Manufacturer's standard practice, the lubricator will be divider block type with pin indicators. Sight flow indicators for each lubricator point and a double ball check valve are applicable for Single Plunger per point lubricator, thus not offered. This system is available in all our packages and accepted by all the CGD companies and 400+ CNG compressor are running successfully.	the sight flow indicator to the individual cylinders to be provided on the divider block accepted
45	211 of 358	9.1.6, 9.3.5, 9.4.4, 9.6.2	ASME / IBR CODE STAMP - Yes	Third party inspection reports will be provided in lieu of ASME/IBR code stamp for coolers, volume bottles, separator, oil mist separator, gas recovery vessel.	accepted
46	212 of 358	10.11, 10.12	Level transmitters - Suction K.O.D (for automatic drain), Discharge K.O.D (for automatic drain)	Level transmitters are not provided on separators. Automatic drain arrangement is provided without use of level transmitters and open/close of valves is based on definite time interval. We have supplied almost 400 + CNG package and operated successfully.	accepted
47	214 of 358	13.2	Ultrasonic testing for piston rod, connecting rod, crank shaft, big end bolts, main brg. studs. - Yes	Ultrasonic testing will be carried out for connecting rod only. We have used same philosophy for compressors supplied to various CGD companies in India.	accepted
48	214 of 358	13.3	Magnaflux testing for crankshaft, piston rod, connecting rod - Yes	Magnetic particle testing will be carried out for piston rod and crankshaft. We have used same philosophy for compressors supplied to various CGD companies in India.	accepted
49	214 of 358	13.4	Dye penetrant testing for cylinder liners , piston - Yes	Dye penetrant testing for cylinders liners, piston is not carried out. We have used same philosophy for compressors supplied to various CGD companies in India.	Tender condition prevails
50	214 of 358	13.10	Leak proof test of crank case (min 24 hrs with kerosene) - Yes	Leak proof test of crank case is not carried out. We have used same philosophy for compressors supplied to various CGD companies in India.	accepted
51	238 of 358	ANNEXURE-VI	FLAME DETECTOR - MEGGITT AVIONICS / GENERAL MONITORS / MSA / SPECTREX / DETRONICS / HONEYWELL / NET SAFETY	Please let us know whether "ESP SAFETY" is acceptable for flame detector.	Tender condition prevails
52	238 of 358	ANNEXURE-VI	GAS DETECTOR (IR TYPE) - DETRONICS / SENSITRON / HONEYWELL / NET SAFETY / GENERAL MONITORS / MSA	Please let us know whether "ESP SAFETY" is acceptable for gas detector.	Tender condition prevails
53	268 of 358	1.3	Documents listed in column 5 are to be submitted as hard bound indexed book containing the following details in Twelve (12) copies & 2 transparencies and to be submitted within 4 weeks of release note/dispatch of materials/ equipment from vendor's works. All transparencies to be supplied in rolls (in two sets).	We will submit drawings on A3 size paper in lieu of transparencies.	accepted
54	169 of 358	6.0	SCOPE OF SUPPLY FOR EACH INTEGRATED CNG COMPRESSOR PACKAGE - Cable length	Client to confirm distance between PDB to compressor skid for cabling purpose.	Max 100 m
55	169 of 358	6.0	SCOPE OF SUPPLY FOR EACH INTEGRATED CNG COMPRESSOR PACKAGE - Cable length	Client to confirm distance between compressor package to ESD push buttons (for all 3 nos ESD) for cabling purpose.	Max 100 m
56	169 of 358	6.0	SCOPE OF SUPPLY FOR EACH INTEGRATED CNG COMPRESSOR PACKAGE - Cable length	Client to confirm if cabling between PDB to air compressor is in the bidder's scope and length required for cabling purpose.	Max 100 m
57	169 of 358	6.0	SCOPE OF SUPPLY FOR EACH INTEGRATED CNG COMPRESSOR PACKAGE - Cable length	Client to confirm distance between compressor package to CO2 flooding system for cabling purpose.	Max 50 m
58	169 of 358	6.0	SCOPE OF SUPPLY FOR EACH INTEGRATED CNG COMPRESSOR PACKAGE - Cable length	Client to confirm distance between compressor package to manual call point for cabling purpose.	Max 100 m