

OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT, ISLAMABAD
FOREIGN SECTION A

(To be completed, filled in, signed and stamped by the principal)

ANNEXURE 'A'

Page 1/2

Material CHEMICAL INJECTION PACKAGES
Tender Enquiry No PROC-FA/CB/PROD/PUMP-3391/2018
Due Date
Evaluation Criteria GROUP WISE

SCHEDULE OF REQUIREMENT

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
Group A								
1	SOLAR POWER DC MOTOR DRIVEN CHEMICAL INJECTION PACAKAGES AS PER ANNEX "A" GROUP-II	Number	15					
2	GAS/COMPRESSED AIR DRIVEN CHEMICAL INJECTION PACAKAGES AS PER ANNEX "A" GROUP-I	Number	20					

Note:

1. Bid bond:-Pursuant to tender clause # 2.2, 11.4, 13 & 35.3.2, bid(s) must be accompanied by an upfront bid bond in the form of pay order/ demand draft or bank guarantee issued by scheduled bank of Pakistan or a branch of foreign bank operating in Pakistan, for an amount of US\$ 20,000/- (US\$ Twenty thousand only) or equivalent Pak Rupees, with technical bid and valid for 150 days from the date of opening of the bids. The bank guarantee must be issued in accordance with the format as per Annexure-C of the tender documents.

2. Shipment from ACU member Countries: In case of shipment from ACU member countries, the LC beneficiary should be of that particular country from where the consignment is being shipped.

3. Terms and conditions:-Bidders are advised to carefully read all the terms and conditions of the Tender Document available at OGDCL web site in the master tender document.

4. Summary rejection criteria: - The summary rejection criteria at clause 35 of the tender document may also be examined carefully. Any bid not meeting the criteria spelled in the clause # 35 shall be summarily rejected without any right of appeal. The detailed tender document is available on OGDCL website as "Master set of tender document-Foreign".

5. Payment Terms: Clause No: 3 of Section-III (Part-B) i.e. Conditions of Contract "Special" of Tender Document has been amended and following will be the payments methods.

- i. **Tender value less than or equal to US\$ 200,000:**-Payment to the Contractor/ bidder in foreign currency shall be made by establishing in favor of the Contractor an irrevocable Letter of Credit (hereinafter called the L/C). 70 % Payment (s) under the L/C will be made for the FOB/ CFR / CPT (as the case may be) price of material of each shipment upon submission of the shipping documents. Balance 30% Payment will be released after receipt, inspection and acceptance of material.
- ii. **Tender value more than US\$ 200,000:** Payment to the Contractor/ bidder in foreign currency shall be made by establishing in favor of the Contractor an irrevocable Letter of Credit (hereinafter called the L/C). 80 % Payment (s) under the L/C will be made for the FOB/ CFR / CPT (as the case may be) price of material of each shipment upon submission of the shipping documents. Balance 20% Payment will be released after receipt, inspection (in addition of pre-shipment inspection) and acceptance of material.

SPECIFICATIONS, TERMS AND CONDITIONS.

Page 2/7

1. DESCRIPTION

Skid-Mounted Chemical Injection Packages are required for injection of various chemicals such as corrosion inhibitors, demulsifiers, scale inhibitors; hydrate inhibitors etc at oil / gas well's flow lines, and production tubing to prevent from internal corrosion / scale and emulsion breaking etc.

2. QUANTITY REQUIRED

2.1 Total 20 units of skid-mounted Gas Driven chemical injection packages, having two pumps on each skid, two-portioned storage tank, Gas conditioning unit including KOV, high-low pressure regulators and all other necessarily required accessories in one unit

2.2 Total 15 Units of Skid Mounted Solar power Dc Motor Driven chemical injection package having two pumps with provision of injection of at least two different chemicals with two-portioned storage tank, solar panels, battery bank, charge controller and all other instrumentation / fittings etc on same skid.

3. CHEMICAL INJECTION PUMPS PARAMETERS (GROUP - A)

3.1 Gas / Air Driven Chemical Injection Pumps Parameters

Gas driven pumps will take chemical suction from installed feed tank at skid and inject various chemicals into well flow lines and production tubing whichever the case may be.

S.No.	Description	Requirement
a.	Capacity of each pump	10-150 Ltrs / day
b.	Suction Pressure	Atmospheric Pressure
c.	Discharge Pressure	Upto 3000 Psig
d.	Drive gas quality	Raw / unprocessed gas directly produced from well having H ₂ S, CO ₂ , water contents etc
e.	Motive Gas quantity	Vendor to specify
f.	Storage Tank Capacity	1000 Ltrs (SS316L) (In two Parts each of 500 Ltrs)
g.	No. of Pumps at each Skid	02 Nos.
h.	Motive gas pressure	Vendor to specify (Nominal well head pressures range from 700 – 1500 Psig)

3.2 Motive Gas Parameters

Gas to be used to power the gas driver for the chemical injection pumps shall be associated gas taken from "Top of the Pipe" of the well flow lines / well head assemblies. It will be available at the following conditions.

- Temperature 14 – 200 Degree F
- Pressures 700 – 1500 Psig

3.3 Chemical Injection Pumps (Gas Driven)

- Each skid shall consist of two (02) air / gas driven pumps.
- Both pumps will be separate with provision to be interlinked to each other and with storage tank for injection of bigger volume and / or two different chemicals at one time.
- A capacity controlling system shall be provided with each pump such as manual stroke adjustment & pressure regulation of gas, High pressure regulator (1500psi to

- 400psi at 14F to 200F) and Low pressure regulator (400 psi to operating pressure of pump) – Both regulators shall be anti-freezing type. One regulator reducing pressure from intake line to pump shall not be accepted.
- iv. Separate inlet & outlet connections for various chemicals suction and discharge should be provided for each pump.
- v. All internal parts specially wet parts of all pumps shall be sufficiently tough / hard for such pressures and made of corrosion resistant material. (bidder to clearly specify in his technical bid).
- vi. Each pump unit shall have Kanco gauge to measure per stroke discharge rate.

3.4 Gas Conditioning Unit For Gas Driven Pumps.

Following are minimum mandatory requirements for each skid.

- i. Knockout Vessel / Scrubber of SS-304/316, (18" Diameter x 6'-0" Height x Sch-80), complete with reflex type level gauge, liquid trap with auto drain facility. Knock out Vessel shall have two pressure indicators one upstream and one downstream of the scrubber.
- ii. Instrument Gas Dryer for processing instrument gas required for skid instrumentation and other instrumentations at the wellhead. The dryer unit shall be provided with pre-filters and filters. In addition to the requirement of utility gas for the controls of the skid, appx. 70 SCFM utility gas will also be required for the other controls at wellhead.
- iii. Basket strainer for removal of particles sizes 60 micron and larger. Vessel of SS-304/316 with stainless steel basket. The filter shall be equipped with liquid trap.
- iv. Pressure Indicators, needle valves, ball valves, pressure safety valve, Auto Drain Valve, Anti-freeze pressure reducing regulator. Bidders to provide complete details i.e. make, model, ordering code & detailed specifications of all above instruments.
- v. Male Coupling halves to be installed on the package on chemical injection connection. Contractor is also to provide One (01) set of female coupling halves to match these.
- vi. All Instrumentation /and Tubing shall be made of SS-304/316 required for safe and continuous operation including protection of equipment.

4. CHEMICAL INJECTION PUMPS PARAMETERS (GROUP – B)

4.1. Solar Panel Operated Chemical Injection Pumps

S.No.	Description	Requirement
a.	Capacity of each pump	10-150 Ltrs / day
b.	Suction Pressure	Atmospheric Pressure
c.	Discharge Pressure	Max. 2500 Psig
d.	Storage Tank Capacity	1000 Ltrs (SS316L) (In two Parts each of 500 Ltrs)
e.	Motor	Vendor to specify (Explosion proof)
f.	Solar panels rating	Vendor to specify
g.	Battery Bank	Maintenance free batteries with back up of at least for 3-4 days.

4.2. Chemical Injection Pumps (Solar Power Motor Driven)



- page 4/5
- i. Two Dc Power Motor driven pumps on each skid (as single unit) shall be supplied for chemical injection package.
 - ii. A capacity controlling system shall be provided with each pump such as manual stroke adjustment.
 - iii. Separate outlet connections for various chemicals at discharge should be provided for pump.
 - iv. All internal parts specially wet parts of all pumps shall be sufficiently tough / hard for such pressures and made of corrosion resistant material.
 - v. Each pump unit shall have Kanco gauge to measure per stroke discharge rate.

4.3. Solar Power Panels & Battery Bank

- i. Solar power maintenance-free battery bank shall have back up of at least 3-4 days (Bidder to specify number of batteries, storing capacity, number of plated, make, model, manufacturer etc).
- ii. Adequate power producing solar plates / panels along with stand / mounted on skid etc. Bidder to provide number of solar plates and power-generating capacity of each plate.
- iii. Properly installed charge controller.
- iv. Bidder to provide complete details i-e make, model, ordering code, detail specification of solar plates, charge controller, battery bank specifications in their bids, failing to comply will lead to rejection of the bid

5. CHEMICAL STORAGE TANK (FOR BOTH GROUPS)

- i. Chemical Injection tank shall be of SS-304/316 with a wall thickness not less than 2 mm and capacity of not less than 1000 Ltrs.
- ii. The tank shall be provided with Glass level gauge, kanco gauges, Vent, Drain etc on both portions.
- iii. Storage tank shall have two separate parts and also provision for inter-connectable system / parts so as to accommodate two different chemicals to be stored and injected simultaneously in case it is desired.
- iv. Each part shall be of 500 Ltrs hence total capacity of the tank will be 1000 liters.
- v. Vendor to provide suitable chemicals tank Filling connections / system to avoid air mixing during chemical's manual tank filling operation.
- vi. Provision of connections shall be given from each part of the tank to both the pumps individually.
- vii. A flash connection with valve not less than 1 ½ "dia shall be given at bottom of each portion of the tank.
- viii. Tank's top should be covered with SS-304/316 with locking provision.

6. SPARE PARTS.

- i. Bidder shall quote and provide separately two years spare parts for the critical items specially consumable of pumps, regulator , a capacity controlling system i.e seal kits of the chemicals injection pumps, piston, plungers for the **GROUP-I** etc. (Bidder to mention spare name / description, quantity etc in technical portion & price in financial portion)
 - ii. Bidder shall quote and provide separately two years spare parts for the critical items specially consumable of pumps, capacity controlling system i.e seal kits of the chemicals injection pumps, piston, plungers and charge controller / solar unit for
- 13

GROUP-II etc. (Bidder to mention spare name / description, quantity etc in technical portion & price in financial portion).

7. OPERATING PARAMETERS AND GAS COMPOSITION.

Following are some operating parameters of the different locations along with typical chemical compositions.

Typical Operating Conditions		Typical Stream Composition	
Type of injection	Continuous	H2S	10-300 PPM
Operating Temp	14 – 200 Deg F	CO2	Upto 40%
Average Gas / well	10– 30 MMSCF/D	N2	Upto 30%
Average Oil	6-100 Bbls/D	C1	32%
Average Water	8-100 Bbls/D	C2	0.83 %
		C3	0.30 %

8. TYPICAL PROPERTIES OF CHEMICALS TO BE INJECTED

Properties	Corrosion Inhibitor	Demulsifier	Scale Inhibitor
Specific Gravity	0.8 – 0.95	0.935-0.950	1.09 – 1.25
Solubility	Oil Soluble	Oil Soluble	Water Soluble
Density	0.89-0.90 @ 20 C		
Boiling Point		300 Deg F	95 – 100 Deg C
Flash Point	40 – 45 C	180 Deg F	95 – 100 Deg C
Colour	Clear Dark Brown	Clear yellow/amber	Yellow Amber
Viscosity	1-15 cst	<12 cst	1-20 cst

9. TERMS AND CONDITIONS

- i. Bidder can participate either for One Group or for the both Groups and evaluation shall be considered separately for the both groups. Bidder to prepare the bid accordingly for each group.
- ii. Bids of only original pump manufacturer or it's recommended packager (*Recommendation / Authority shall be on original letter head pad issued by Pump Manufacturer should be placed in the bid*) will be accepted, who have proven track record of minimum 07 years international experience of manufacturing / fabrication / packaging of chemical injection packages for Oil, Gas and Petro-chemical sector. Bidder has to provide with technical bid, the track record in terms of P.Os for supply of CIPs.
- iii. The chemical injection pumps /instrument fittings and connections, regulators, knock out strainers and other necessary equipments for package shall be from reputable manufacturer.
- iv. Vendor to provide complete specifications and other technical details i.e. make, model, ordering code etc of Pressure Indicators, needle valves, ball valves, pressure safety valves, Auto Drain Valves, Anti-freeze pressure reducing regulators, solar plates, Battery banks, charge controllers etc in their bids.
- v. List of spares for pump, solar system and other equipments should be listed / submitted by the vendor without prices in technical bid and with prices in financial bid (*Detailed specs, part number, quantity of each spare part shall have to be provided*).
- vi. Vendor to confirm line sizes & pressure rating of all pipe work / tubing within the packages
- vii. The package shall be designed / manufactures and packaged for installation in a Class 1, Zone II Hazardous area locations. Packing shall be of international standard i-e enclosed in wooden box for safe transportation.
- viii. Vendor has to provide conceptual drawings and P & IDs in technical portion and "As-Built Drawings" along with supply.
- ix. OGDCL shall engage 3rd party inspection company for pre-shipment inspection.
- x. Factory Acceptance Test (FAT) & Factory Performance Test (FPT) at manufacturing / Packager's site by 03 Company professionals for 3-5 days before shipment at bidders cost.
- xi. After supply of the packages (either both groups or one group) bidder shall be required to provide an expert for providing help in start-up and commissioning of the packages at least at one field.
- xii. Bidder shall have to provide clearly atleast ONE YEAR's smooth operational performance guarantee of the supplied packages starting from date of installation. During guaranty period if the packages are not working properly, or leaking is observed or any instrument is not functioning as per requirement, it will be supplier's responsibility to depute it's expert to check the system, fix the problem either by replacing any part or equipment etc without any additional charges to OGDCL.
- xiii. Vendor should manufacture / package all the chemical injection packages as per API codes, other relevant standards and good industry practice applicable in Oil and Gas sector.

BID EVALUATION & TECHNICAL RESPONSIVENESS SHEET.

Bidder is required to comply following to become technically responsive, failing to provide insufficient, vogue or no information according to table shall lead the bidder to non-responsiveness. (Bidders are required to mention page number or tag number or flag number of the bid for below requirements)

SNo.	Description	Requirement	Remarks
1.	Original Pump Manufacturer or Recommended / Authorized Packager can bid direct or through local agent.	In case of Packager, authority letter from Pump manufacturer is mandatory.	Bidder to provide in original with bid.
2.	Participating for one group or both groups	Either case	Bidder to specify.
3.	Experience of supply of similar packages	Proven Track record.	P.Os are mandatory
4.	Offered C.I Pump's make, model specs etc meeting T&Cs requirement for discharge quantity & pressure.	Clearly specify with details	Bidder to provide
5.	Two pumps on each skid		Bidder to ensure.
6.	Storage tank	Two portions each of 500 Ltrs	Bidder to ensure.
7.	Storage tank's material, thickness etc	To be specified as per T&Cs	Bidder to provide
8.	KOV / Scrubber (material & other specs as per T&Cs) for Group-A.	To be specified	Bidder to provide
9.	Detailed specs of other instruments (2 No. anti-freezing pressure regulators, kenko gauges each for tank and pump, strainer, auto drain, valves, needle valves, dryer unit etc.	Make, model, manufacturer etc to be provided	Bidder to provide
10.	Detailed specs of solar panels, battery bank, charge controller etc. (Group-B)	Make, model, manufacturer, number of panels, number of batteries, off-sun days etc	Bidder to provide
11.	Conceptual flow diagram and as built drawings.	Conceptual with Technical proposal & As built with package.	Bidder to provide
12.	FPT / FAT at packaging location by OGDCL engineers at bidder's cost.	Location, expected number of days etc be mentioned in bid.	Bidder to accept
13.	Start-up and Commissioning services	At least at one field	Bidder to accept
14.	Supplied package's performance guarantee	Performance guarantee for atleast ONE year as per T&Cs	Bidder to accept & ensure
15.	Spare parts (Each for C.I Pumps, Solar Units and other Equipments)	Specs, Part Number, Quantity etc.	Bidder to provide clearly.