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

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

ANNEXURE 'A'

Material CHEMICAL INJECTION PACKAGES
Tender Enquiry No PROC–FA/CB/PROD/PUMP–3250/2018
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 INEJCTION PACAKAGES AS PER ANNX "A" GROUP–II	Number	15					
2	GAS/COMPRESSED AIR DRIVEN CHEMICAL INEJCTION PACAKAGES AS PER ANNX "A" GROUP–I	Number	20					

Note:

i. **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.

ii. **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.

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

iv. **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".

SPECIFICATIONS, TERMS AND CONDITIONS.

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 and all other necessarily required accessories in one unit

2.2 Total **15** Units of Skid Mounted Solar power Dc Motor Driven chemical injection Packages having two pumps with provision of injection of at least two different chemicals are required as per following descriptions

3. CHEMICAL INJECTION PUMP'S PARAMETERS (GROUP – A)

3.1 GAS 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	Max. 3000 Psig
d.	Drive gas quality	Raw/unprocessed gas directly produced from well having H2S, CO2, 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 Psgi

3.3 CHEMICAL INJECTION PUMPS (GAS DRIVEN)

i. Two gas driven pumps on each skid (as single unit) shall be supplied
ii. 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.
iii. 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).
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.
vi. Each pump unit shall have Kanco gauge to measure per stroke discharge rate.

3.4 GAS CONDITIONING UNIT(GAS DRIVEN PUMPS)

i. 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.
ii. 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.
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. 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.
v. Bidders to provide complete details i.e. make, model, ordering code & detailed specifications of Pressure Indicators, needle valve, ball valve, pressure safety valve, Auto Drain Valve, Anti-freeze regulator & pressure reducing regulator in their bids. Failing to comply will lead to rejection of the bid.
vi. All Instrumentation /and Tubing made of SS-304/316 required for safe and continuous operation including protection of equipment.
vii. Knock out Vessel shall have two pressure indicators one upstream and one downstream of the scrubber.

4. CHEMICAL INJECTION PUMP'S PARAMETERS (GROUP – B)

4.1. SOLAR PANEL OPERATED CHEMICAL INJECTION PUMPS PARAMETERS

S.No.	Description	Requirement
a.	Capacity of each pump	10-150 Ltrs / day
b.	Suction Pressure	Atmospheric Pressure
c.	Discharge Pressure	Max. 3000 Psig
d.	Storage Tank Capacity	1000 Ltrs (SS316L) (In two Parts each of 500 Ltrs)
e.	Motor	12V DC, 1/8HP, 14 Amp, Explosion Proof
K f.	Solar panels ratting	200 Watts(Or Vendor to specify)
g.	Battery Bank	Back up at least for 3-4 days

4.2. CHEMICAL INJECTION PUMPS (SOLAR POWER MOTOR DRIVEN)

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 BATTERY BANK

i. Solar power battery bank shall have back up of at least 3-4 days.
ii. Bidder to provide proper stand for the Solar Plates.
iii. 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

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, kanko 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.

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.

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 for **GROUP-II** etc.

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	90 – 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. The package shall be designed / manufactures and packaged for installation in a Class 1, Zone II Hazardous area locations.

ii. Packing shall be of international standard i-e enclosed in wooden box for safe transportation.

iii. Bidder can participate either for One Group or for the both Groups and evaluation shall be considered separately for the both groups.

iv. Vendor has to provide conceptual and as built drawings and P & IDs.

v. Vendor to confirm line sizes & pressure rating of all pipe work / tubing within the packages.

vi. The chemical injection pumps /instrument fittings and connections, regulators, knock out strainers and other necessary equipment for package shall be from reputable manufacturer having minimum 07 years manufacturing experience of the same. List of spares should be submitted by the vendor with prices along with technical bid.

vii. Vendor to provide complete details i.e. make, model, ordering code & detailed specifications of Pressure Indicators, needle valve, ball valve, pressure safety valve, Auto Drain Valve, Anti-freeze regulator & pressure reducing regulator in their bids. Failing to comply will lead to rejection of the bid.

viii. Vendor to provide complete details i-e make, model, ordering code & detailed specification of pressure indicators , needle valve, ball valve, pressure safety valve, solar plates, Battery banks in their bids. Failing to comply will lead to rejection of the bid.

ix. OGDCL shall engage 3rd party inspection company (such as SGS, Applus Velosi, Moody, Lolyd, Beauro Veritas etc.). for pre-shipment inspection.

x. Factory Acceptance Test (FAT) & Factory Performance Test (FPT) at manufacturing / Packager's site by 03 Company professionals before shipment at bidders cost.

xi. The bid of only original pump manufacturer or C.I packager 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 Petroservices sector. (Bidder must provide with technical bid, the track record in terms of P.Os for supply of CIPs – otherwise the bid will not be considered further for evaluation).

xii. 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.