

**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 SCALE INHIBITOR
Tender Enquiry No PROC-FA/CB/PROD-5368/2022
Due Date
Evaluation Criteria FULL

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
1	SCALE INHIBITOR, EC-6359A, EC-6706A, GYPTRON KT-170, USI-325 or Equivalent.	Drum (208 Kg)	240					

- 1. Bid Bond Amount:** US \$ 1500/- (United State Dollar Fifteen Hundred only) or equivalent Pak Rupees valid up to 210 Days from the date of technical bid opening
- 2. Mode of Bidding:** Single stage two Envelope basis.
- 3. Evaluation Criteria:** - Full Consignment wise C&F By Sea
- 4. Delivery Period:** 90 days from establishment of LC
- 5. Bid Validity:** 180 Days
- 6.** Bidders are advised to carefully read all the terms and conditions of the MASTER SET OF FOREIGN TENDER DOCUMENT (PRESS-SINGLE STAGE TWO ENVELOP) available on OGDCL website which is an integral part of this Schedule of Requirement

Mandatory Specs, Terms, Conditions and Requirements
For Procurement of Scale Inhibitor.

1. Generalized Specifications.

Specific Gravity	1.01 - 1.25 @ 15.5 °C	pH	4 - 5
Viscosity	2 - 5 cst @ 40 °C	Odour	Aromatic
Appearance	Clear Yellow / dark brown / Amber liquid.	Chemical nature	Phosphonate / Polyacrylic or combination of both to prevent corbolic and sulphate scales.
Solubility	Complete soluble in water.		

2. The supplier / manufacturer must have at least 7 years supply experience of different chemicals along with some quoted product experience preferably in Pakistan's E & P local companies and other relevant companies. (Proven track record of supply is must).
3. In case supplier has no local supply record in Pakistan, then it is mandatory to provide internationally supply record with satisfactory performance evidence from at least three supplied company on their letter head showing all contact details and concerned responsible person. (OGDCL may contact that company for verification / authenticity of the letter / performance).
4. Verifiable evidence of ownership of ISO-14001-2015 or 9001-2015 certified blending facility / plant by supplier or proper agreement along with complete address and contact details to blend the scale inhibitor as per specs.
5. In case of local agent / representative, the bidder shall have to provide ORIGINAL AUTHORITY LETTER issued by manufacturer to bidder for quoting their product and assuring to supply accordingly.
6. MSDS sheet confirming the range of active ingredients as given in above specs. Handling, charging, application notes etc along with residual level determination test method, residual test frequency and satisfactory range of residue.
7. The supplier / manufacturer to confirm the compatibility of the offered product with system where it is to be injected and with other chemicals being used. Supplier / manufacturer to comply.
8. Product shelf life must not be less than 3 years if stored under standard shade at atmospheric temperatures varying from 0 – 52 degree Celsius. Supplier / manufacturer to comply.
9. Already used / approved products by OGDCL are mentioned in the SOR, in case the bidder intends to offer other than mentioned;
 - i. It will be mandatory for technically responsive and financially lowest bidder to supply at least 10 drums to OGDCL at their own risk and cost within two month's period after P.O issuance (before L/C opening) for actual field trial purpose at Selective Jet-Pump operated oil producing well(s) of Tando Alam & Kunnar fields on "No Cure No Pay basis". Bidder to confirm & comply.
 - ii. Import of above mentioned 10 drums, shipment from vender site, custom clearance, and transport to OGDCL's field shall be bidder's responsibility. Bidder to comply.

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- iii. The trial & results shall be coordinated, monitored and subsequently vetted by concerned field manager or his nominee. The successful product shall be considered which controls scale formation on jet-pump nozzles as zero / nil (at an average approx. dosing rate of 25 – 30 PPM). Bidder to confirm & comply.
 - iv. In case of successful trial, the supplied quantity will be adjusted in final order. In case of failure, no payment shall be admissible and bidder shall have no right for any claim in this regard for supplied drums. Bidder to confirm & comply.
10. Supplier / manufacturer must have its' own or representative's registered office and technical man-power on its payroll to provide after sale's services throughout useful life of supplied product. First visit after material is received at fields is mandatory to help settling & optimizing dosage rates, stabilizing the residual levels and to monitor effectiveness of supplied product. The other visits shall be on as and when required basis with no additional charges. Bidder to confirm & comply.
 11. Supplier / manufacturer to ensure Quality Control Procedures adopted during blending. Also authenticate that tests & analysis reports meets the specs of TORs / MSDS sheets.
 12. The chemical shall be packed in robust type drums (Plastic or steel) suitable for international sea / road travelling with proper labelling showing product name, supplier's and consignee's name, manufacturing and expiry dates, product batch number, contract details, port of shipment, country of origin, quantity of chemical in Ltrs / US gallons.
 13. Delivery period 90 calendar days (3-months) after LC opening. Bidder to confirm & comply.

Note: Manufacturer is one who formulate specific chemical for specific use and provide MSDS & PDS of the chemical along with composition of ingredients and hazard identification quantity of chemical in Ltrs / US gallons.

Field Conditions of Jet Pumps Operated Wells of Tando Alam Oil Complex

Brine / Produced Water Analysis of TOC Wells (Data Year - 2020):

LOCATION	ANALYSIS RESULTS					
	Fe PPM	Mn PPM	Cl PPM	SP Gravity	Temp F	PH
TDM # 02	1.2	0.2	28400	-	93	7.96
THORA # 01	0.30	0.1	42600	1.06	93	8.22
SONO # '04	0.50	0.6	49700	1.07	93	8.28
SONO # '07	0.32	0.2	60350	1.06	93	8.2
SONO # 08	0.66	0.2	63900	1.07	93	7.96
Lashari # 05	1.14	0.1	67450	1.06	93	8.31
Psk # 02	0.69	0.2	46150	-	98	8.04
Psk-N-East # 01	0.44	0.1	56800	1.05	98	8.06
Psk-N-East # 02	1.97	0.1	49700	1.05	98	7.9
Missan # 01	1.36	0.2	85200	1.09	97	7.99
Jarwar # 01	2.44	0.3	88750	1.07	97	7.53

Oil Analysis Results of TOC Wells (Data Year – 2020):

S.No	Wells	TEMP °F	SP. Gr.	API. Gr.	API at 60/60	WATER	SLUDGE	EMULSION	SALT PTB
01	TDM # 02	70	0.813	42.5	41.7	05	06	NIL	700
02	TDM # 16-A	114	0.819	41.3	37.1	37.'0	2	NIL	60
03	TDM # 20	78	0.831	38.8	37.4	64.5	2.5	NIL	50
04	SONO # 02	86	0.805	44.3	42.1	85.'0	-	-	35
05	SONO # 04	90	0.806	44.6	41.6	52.'0	-	-	80
06	SONO # 07	90	0.817	41.7	39.3	77.'0	-	-	13
07	SONO # 08	105	0.814	42.3	38.8	NIL	0.05	NIL	01
08	LASHARI # 05	90	0.803	44.7	42.2	74.'0	NIL	NIL	50
09	THORA # 01	96	0.816	41.9	39.5	51.'0	-	-	60
10	THORA # 06	90	0.814	42.3	39.9	76.'0	-	-	11
11	PASAKHI # 01	88	0.814	42.3	40.1	85.'0	NIL	NIL	42
12	PASAKHI # 02	75	0.820	41	39.9	01	Nil	NIL	10
13	PASAKHI # 03	86	0.817	42.8	40.'0	NIL	0.05	NIL	08
14	PASAKHI # 05	87	0.826	39.8	37.7	77.'0	-	-	82
15	PASAKHI # 06	74	0.816	41.9	40.8	0.05	0.05	NIL	30
16	PASAKHI # 07	70	0.813	42.5	41.7	02	02	NIL	50
17	PASAKHI # 10	68	0.812	42.8	42.1	0.05	0.35	NIL	32
18	PASAKHI N # 03	84	0.812	42.8	40.8	1.25	0.75	NIL	10
19	PASAKHI N East # 01	85	0.818	41.5	39.5	59.'0	NIL	NIL	28
20	PASAKHI N East # 02	86	0.803	44.7	42.5	0.05	0.1	NIL	08
21	MISSAN # '01	94	0.815	42.1	39.4	76.6	.-	NIL	35
22	JARWAR # '01	86	0.809	43.4	41.3	-	-	-	-

Field Conditions of Jet Pumps Operated Wells of Tando Alam Oil Complex

Brine / Produced Water Analysis of TOC Wells (Data Year - 2018):

Ionic Description	Well Wise Ionic Concentrations (ppm)				
	TDM	Jarwar	Pasakhi	Sono	Thora
pH	7.5 - 7.9	7.5	7.2 - 8.1	7.2 - 8.3	7.3 - 8.2
Calcium (Ca)	970	1595	1787	3014	2020
Magnesium (Mg)	136	248	457	180	355
Sodium (Na)	145	230	345	120	255
Potassium (K)	190	260	355	136	290
Chloride (Cl)	28400 - 88380	88750 - 92170	46150 - 93450	49700 - 90210	42600 - 91330
Sulphate (SO4)	2030	4116	4980	7572	5100
Barium (Ba)	4.18	3.80	4.75	8.65	4.3
Iron (Fe)	1.2 - 2.36	0.91 - 2.44	0.44 - 11.6	0.32 - 7.50	0.30 - 8.35
Strontium (Sr)	97.50	27.2	309	371	248
Carbonate (CO3)	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Bicarbonate (HCO3)	1342	610	366	732	610
Manganese (Mn)	0.2	0.3	0.1 - 0.2	0.2 - 0.6	0.1
Sp. Gravity	-	1.07	1.05	1.07	1.06
Temp. (°F)	93	97	98	93	93

Operating Parameters:

Pumping pressure (Psi)	= 1450 - 2850
WH/Vessel pressure (Psi)	= 25 - 145
WH/Vessel Temperature (°F)	= 65 - 91
Downhole Temperature (°F)	= NA

Field Conditions of Jet Pumps Operated Wells of Kunnar Oil Field

Brine / Produced Water Analysis of Kunnar Wells (Data Year - 2018):

Ionic Description	Well Wise Ionic Concentrations (ppm)		
	KNR - 06	KNR - 10	KNR - 11
pH	6.81	6.77	6.66
Calcium	1652.50	1602.40	1381.40
Magnesium	199.80	186.20	166.90
Sodium	----		
Potassium	287.35	283.70	233.20
Chloride	38128.11	35158.77	29822.55
Sulphate	230.44	254.31	246.08
Barium	0.110	0.138	0.136
Iron	0.406	0.754	0.432
Strontium	286.10	252.80	223.40
Carbonate	----		
Bicarbonate	493.23	378.63	375.24

Operating Parameters:

Pumping pressure (Psi)	= 2200 – 2500
Separator pressure (Psi)	= 50 – 120
WH/Vessel pressure (Psi)	= 40 – 100
WH/Vessel temperature (°F)	= 95 – 100
Downhole Temperature (°F)	= NA

Kunnar Oil Field Conditions (Data Year - 2020):

Well No.	KNR # 09	KNR # 10	KNR # 11	KNR # 12
Choke Size/Nozzle Throat	11B(N)	12X(N)	11A(N)	11B(N)
Pump Discharge Pressure (Psi)	2350	2350	2240	1950
Bottom Hole Temp (F)	210-225	210-225	210-225	210-225
Q OIL	370	30	35	1015
Q WATER	215	980	455	120
Q Gross	600	1205	490	1145
Fractional Water (fw %)	38	98	93	11

Oil Lab Analysis				
	API	BS&W (%)	Salt (PTB)	H2S (PPM)
KNR # 09	45.6	36	98	20
KNR # 10	44.3	96	42	70
KNR # 11	45.5	90	314	-
KNR # 12	44.1	0.05	148	4

Water Analysis Data:

Parameter	Unit	Sample # 1	Sample # 2	Sample # 3	Sample # 4
pH		7.86	7.53	9.38	7.5
TDS	mg/L	57200	65600	11100	48800
Obs. Temp	F	73	74	72	74
Obs. Gravity		1.04	1.038	1.104	1.04
Sp. Gravity @ 60/60		1.045	1.043	1.108	1.045
Chlorides	mg/L	35300	30885	2946	36215
Sulphate	mg/L	96	164	40	106
NO3	PPM	3	8	5.2	6.2
Dissolved Gases Like H2S	PPM	Traces	Traces	Traces	Traces
Dissolved Oxygen O2	mg/L	3.1	0.2	2.6	0.7

Parameter	Unit	Sample # 5	Sample # 6	Sample # 7
pH		6.6	8.5	6.4
Conductivity	µS/cm3	65900	62300	16040
TDS	mg/L	42500	40200	9000
Hardness Total as CaCO3	mg/L	2400	2560	660
Calcium as CaCO3	mg/L	1800	2000	460
Magnesium as CaCO3	mg/L	600	560	200
Alkalinity as CaCO3		60	70	100
Carbonates and Bi-Carbonates	mg/L	Nil	Nil	Nil
		60	70	100
TSS	mg/L	95	114	157
Iron	mg/L	2.74	12	5.34
Chlorides	mg/L	18993	18434	4608
Sulphate	mg/L	64	100	30
Barium	mg/L	28	20	26
Florides	mg/L	1.33	1.54	0.34
Turbidity	NTU	164	70	140
Temperature	F	78	85	80