

OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT SLAMABAD
FOREIGN SECTION

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

ANNEXURE 'A'

Material DATA ACQUISITION SYSTEM FOR COILED TUBING UNIT
Tender Enquiry No PROC-FE/CB/CEMENT/STIM-4901/2020
Due Date
Evaluation Criteria FULL

SCHEDULE OF REQUIREMENT

| Sr No | Description | Unit | Quantity | Unit Price (FOB) | Total Price (FOB) | Unit Price C & F BY AIR | Total Price C & F BY AIR | Deviated From Tender Spec. If Any |
|-------|--|--------|----------|---------------------|----------------------|----------------------------|-----------------------------|--------------------------------------|
| 1 | DATA ACQUISITION SYSTEM FOR CTU;DEATILS ARE GIVEN UNDER ANNEXURE-A | Number | 1 | | | | | |

- Note:
- 1. Bid Validity:** Bid must be valid for 120 days from the date of Technical Bid Opening
 - 2. Bid Bond Amount:** USD 1,200/= (United States Dollar One Thousand Two Hundred only) or equivalent Pak Rupees valid for 150 days from the date of Technical Bid Opening
 - 3. Evaluation Criteria:** - Full Consignment wise CFR Karachi.
 - 4. Delivery Period:** 60 Days from establishment of LC
 - 5.** Bidders are advised to carefully read all the terms and conditions of the Tender Document "Master Set of Foreign Tender Document (Press-Single Stage Two Envelop) – Updated" available on OGDCL website which is an integral part of this Schedule of Requirement

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TERMS OF REFERENCE FOR DATA
ACQUISITION SYSTEM FOR COIL
TUBING UNIT (JP-8706)

Introduction:

Oil and Gas Development Company Ltd (OGDCL) is Pakistan's leading E&P sector company, having operations at about 50 locations in fields in all the four provinces, intends to purchase electronic Data acquisition system for its Coiled Tubing Unit.

Objective:

The use of computer-based data acquisition systems on CT units has expanded rapidly since about 1994. These systems can electronically record all information pertinent to operating a CT unit and estimating the performance of the CT below the stripper. Data Acquisition System is designed for measuring, control, recording on electronic media, display and visualization of technological parameters of coiled tubing units during repair and stimulation operations on oil and gas wells. The scope of application of the system relates to automatic control of technological process during operation of coiled tubing units. Typical measurements include:

- Pump (circulating) pressure
- Wellhead pressure (WHP)
- CT depth
- CT speed
- CT weight (load cells)
- Pumping rates

The DAS should be a computer-based system capable of recording and displaying the following data:

- Pressure, flow rate, and volume measurements should have an accuracy of at least $\pm 5\%$ of the reading.
- The DAS should provide real-time digital displays, trend (historical) records of the data, and alarms for operating data outside preset limits.
- The DAS should present a real-time display of fatigue accumulation in the CT string and provide the operator with a means to rapidly determine the status of the remaining working life for the string.
- The DAS should be capable of creating a data file for each job in a format that can be read with commonly available software such as MS Excel, MS Access or MS Word.

CT Fatigue Life:

This module can track and predict the fatigue life consumption of CT during Operations. It can simulate and analyze the sensitive parameters such as tubing size, materials, pressure, weld and erosions. Fatigue module should be compatible with multi-format job data. It support real time and historical job analysis; Real Time monitoring and tubing strength.

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Terms & Conditions:

- All Software and Hardware will be installed by the supplier on OGDCL coiled tubing unit.
- Hardware such as pressure sensors that came in contact with pumped fluids & well fluids should be H2S service and can be used with up to 30% HCL.
- Flight case Data Acquisition Systems should be waterproof / shock proof & dust proof.
- All cables & connectors should be waterproof & fire proof.
- Supplier should provide a one week training to 10 Nos. Stimulation professionals including Engineers and Technicians at CMT & STIM Base Kot Sarang.
- Supplier should provide one year warranty and support services for DAS.
- Local travelling, Boarding and Lodging will be borne by the OGDCL while air travelling to and from to trainer base country will be borne by supplier.

OGDCL requirement for Data Acquisition System for it Coil Tubing Unit:

Below is the minimum requirement of Acquisition system with required accessories:

| Item | Description | Qty (Nos) |
|------|---|------------|
| 1 | Data Acquisition system with Flight Case Enclosure Up to 8 Analogue channels – 16 bits Up to 6 frequency channels, 4 of which may be used for quadrature (depth encoder) | 1 |
| 2 | Depth Encoder Reel | 2 |
| 3 | 1502 Hammer Union, 15Kpsi, Acid & H2S Service | 3 |
| 4 | Powered Magnetic Pickup | 10 |
| 5 | Pressure Sensor for load Cell, 2,500psi, ¼" Male NPT | 2 |
| 6 | Cable, 170Ft for Well Head Pressure on Drum | 1 |
| 7 | Cable, 50Ft for Circulation Pressure | 1 |
| 8 | Cable, 50Ft for Depth Encoder | 1 |
| 9 | Cable, 100Ft for Flow Rate on Drum | 4 |
| 10 | Software for printing recorded data in graphical & tabular form | 2 licenses |
| 11 | Software for CT life calculation | 1 license |

(Signature) / 11.10.20

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**TECHNICAL EVALUATION CRITERIA FOR DATA ACQUISITION SYSTEM
FOR COILED TUBING UNIT (JP-8706)**

| S# | Item Description | OGDCL Requirement | Marks | Bidder to provide |
|----|--|---|---|--|
| 1. | Over-all company Experience for Production & Installation of Data Acquisition system for Coil tubing | <u>Minimum 10</u> years of relevant experience. | Total = 20 <u>Minimum Qualifying</u> Marks = 16 (10 years). Above 10 years, each year= 1 Mark | Proven track record of providing DAS |
| 2. | Must provide 5 Nos. case histories for provisioning of DAS in different service company Coil Tubing Units. | <u>Minimum 04</u> Nos. case histories are required. | Total = 20 <u>Minimum Qualifying</u> Marks = 16 Marks (4 Case histories) Above 4 Case histories = 1 Mark | Provide purchase orders. |
| 3. | Provision of QMS (Quality Management System) | Please provide latest certification. | <u>Minimum Qualifying</u> Marks = 20 This section is mandatory to quote; failing to provide will be disqualified. | Certificate that will be confirmed. |
| 4. | Provision of 02 No's ET (Electronics Technician) for installation of DAS onsite. | CV's of professionals for installation of DAS with 05 years of relevant experience. | <u>Minimum Qualifying</u> Marks = 20 This section is mandatory failing to quote; provide will be disqualified | CV's along with experience certificates etc. |

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| | | years of relevant experience. | This section is mandatory failing to quote; provide will be disqualified. | |
| 5. | Performance certification from service companies to whom DAS is installed on CTU | Minimum 04. No's Performance certificates with valid e-mail/contacts for performance verification. | Minimum =20 This section is mandatory to quote; failing to provide will be disqualified. | 04 No's performance certificates |
| Total | | | | 100% |

FINANCIAL EVALUATION CRITERIA FOR DATA ACQUISITION SYSTEM FOR COILED TUBING UNIT (JP-8706)

| Item | Description | Unit Price | Qty (Nos) | Total Price (CFR) |
|------|--|------------|-----------|-------------------|
| 1 | Data Acquisition system, with Flight Case Enclosure Up to 8 Analogue channels – 16 bits Up to 6 frequency channels, 4 of which may be used for quadrature (depth encoder) | | 1 | |
| 2 | Depth Encoder Reel | | 2 | |
| 3 | Viatran, 1502 Hammer Union, 15Kpsi | | 3 | |
| 4 | Powered Magnetic Pickup | | 10 | |
| 5 | Pressure Sensor for load Cell, 2,500psi, 1/4" Male NPT | | 2 | |
| 6 | Cable, 170Ft for Well Head Pressure on Drum | | 1 | |
| 7 | Cable, 50Ft for Circulation Pressure | | 1 | |

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|----|--|--|--|--|
| 8 | Cable, 50Ft for Depth Encoder | | 1 | |
| 9 | Cable, 70Ft for Flow Rate on Drum | | 4 | |
| 10 | Data Acquisition in Real Time (software) | | 2 | |
| 11 | Fatigue Analysis for Coiled Tubing | | 1 | |
| | | | Sub-Total | |
| | | | Training & Installation Cost | |
| | | | Shipping Cost | |
| | | | Total Cost CFR (evaluation shall be made on lump-sum basis) | |

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