

**OIL AND GAS DEVELOPMENT COMPANY LIMITED**  
**Chanda LPG Plant**

**SCHEDULE OF REQUIREMENT**

**TENDER ENQUIRY # TE/COF/ATA/01/2018**

Technical services for Maintenance jobs of Dehydration, Hot Oil, CPI Pit, Crude Oil Stabilization, HP Separator & Utility Area during ATA-2018.

<b>S#</b>	<b><u>Description</u></b>	<b><u>Reference #</u></b>	<b><u>Rate</u></b>	<b><u>Total rate (inclusive of all Taxes)</u></b>	<b><u>Deviation</u></b>
1	As per scope of work given in tender documents				

**Note: Separate rate to be quoted for each and every activity as mentioned in scope of work.**

## **TERMS & CONDITIONS FOR ATA-2018 OF CHANDA LPG PLANT**

### **GENERAL:**

1. Technical services are required for Maintenance jobs of Dehydration, Hot Oil, CPI Pit, Crude Oil Stabilization, HP Separator & Utility Area of Chanda LPG Plant during Annual Turn Around (ATA-18) for an estimated period of 15 days tentatively schedule from 01-08-2018 to 15-08-2018; however the schedule and duration of shut down may be changed.
2. **Bids are required in PKR against each activity as mentioned in the scope of work. Detail of jobs (scope of work) is elaborated in tender documents.**
3. In case of no submission of bid bond, bid will be rejected.
4. Working hours for the day will be considered 10 hours/day excluding lunch break. Sunday/holiday will be considered as normal working day.
5. Most of the jobs will be carried out in the day shift however limited tasks will be carried in the night shift also.
6. Payment will be made as per actual work done through cross cheque after completion of the job being verified by OGDCL rep. at site.
7. Skilled manpower should be well experienced in their respective crafts.
8. Management of the plant reserves the right to terminate the services of any hired staff at any time without any justification.
9. HSEQ Rules & Regulations will be strictly observed.
10. Scaffolding material will be provided by OGDCL, if required.
11. All the participating companies should have an experience of ATA jobs in large Oil & Gas Processing Plants (reference must be provided).
12. Jobs will be carried out as per priority set by OGDCL supervisors and contractor will utilize all its resources to complete the jobs as per time frame given by OGDCL.
13. OGDCL may delete, add or change any type of activity given in the scope of work.
14. The technical manpower must be skilled having at least five years' experience in respective trade. Contractor skilled manpower will be interviewed by OGDCL professionals in all disciplines, if deemed necessary. Contractor should arrange the interview at their premises. The detailed CV's of direct manpower/supervisors is mandatory.
15. Use of mobile phone and camera is prohibited in the plant premises.

16. Any required technical clarification/detail regarding scope of work should be cleared before submission of bid. No change in substance of bid will be entertained after bid submission date.

**CONTRACTOR RESPONSIBILITIES:**

1. Site administration personnel with associated resources like computer, printers, photocopiers etc.
2. Provision of PPE(Safety helmet, Coverall, safety shoes, gloves, etc) of all kinds to hired crew.
3. CV's of all the skilled Personnel will be provided well before ATA. Evaluation of all the short listed skilled personnel will be carried out by Field personnel well before the ATA.
4. Locals will be given preference while hiring services for ATA.
5. All kind of tools required for the job.
6. Scaffolding services if required.
7. Removal of Insulation/ Cladding & installing back by skilled insulators.
8. Security of all the Hired Crew.
9. Drinking Water, Boarding/ Lodging, refreshment to all the Crew.
10. Pick and drop from Plant to accommodation and back.
11. In case of any accident, medical treatment or compensation, whichever is applicable.
12. Electrical Supply Boards along with cables as per HSE standard.

**OGDCL RESPONSIBILITIES:**

1. Electricity for Lighting & Fan.
2. Spare parts where required will be provided by OGDCL.
3. Blinds & Spades for Isolation & Pressure Testing.
4. Logistic support i.e. Cranes, Lifters & Rigging Tools.
5. Nitrogen purging will be the responsibility of OGDCL but services for this job, will be provided by Contractor.

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***Scope of Work for ATA-18 Jobs of Dehydration /Hot Oil/CPI  
Pit/LPG/Utility Area Along With Rotary Equipment.***

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**ROTARY EQUIPMENT:**

General Inspection, cleaning and repair (if required), decoupling & coupling of motors with proper alignment.

**1.1 Pumps:**

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
1	Stabilized Crude Pumps	P-100 A/B	Centrifugal Pump 230 Psig 126 GPM
2	LPG Column Reflux Pumps	P-103 A/B	Centrifugal Pump 310 Psig 415 GPM
3	MEG Pumps	P-200 A/B	Plunger Type
4	Hot Oil Pumps	P-400 A/B	Centrifugal Pump
5	Condenser Water Circulation Pumps	P-701 A/B	Centrifugal Pump 06 meters Head
6	TEG/Glycol Pumps	A/B/C/D	PD Pumps

**1.2 Compressors:**

Instrument Air Compressor skid Preventive Maintenance to be carried out (replacement of Differential filters, Inspection/replacement of Silica, Oil and Air Filters, general cleaning etc).

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
01	Instrument Air Compressor	K-600 A/B	Screw Type Compressor Capacity = 52 M3/min

**2. STATIONERY EQUIPMENT:**

**2.1VESSELS**

Opening of manways, inspection, cleaning and box up of the below mentioned vessels.

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
1	HP Separators	V-116 A/B/C	OD = 36"Length = 15'Manway = 16" Design = 1440 Psig at 180°F
2	Flash Separator	V-100	ID = 60"Length = 177"Manway = 20" Design = 175 Psig at 190°F
3	Flash Separator	V-101	ID = 51.2"Length = 153.5"Manway = 20" Design = 75 Psig at 190°F

4	Flash Separator	V-102	OD = 51" Length = 153.5" Manway = 20" Design = 175 Psig at 190°F
5	Hot Oil Surge Vessel	V-400	OD = 40" Height = 10'
6	Glycol Surge Tank Dehydration Unit	T-600	Storage tank
7	Glycol Surge Tank MEG Unit	V-200	Storage tank

### 3 HEAT EXCHANGERS

#### 3.1. FIN FAN COOLERS.

General inspection, cleaning of the following fin fan coolers.

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
4	Evaporative Condenser(BAC-VXMC)	E-701	General Inspection of Fan, Cleaning of Nozzles, elements replacement if any.
5	Cooler of Ajax LP, MP and HP Comp	-	Fin Fan Cooler.
6	Sale Gas/Feed Gas Compressor cooler	-	Fin Fan Cooler.

#### 3.2. SHELL AND TUBE TYPE EXCHANGERS

Only the inlet/outlet connections of shell side will be opened and flushing will be carried out.

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
1	Glycol Reboiler Dehydration Unit	H-500	OD = 40" Length = 18' - 6" Manway = 20"
2	Exchanger Coil Service MEG Unit	E-202	3/4" O.D × 6" LG Duty = 250 BTU/hr
3	Glycol Reboiler MEG Unit	E-201	OD= 20" Length = 7' - 6" Design = 5 Psig at 450°F

#### Tube bundle of the following exchanger will be pulled out for cleaning

S.NO	DESCRIPTION	TAG NO	SPECIFICATION	REMARKS
1	Crude Heater	E-100A/B	Dia=635mm, Length=3000mm No. of tubes=218, Tube OD=25.4mm	General Inspection and if required, Cleaning (chemical mechanical) will be carried out.

#### **4. OTHER JOBS:**

1. V-116 C crude side LCV inlet/outlet valves 3" to be replaced with Gate valves. (hard to operate)
2. V-116 C waterside LG isolating 1" valves (both) to be replaced passing problem.
3. V-116 C water side LT (bottom) isolating Valve 2" to be replaced.
4. V-101 water side LCV upstream valve 2" to be rectified/replaced. (passing problem)
5. V-116 A water side by pass valve 2" to be replaced.(leakage)
6. V-116 A PCV bypass valve 2" to be replaced.( passing)
7. V116 B water and crude LCVs bypass valve 2" to be replaced (leakage)
8. E-100-A crude out let valve 8" to be replaced.(gear damaged)
9. E-100 B Hot oil outlet valve 4" to be rectify (leakage)
10. E-100 A/B common outlet out let valve 8" to be replaced (not operating)
11. V-100 level troll (water side) pin hole to be rectified (leakage)
12. V-100 water side level troll bottom side isolating valve 2" to be replaced (passing prob.)
13. K-100, K-101, K-102 (Ajax Comp) Engine/Compressor Water Jacket Cleaning to be performed.
14. K-100, K-101, K-102 (Ajax Comp) Condenser TubesInternal Jet Cleaning and pressure test to be carried Out.
15. V-103(LP compressor) drain 2"valve passing problem to be rectified.
16. P-100 B discharge valve position to be changed (hard to operate)
17. P-100A/B recycle FCV by pass line union leakage to be removed.
18. MP-compressor recycle PCV downstream valve 2" to be replaced (passing prob.)
19. V-102 Recycle Line FCV Bypass Line Union leakage to removed
20. V-109(LPG Reflux Drum) Reflux Line LCV 140 Downstream 2"Valve Passing Problem to be Rectified.
21. P-103 A/B all 03 priming valves 1" to be replaced (passing prob.)
22. P-103 A discharge line NRV by pass valve 2" to be rectified (wheel and stem damaged)
23. P-701 B (PUMP) suction 6" valve to be replaced. (not operating)
24. P-200 B (MEG PUMP) 2" discharge valve to be replaced. (Passing prob.)
25. P-200A/B (MEG pump) all 04 priming valves 3/4" to be replaced (passing problem.)
26. V-108 hydrocarbon side outlet SDV 4" to be replaced (not operating)
27. E-110/108 hot oil inlet valve stem side leakage to be removed.
28. Raw gas line from old separators to inlet separator 4" valve to be replaced/rectified (Geardamage not operating).
29. P-802 A discharge valve,2", to be replaced.(passing)
30. Gas pre- heat treatment skid Filter inspection to be carried out and replacement if any.

## ELECTRICAL AND INSTRUMENTATION

### ELECTRICAL JOBS

#### ROTARY EQUIPMENT:

Replacement of Motor Bearings, Inspection/Tightening of Power and Control Cables.

Inspection of alternator's power and control connections, AVR, Exciters, Greasing of Bearings and cleaning of Dusts and Webs from Generators.

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
1	Stabilized Crude Oil Transfer Pump Motor and MCU	P-100 A/B	380V,22.5A,11KW
2	Product Cooler Fan Motor and MCU	E-111 A/B	380V, 22A, 11KW
3	Condensate Transfer Pump Motor and MCU at LP Discharge Knock-out Vessel	P-102 A/B	380V,41A,22KW
4	LPG Reflux Pump Motor and MCU	P-103 A/B	380V,5.8A,2.2KW
5	LPG Loading Pump Motor and MCU	P-104 A/B	380V,16A,7.5KW
6	MEG Transfer Pump Motor and MCU	P-200 A/B	380V,5.8A,2.2KW
7	Hot Oil pump Motor	P-400 A/B	380 V, 30HP
8	Flare Knock-out Drum Transfer Pump Motor and MCU	P-500 A/B	P-500,380V,22.5A,11KW
9	Condenser Water Pump Motor	P-701	380V,14KW
10	Fire Water Jockey Pump Motor and MCU	P-801 A/B	380V,7.8A,4KW
11	Fire Water Spray Pump Motor and MCU	P-802 A/B	380V,32,5A,18.5KW
12	Recovered Oil transfer Pump Motor and MCU	P-1201 A/B	380V,5HP
13	Crude Loading Pump Motor	P-1200 A/B/C	380V, 20HP, 27.3A
14	Instrument Air Compressor Motor	K-600A/B	380V,69A,43KW
15	Generators G1 & G2 Cooling Tower Fan Motors	08 NOs	380V,5A,2.2KW
16	Generators G1 & G2 Exhaust Fan Motors	02 NOs	380V,13.3A,5.5KW
17	Gas Generators	G1/G2	Caterpillar 3412, 235KW
18	Gas Generators	G3/G4	Caterpillar 3408, 200KW
19	Diesel Generator	DG	Cummins, 200KW

**Motors:**

**STATIONERY EQUIPMENT:**

**Power House and MCC**

<b>S.NO</b>	<b>DESCRIPTION</b>	<b>TAG NO</b>	<b>SPECIFICATION</b>
1	Bus bars inspection & tightening in MCC	Nil	<b>1200 Amp, 40 Feet</b>
2	Bus bars inspection & tightening in Power House	Nil	<b>1200 Amp, 30 Feet</b>



## INSTRUMENTATION JOBS

### HP SEPARATORS, CRUDE STABILIZATION AND AJAX COMPRESSORS;

S.NO	DESCRIPTION	TAG NO	SPECIFICATION
1	LIC Calibration to be carried out	V-116 A/B/C	2",complete loop
2	LIC Water side calibration to be carried out.	V-116 C	1",complete loop
3	PIC Calibration to be carried out	V-100	2",complete loop
4	PIC Calibration to be carried out	V-101	2",complete loop
5	LIC Calibration to be carried out	V-100	2",complete loop
6	LIC Calibration to be carried out	V-101	1",complete loop
7	LCV Crude side stem leakage to be removed	V-100/101	2",complete loop
8	EXHAUST (BOTH ENGINE/COMPRESSOR) SIDES <b>THERMOCOUPLES</b> TO BE CHECKED	AJAX K-100	J-Type Thermocouple
9	EXHAUST (BOTH ENGINE/COMPRESSOR) <b>THERMOCOUPLES</b> TO BE CHECKED.	AJAX K-101	J-Type Thermocouple
10	EXHAUST (BOTH ENGINE/COMPRESSOR) <b>THERMOCOUPLES</b> TO BE CHECKED.	AJAX K-102	J-Type Thermocouple
11	AJAX K-100/101/102 COOLANT <b>THERMOCOUPLE</b> TO BE CHECKED.(BOTH ENGINE AND COMPRESSOR SIDE)	K100/K101/K102	03 No's J-Type Thermocouple
12	LIC SUCTION SCRUBBER /DUMP VALVE LOOP TO BE CALIBRATED/CHECKED	K-101	1",complete loop
13	LIC Suction/Discharge Scrubber /Dump Valve to be calibrated /checked	K-102	1",complete loop
14	K-100/101/102 Panel functional test to be carried out	K100/K101/K102	Merphy control panel
15	LIC Calibration to be carried out	C-100	1",complete loop
16	PIC Calibration to be carried out	C-100	Pressure Gauge
17	LIC Calibration to be carried out	C-101	1",complete loop
18	C-100 /101 <b>LEVEL SWITCHES</b> to be checked (high/low)	C-100/ C-101	--
19	V-109 <b>LIC/FIC/PIC/LEVEL SWITCHES</b> to be calibrated / checked	V-109	--
20	TCV C-901 leakage to be removed		1",complete loop

21	<b>PSV's</b> C-100/109/108 to be checked/tested at set pressures.		1"x2",1/2"x2",1/2"x2"
22	<b>TEMPERATURE &amp; PRESSURE INDICATORS</b> C-100/101to be calibrated.	C-100/101	--
23	<b>LEVEL SWITCHES</b> MEG Surge/Flashtank to be checked		--
24	<b>SDV</b> 460 at MEG Reboilerinlet line leakage problem to be rectified.	MEG Unit	4",complete loop
25	<b>TCV</b> C-901 leakage to be removed.		1",complete loop
26	<b>LIC</b> MEG side to be calibrated/checked	V-108	1",complete loop
27	<b>PSV's</b> both Sale/Feed to be checked/tested for actual pressure.	Sale/Feed Gas Compressor	2",RF
28	Cleaning and Calibration of controllers and control valves to be carried out	--	---
29	LPG Bullet B&D gauging system indication in CCR to be rectified.	V-113 A/B/C/D	---
30	<b>PSV's</b> LPG Bullets to be checked at set pressure	V-113 A/B/C/D	2"x3" same all. Set at 172 PSIG
31	<b>TIC</b> to be Calibrated/Checked	Dehydration Reboilers	1",complete loop

### **Note**

A separate commissioning team (for static and rotary equipment) is required at time of Plant commissioning after ATA, Which will be released after completion of commissioning activities.