

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

**SCHEDULE OF REQUIREMENT**

**TENDER ENQUIRY # TE/COF/ATA/01/2019**

Technical services for Maintenance jobs of Dehydration, Hot Oil, CPI Pit, Crude Oil Stabilization, HP Separator & Utility Area during ATA-2019.

<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-2019 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-19) for period of 11 days, schedule from 01-08-2019 to 11-08-2019; 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-19 Jobs of Dehydration /Hot Oil/CPI Pit/LPG/Utility Area Along with Rotary Equipment.*

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### **1. ROTARY EQUIPMENT:**

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

#### **1.1 Pumps:**

ACTIVITY	DESCRIPTION	TAG NO	SPECIFICATION
LPG101	Stabilized Crude Pumps	P-100 A/B	Centrifugal Pump 230 Psig 126 GPM
LPG102	Condensate Transfer Pump	P-102 A/B	Centrifugal Pump 300 psig 22 GPM
LPG103	LPG Column Reflux Pumps	P-103 A/B	Centrifugal Pump 310 Psig 415 GPM
LPG104	LPG loading Pump	P-104 A/B	Centrifugal Pump 140 Psig 121 GPM
LPG105	MEG Pumps	P-200 A/B	Plunger Type 800 psig 1.5 GPM
LPG106	Hot Oil Pumps	P-400 A/B	Centrifugal Pump 100 psig 285 GPM
LPG107	Flare Liquid Transfer Pump	P-500 A/B	Centrifugal Pump 70 psig 22 GPM
LPG108	Condenser Water Circulation Pumps	P-701 A/B	Centrifugal Pump 06 meters Head
LPG109	KIMRAY/TEG/Glycol Pumps	A/B/C/D	PD Pumps 1000psig 450 GPH
LPG110	Fire Water Main Pump	P-800 A/B/C	Centrifugal Pump 80 psig 960 GPM
LPG111	Jockey Fire Water Pump	P-801 A/B	Centrifugal Pump 80 psig 60 GPM
LPG112	Utility Pump	P-802 A/B	Centrifugal Pump 60 psig 300 GPM
LPG113	Condensate Loading pump	P-1200	Centrifugal Pump 60 psig 300 GPM
LPG114	Recovered Oil Transfer Pump	P-1201	Centrifugal Pump 30 psig 50 GPM

## 1.2 Compressors & Engines

Filter, Lube oil replacement and general external cleaning;

ACTIVITY	DESCRIPTION	TAG NO	SPECIFICATION
LPG115	Feed Gas Compressor	Feed Gas	Ariel Compressor 16 MMSCF
LPG116	Sale Gas Compressor	Sale Gas	Ariel Compressor 08 MMSCF
LPG117	Fire water pumps engine	P-800 A/B/C	Clark 04 Cylinder& Perkins 3 Cylinder Engine
LPG118	All Generator Sets	G1, G2, G3, G4, DG	Caterpillar Engine 3412 & 3408

## 2. STATIONERY EQUIPMENT:

### 2.1 VESSELS

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

ACTIVITY	DESCRIPTION	TAG NO	SPECIFICATION
LPG119	HP Separators	V-116 A/B/C	OD = 36"Length = 15'Manway = 16" Design = 1440 Psig at 180°F
LPG120	Flash Separator	V-100	ID = 60"Length = 177"Manway = 20" Design = 175 Psig at 190°F
LPG121	Flash Separator	V-101	ID = 51.2"Length = 153.5"Manway = 20" Design = 75 Psig at 190°F
LPG122	Flash Separator	V-102	OD = 51"Length = 153.5"Manway = 20" Design = 175 Psig at 190°F
LPG123	LT Separator	V-108	ID = 66"Length = 307"Manway = 20" Design = 925 Psig at 150°F
LPG124	Flare KOV	V-500	ID = 55"Length = 192"Manway = 20 " Design = 50 Psig at 480°F

### 2.2 Miscellaneous Other equipment

ACTIVITY	DESCRIPTION	REMARKS
LPG125	Ajax Integral Compressor K-100, K-101, K-102 Water Jacket Cleaning	
LPG126	Hot Oil Return Line Filter Cleaning.	
LPG127	Hot Oil Furnace Refractory Inspection & deemed remedy	
LPG128	TEG surge tank and TEG Re-boiler cleaning and flushing.	
LPG129	Cartridge and Charcoal Filter replacement of MEG unit.	
LPG130	TEG/MEG unit cartridge and charcoal filter replacement.	
LPG131	Greasing of all block valves at dehydration plant.	

<b>LPG132</b>	Gas pre- heat treatment unit Filters Inspection.	
<b>LPG133</b>	Instrument air dryer inlet/outlet filter to be replaced. (K-600 A/B)	

### **3 HEAT EXCHANGERS**

#### **3.1. FIN FAN COOLERS**

General inspection, cleaning and maintenance of the following Fin Fan Coolers.

<b>ACTIVITY</b>	<b>DESCRIPTION</b>	<b>TAG NO</b>	<b>SPECIFICATION</b>
<b>LPG134</b>	Refrigeration Package Cooling Tower	K-700	Fin Fan Cooler (tubes cleaning) & Inspection of cooling fan bearings (replace if not in good condition) Length: 12' Width: 10'
<b>LPG135</b>	Refrigeration Package engine radiator	K-700	Length: 5.5' Width: 5.5'
<b>LPG136</b>	Crude Oil Condenser	E-111 A/B	Fin Fan Cooler (tubes cleaning) & Inspection of bearings (replace if not in good condition) Tube Dia: 1.5" No of Tubes =160 Nos. Length per tube: 24'
<b>LPG137</b>	Sale Gas Engine (WAUKESHA)	Sale Gas Unit	Jacket Water line Tubes cleaning to be carried out: No. of Tubes= 160 Nos. Tube Dia: ½" Length per tube 17.5'
<b>LPG138</b>	Feed Gas Engine (WAUKESHA)	Feed Gas Unit	Jacket Water line Tubes cleaning to be carried out: No. of Tubes= 90 Nos. Tube Dia: 1-1/4" Length per tube: 45'
<b>LPG139</b>	CAT 3412 GENSET	G1 & G2	Jacket Water line Tubes cleaning to be carried out: No. of Tubes= 132 Nos. Tube Dia: 1/2" Length per tube: 8.5'
<b>LPG140</b>	CAT 3408 GENSET	G3 & G4	Radiator External & Internal Cleaning to be carried out

#### **3.2. SHELL AND TUBE TYPE EXCHANGERS**

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

<b>ACTIVITY</b>	<b>DESCRIPTION</b>	<b>TAG NO</b>	<b>SPECIFICATION</b>
<b>LPG141</b>	Glycol Reboiler MEG Unit	E-201	OD= 20"Length = 7' - 6" Design = 5 Psig at 450°F
<b>LPG142</b>	Primary Condensate/ Crude Exchanger	E-118	ID = 13.3"length = 110" Design = 195 Psig at 190°F (Shell) Design = 230 Psig at 310°F (Tube)

<b>LPG143</b>	Secondary Condensate/ Crude Exchanger	E-119	ID = 13.3"length = 220.8" Design = 230 Psig at 310°F (Shell) Design = 100 Psig at 230°F (Tube)
<b>LPG144</b>	Crude Oil Heater	E-100	Dia=635mm,Length=3000mm No. of tubes=218,Tube OD=25.4mm

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

ACTIVITY	DESCRIPTION	TAG NO	SPECIFICATION	REMARKS
<b>LPG144</b>	Crude Oil Heater	E-100A/B	Dia=635mm,Length=3000mm No. of tubes=218,Tube OD=25.4mm	Internal Inspection and Cleaning of tubes bundle will be carried out.
<b>LPG145</b>	MEG Reboiler	E-201	OD= 20"Length = 7' - 6" Design = 5 Psig at 450°F	Internal Inspection and Cleaning of tubes bundle

### 4. Valve Replacement/ Fabrication Jobs

ACTIVITY	DESCRIPTION	DIA INCHES
<b>LPG146</b>	V-116 C crude side LCV inlet/outlet valves 3" to be replaced with Gate valves.	3
<b>LPG147</b>	V-116 C waterside LG isolating 1" valves (both) to be replaced passing problem.	1
<b>LPG148</b>	V-116 A water side by pass valve 2" to be replaced.(leakage)	2
<b>LPG149</b>	V-116 A PCV bypass valve 3" to be replaced.( passing)	3
<b>LPG150</b>	V116 B water and crude LCVs bypass valve 2" to be replaced (leakage)	2
<b>LPG151</b>	E-100-B crude out let valve 8" to be replaced.(gear damaged)	8
<b>LPG152</b>	E-100 A/B common outlet out let valve 8" to be replaced (not operating)	8
<b>LPG153</b>	V-102 level troll bottom side isolating valve 2" to be replaced (Passing Problem).	2
<b>LPG154</b>	K-101 (MP Compressor) Flare header 6" valve inspection/greasing is required as valve operate very hardly.	2
<b>LPG155</b>	P-100 A/B discharge valve to be replaced.	0
<b>LPG156</b>	P-100A/B recycle FCV by pass line union leakage to be removed.	0
<b>LPG157</b>	Provision of drain line on V-102 LT bottom side to open drain.	6
<b>LPG158</b>	V-109 (LPG Reflux Drum) Reflux Line LCV 140 Downstream 2"Valve Passing Problem to be Rectified.	0
<b>LPG159</b>	P-103 A/B all 03 priming valves 1" to be replaced (passing prob.)	3

<b>LPG160</b>	P-103 A discharge line NRV by pass valve 2" to be rectified (wheel and stem damaged)	2
<b>LPG161</b>	P-701 B (PUMP) suction 6" valve to be replaced. (not operating)	0
<b>LPG162</b>	E-110/108 hot oil inlet valve stem leakage to be removed.	9
<b>LPG163</b>	P-200 A/B all NRV's to be replaced (03 NOs)	2
<b>LPG164</b>	Raw gas line from old separators to inlet separator 4" valve to be replaced/rectified	0
<b>LPG165</b>	8"X150 Ball Valve Gear Problem	0
<b>LPG166</b>	P-104 A/B suction valves 4" to be replaced/rectified (Not operating)	8
<b>LPG167</b>	P-802 A discharge valve to be replaced.(passing)	3
<b>LPG168</b>	8" 600# Ball valve on sale gas compressor suction line near to membrane unit needs to be replaced.	0
<b>LPG169</b>	Rectification of Pin hole at E-106 gas side inlet line.	4
<b>LPG170</b>	Pin Hole rectification on hot oil charging line at V-400.	4
<b>LPG170A</b>	Fuel Gas line modification job on Sale Gas Compressor	24
<b>LPG170B</b>	Product Cooler By pass line modification job	80
<b>LPG 170C</b>	Raising of P-100A/B Suction line Nozzle	4
<b>LPG 170D</b>	Modification of Ajax compressors(HP&MP) water pump suction line	0

**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.