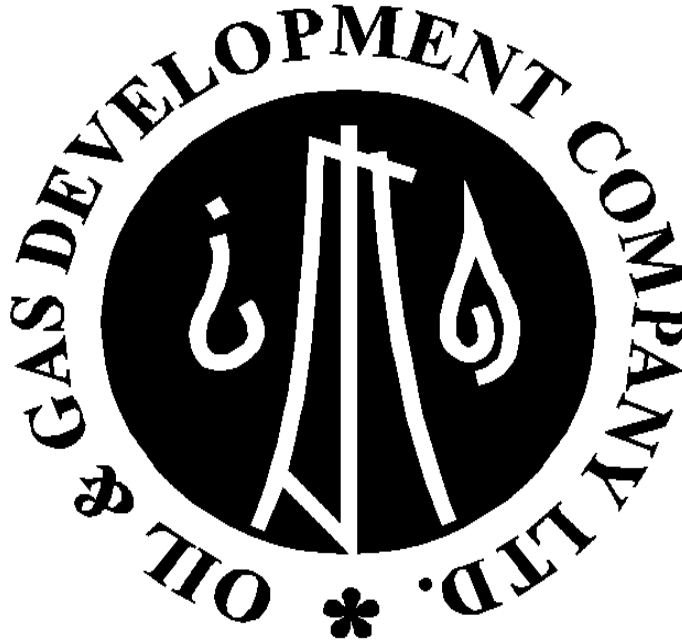


OIL & GAS DEVELOPMENT COMPANY LIMITED



TENDER ENQUIRY NO. PROC-SERVICES/CB/P&P-4940/2021

HIRING OF SERVICES FOR EXECUTION OF ATA-2021 JOBS AT
UCH-II

Note:

Bid bond of **PKR 800,000/- (Pak Rupees Eight Hundred Thousand Only)** must be submitted with the technical bid. Please see tender documents for further detail.

The master set of tender documents (services) uploaded on OGDCL website (www.ogdcl.com) is the integral part of this TOR.



ATA-2021 MAIN EXECUTION CONTRACTOR

EXPLANATORY NOTES

1. The Owner, Oil & Gas Development Company Limited (OGDCL) is interested in inviting bids for the provision of services (Mechanical, Electrical & Instrumentation) at their UCH-II Gas Processing Plant for the execution of the Annual Turnaround (ATA) 2021 maintenance activities from reputable companies in this field.
2. The tentative schedule of annual shutdown of UCH-II Gas Plant is from 15-03-2021 to 31-03-2021 (17 days), only 14 days should be available for maintenance activities and remaining 01 day will be required for the shutting down and 02 days for startup activities.
3. The contractor shall develop and submit a detailed work schedule including mobilization and preparatory works prior to shut down.
4. The Contractor shall quote separate rate in PKR for each activity against the quantities mentioned in the scope of work.
5. The items mentioned in the scope of work consist of furnishing all plant, labor, equipment, machinery, scaffolding and materials for completing the work. The work shall be done, complete in all respects in accordance with the requirements and owner's instructions at site.
6. The Quantities contained in the scope of work for each activity are estimated and liable to change (increase, decrease or omitted) when the work is actually executed. The Owner does not expressly or by implication guarantee that actual quantities of work to be performed will correspond to the scope of work submitted with this tender document. The payment to be made to the Contractor shall be based on the actual quantity of work performed.
7. The Contractor shall be responsible for carrying out all work, complete in all respects, according to the scope of work. Any item of work required for completion but not expressly indicated in the scope shall be deemed to have been included in the unit rates quoted by the Contractor.
8. The successful contractor will be required to submit detailed procedures for undertaking shutdown jobs especially repair works and modification jobs for Owner's approval.
9. The Contractor shall be responsible for ventilation and getting the vessels fit for entry and working environment. All other works required for equipment / piping repair works, e.g. removal / installation of internals, temporary supports, lighting, ventilation, insulation etc., shall be the Contractor's responsibility.
10. Contractor shall undertake welding procedures qualification & welder qualification and all welding shall be performed by qualified Welders. The brand of electrode used for Qualification shall not be changed for Production Welding. (Contractor shall use electrodes/filler wires of reputable brands of European Origin e.g. ESAB, LINCON, etc.)
11. The works are to be carried out on a fast track basis and it is, therefore, essential that the Contractor shall be prepared to execute the work on a round the clock basis (day & night shift) including on holidays.
12. Unit rates quoted by bidder shall be firm. No extra payments on account of escalation in prices due to any reason shall be admissible.

13. Contractor must quote unit rate per dia. inch of pipe welding (separate rate for CS & SS material) & per Kg of structure welding that will also be applicable for any additional job during ATA.
14. The Contractor shall be paid only for the work duly approved by Owner's representative. Any rework due to poor quality, demonstrated by NDT results & inspection by OGDCL shall be on Contractor's account.
15. In case the contractor fails to arrange resources (tools, tackles, consumables, skilled manpower etc.) for execution of any job mentioned in scope of work, OGDCL will arrange/provide its resources to execute the job then the cost double the amount quoted by contractor against that specific job/equipment/area/group will be deducted from final invoice of the contractor.
16. The work is being executed within the plant during shutdown and the Contractor shall, therefore, abide by all safety rules and regulations required to be followed by the Owner.
17. The Contractor shall ensure deployment of skilled painters for painting jobs and proper surface preparation and application of primer and top coat, as per applicable industrial standards.
18. Removal/Re-installation of insulation where required/applicable shall be the responsibility of Contractor.
19. The contractor will arrange cranes and all other lifting/rigging gears for all activities to be carried out during ATA.
20. The Owner for any job will not provide any tools to contractor. Otherwise owner's representative will be liable to deduct the charges accordingly.
21. The contractor manpower should be well experienced/skilled in their respective crafts.
22. HSEQ Rules & Regulations will be strictly observed.
23. All the participating companies/contractors should have at least 5 years of similar experience especially in turnaround of Oil & Gas, Petrochemical & Fertilizers Plant.

24. **REFRACTORY WORK:**

The contractor will arrange the material required for the refractory repair work of Incinerator (UCH-II) & Hot Oil Heaters (UCH-II). The rough estimated material required for repair work is given as below:

- | | |
|----------------------------|--------------|
| i. Fire Cement (25 Kg Bag) | Qty: 10 Nos. |
| ii. Castable (25 kg Bag) | Qty: 30 Nos. |

The actual quantities of material should be confirmed after initial inspection of equipments and it is the responsibility of contractor to arrange the material accordingly.

25. **Stress Relieving for modification jobs piping and strippers**

- All repair welds shall be stress relieved.
- Stress Relieving of existing welds shall be undertaken where weld quality is acceptable as per NDT results.
- Local Heat Treatment may be carried out using electric heaters (Bands) covered by insulation. Temperature shall be noted by thermocouples and recorded by automatic recorders. Detailed procedures shall be prepared and submitted by the Contractor for Owner's approval.
- Following procedure may be adopted for stress relieving of welds:

- Heat up to 600 – 620 °C @ 100 °C per hour
- Hold at 600 – 610 °C for 1-hour minimum.
- Slow cool @ 100 °C per hour from 600 to 300 °C.
- Still air cool by removing insulation, from 300 °C to atm. temp.
- Take hardness profile of each weld to check if it is < 22 HRC.
- The above procedures have only been provided as guidelines. Contractor shall develop and submit detailed procedures for Owner's approval for mod / fabrication jobs and other repair works.

26. **INSPECTION/REPAIR/TESTING OF VALVES:**

- The Contractor shall quote separate rates for each/individual valve.
- Individual tags (include Asset Tag & Sr. # as per SOW) shall be installed on each valve for identification of location before dismantling of valve from site.
- Contractor shall submit the method statement for testing of valves with respect to the standards specified in the references below.
- For repair and build up of seats of valves contractor shall use electrodes/filler wires of reputable brands of European Origin e.g. ESAB, LINCON, etc.
- All gate valves will be tested from both sides i.e. front and back.
- Pressure testing of valves will be carried out as per applicable ASME Code.
- Lapping of valve seats shall be carried out on high-level precision machine.

27. **CHEMICAL CLEANING OF HEAT EXCHANGERS:**

- The contractor shall arrange expert company/firm in the field of chemical cleaning as listed below.
 - 1- Multilink Engineering Services, Islamabad ([Tel:051-4499251](tel:051-4499251))
 - 2- Pakistan Associates of Industrial Engg. Lahore ([Tel:042-35321158](tel:042-35321158))
 - 3- MAXON Industrial Chemicals (Pvt.) Ltd., Lahore ([Tel:042-35155441-3](tel:042-35155441-3))
 - 4- Any other Equivalent
- Chemical cleaning firm shall be responsible for the supply of chemicals & services required for chemical cleaning of heat exchangers as mentioned in SOW including manpower, chemical circulation tanks, circulation pumps, hosepipes, fittings, hand tools & PPE's as per job requirement.

28. Work methodologies of Jobs (modification jobs, valve testing/repairing, Cleaning of vessels, Columns, heat exchangers and repair work of leakages in piping and pressure vessels and PWHT) will be developed by keeping in view of under- mentioned references and requirements. Furthermore contractor shall submit the welding procedure specifications with supporting PQR, method statement of repair jobs of Amine Stripper, hydro testing of mechanical valves, hydro testing of piping involved in modification jobs at least two weeks before the commencement of ATA for Owner's approval.

References:

- ASME Sec II Part-A (Ferrous material Specifications)
- ASME Sec II Part-C (Specifications for welding rods, electrodes and filler materials)
- ASME VIII Div-I (Rules for Construction of Pressure Vessels)
- ASME Sec IX (Welding and Brazing Qualifications)
- ASME B31.3 (Process Piping)
- ASME Sec V (Non Destructive Examination)
- API-510 (Code for Inspection of pressure vessels repair, alteration and re- rating)

- API-572 (Inspection of Pressure Vessels)
- API-570 (Inspection, Repair, Alteration and re-rating of piping)
- API-598 (Valves Inspection & Testing)
- MSS-SP-61 (Pressure Testing of Steel Valves)
- NACE MR-0175
- OGDCL's Specifications & HSEQ Manual

TERMS & CONDITIONS FOR CONTRACTORS
UCH-II GAS PROCESSING PLANT ATA-2021

OGDCL'S RESPONSIBILITIES:

- 1- OGDCL will provide blind/spades for isolation and pressure testing. However the blinds which are not available in stock, contractor may fabricate with available SS/MS sheets.
- 2- Only lodging (accommodation) will be provided to the Contractor manpower. The arrangement for 300 persons is available at site.
- 3- Only Emergency/First Aid medical coverage will be the responsibility of OGDCL.
- 4- All gaskets and direct material/spare parts will be provided.
- 5- OGDCL will provide paint for jobs wherever mentioned in scope of work.
- 6- OGDCL will provide pumps, tanks and hosepipes for in-place chemical cleaning of plate type heat exchangers, vessels & columns only.
- 7- Although the plant has a safe history however adequate security umbrella as provided to the Company's employees will be extended for Contractor's manpower.

CONTRACTOR'S RESPONSIBILITIES:

- 1- The technical manpower must be qualified/skilled and have at least five years' experience in its trade in the field of Oil & Gas/Petrochemical Processing Plants. Contractor skilled manpower will be interviewed by OGDCL professionals in all disciplines (Mechanical, Electrical and Instrument), if deemed necessary and contractor should arrange the interview at their premises. The detailed CV's of direct manpower/supervisors is mandatory.
- 2- Contractor will ensure mobilization of all manpower and resources at least two weeks before commencement of ATA.
- 3- Skilled manpower will be deployed for seven days after completion of shutdown for testing/startup activities. Moreover, Rotary Team shall remain at site until satisfactory operation/testing of all rotary equipment. (Approximately 7-10 days after plant startup).
- 4- Locals should be given preference while hiring of skilled/unskilled manpower. 5- The contractor should plan ATA activities (direct/associated) using latest version of Primavera and submit their planned schedule covering all the activities for carrying out ATA of UCH-II Gas Plant successfully with high level quality within stipulated time period. (Soft copy of Primavera Plan is mandatory with summarized plan and a detailed

plan indicating critical path activities, equipment wise resource planning and deployment)

- 6- Contractor should prepare/submit daily progress report and percentage Gantt chart (planned vs actual) at end of the day.
- 7- Tools and consumables for the execution of each job including welding / fabrication consumables for all repair and modification jobs.
- 8- Painting job where ever given in the scope including painting equipment/tool like brushes, rollers, spray nozzles/guns, hosepipes etc.
- 9- Pneumatic Ejectors/Blowers for the ventilation of Columns and Vessels as per job scope requirement.
- 10- 24V Lighting arrangement for confined space jobs, i.e. inside the columns and vessels.
- 11- In case of any accident, OGDCL will provide only general first aid whereas any other medical treatment would be the responsibility of contractor.
- 12- Contractor shall arrange the standardized test bench for manual valves, control valves & PSV's pressure testing and interconnecting pipes, tubes, hoses for hydro-test and PSV's bench.
- 13- All tools, consumables and calibration equipment/tools for all instruments, control valves & PSV's should be the responsibility of contractor.
- 14- Site administration personnel with associated resources like computer, printers, photocopiers etc.
- 15- Contractor should arrange the blind flanges for PSV's, control valves and manual valves testing which will not be available at OGDCL store stock.
- 16- Contractor will arrange certified E & I calibration and testing equipments, the certificates will be submitted before execution of ATA. Original 3rd party calibration certificates will be verified by OGDCL representative upon arrival of equipment.
- 17- Nitrogen gas for PSV's and Regulators testing will be arranged by contractor.
- 18- Certified Cranes and fork lifters suitable to carry out the activities within stipulated time frame.
- 18- Precision Lathe machines for the repair of manual valves, control valves & PSV's as per work scope requirement.
- 19- Gaskets for pressure testing/bench test of manual valves, control valves & PSV's.
- 20- Water jetting machines with PSV calibration certificate and all other accessories up to 15000psig operating pressure for hydro-jetting of heat exchangers etc. as per job scope requirement.

- 21- Chemical cleaning of heat exchangers is the responsibility of contractor and will be carried out by expert firm/company in this field (Refer clause # 27 of explanatory notes).
- 22- Refractory work of Incinerators and Hot Oil Heaters including material is responsibility of contractor and should be carried out through **M/S Refra Product, Karachi** or any other local expert firm/company in this field (Refer clause # 24 of explanatory notes).
- 23- Scaffolding material and services, as when and where required.
- 24- Electrical Supply Boards/Cables along with earth leakage circuit breaker as per HSE standard.
- 25- Pneumatic/24V tools for confined spaces i.e. grinders/power brushes (Vessel and Columns).
- 26- Contractor will arrange sufficient air compressors in view of complete scope of work (ventilation/filter cleaning/pneumatic tools etc.)
- 27- Shock absorbing safety harness and respirators for contractor employees as per job requirement.
- 28- Contractor will submit Company HSE Policy manual for implementation of safe execution of each activity with zero-injury target. In case of any accident, OGDCL will not be liable for any claim like insurance etc.
- 29- Provision of PPE'S to their manpower and each worker should display ID card (HSE concern)
- 30- Provision of Standard Covid related PPE's to their manpower. (FMO Concern) 32- Original certificates of lifting gears, cranes, crane operators, hydro-jetting machines, drivers etc. will be mandatory checked by OGDCL HSE representative. Furthermore, contractor will submit copy of these certificates to HSE representative of OGDCL (HSE Concern)
- 31- The valid certification of welders, scaffolder etc. will be mandatory. Tags should be displayed for certified scaffolding (HSE Concern).
- 32- HSEQ manpower by contractor:
 - a. I/C HSEQ should be B.E Mech/Chemical with Nebosh certification with at least 05 Years of relevant experience.
 - b. Supervisors should Graduate/D.A.E having Safety Courses certificates with at least 5 Years of relevant experience.
 - c. HSE assistant should be at least Intermediate having Safety Courses/ certificates with at least 5 Years of relevant experience)

- d. Well-equipped First Aider & Rescuers (Trained/Certified at least 02 Nos.)
e.g ropes/pulley, tri-pod, stretchers, medicines etc.
- e. HSEQ crew will be interviewed by OGDCL HSEQ representative before commencement of ATA.

33- Contractor shall arrange Decanting pumps for CPI Pits, Slope Vessel Pit, Amine Sump Pit, Glycol Sump Pit etc. wherever mentioned in SOW.

34- Contractor shall submit WPS & PQR for welding jobs prior to execution of job no deviation will be permissible.

35- Contractor shall depute qualified quality control Engineer having Level-II, Level-III CSWIP 3.1, API certification for the supervision of welding/modification jobs.

36- DPT of all welding jobs (Repair work/Modifications) shall be the responsibility of main execution contractor including material.

37- Submit Total no's of deployed manpower list (designation wise) for the execution of individual job.

38- Contractor shall provide adequate meals and laundry services to their employees. Local area Contractor's may be introduced to provide such services.

39- Contractor will arrange transport for the pick and drop for their manpower from Colony to Plant and back for the whole period and also from Jacobabad to field & back. Fitness certificate for vehicles and drivers will be mandatory. Vehicles deployed for said purpose will be inspected by OGDCL and will not be allowed to use if found unfit.

40- Contractor should ensure the police verification of all manpower direct and indirect and must have bio-data file of each. (Security concern)

41- Contractor manpower must have CNIC and Contractor identitycard.

42- Contractor should ensure his manpower has no any kind of ammunition and narcotics. (Security concern)

43- Mobiles and photo camera are prohibited in the plant premises and contractor should be ensured. (Security concern).

44- Contractor should deploy his own fully equipped security to control the manpower's in/out movement in plant as well as at colony with the coordination of OGDCL security incharge. (Securityconcern).

OIL & GAS DEVELOPMENT COMPANY LIMITED								
UCH-II GAS PROCESSING PLANT - ATA 2021								
MECHANICAL SCOPE OF WORK								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Quantity	Unit Rate	Total Rate
Pre-shutdown Activities								
1		Connection for N2 Pumper						
2		Depressurizing and N2 purging						
3		Blinding of battery limits						
4		Installation of scaffoldings as per each equipment job access requirement						
Post-shutdown Activities								
1		Deblinding of battery limits						
2		Leak Testing and N2 purging						
3		Removal of all scaffoldings						
4		Overall housekeeping of skids/Area Cleaning						
5		Skilled manpower will be deployed for startup activities for 07 days after shutdown.						
GROUP-A: COLUMNS								
MA1		Amine Contactor (02 No's)				2		
1	300-T-101 & 310-T-101	Blinding	Height of Contactor : 43 ft	Strik.Spanner: 70,75,60mm	Arrangement for chem. circulation & water flushing is available at site.			
2		Provision of connections for chemical cleaning/water flushing	I.D. of Contactor : 122 in.	Comb.Sp.16,17mm (Trays)				
3		Opening of manways (02 Nos.)	No. of trays: 12 nos.	Socket Set,				
4		Ventilation / Safety clearance	Size of Manway: 24 in.x 600 CL	Adjustable Spanner				
5		Initial inspection						
6		Internal complete mech. cleaning of trays, demisters, vessel, LG's etc.						
7		Final Inspection						
8		Box up						

9		Deblinding						
MA2		Amine Regenerator (2 No's)					2	
1	300-T-102 & 310-T-102	Blinding	Height of Stripper : 60 ft	Strik.Spanner: 50,41 mm	Arrangement for chem. circulation & water flushing is available at site.			
2		Provision of connections for chemical cleaning/water flushing	I.D. of Stripper : 10.5 in.	Comb.Sp.16,17m (Trays)				
3		Opening of manways (03 Nos.)	No's. of trays : 23 nos.	Socket Set,				
4		Ventilation / Safety clearance	Size of Manway : 24 in.x 150 CL	Adjustable Spanner				
5		Initial inspection						
6		Internal complete mech. cleaning of trays, demisters, vessel, LG's etc.						
7		Access arrangement for NDT by 3rd Party of Regenerator Outlet line						
8		Final Inspection						
9		Box up						
10		Deblinding						
MA3		Glycol Contactor (02 No's)					2	
1	400-T-101 & 410-T-101	Blinding	Height of Contactor : 52 ft	Str.Spanner: 46,50 mm				
2		Opening of manways (02 No's)	I.D. of Contactor : 90 in.	Open/Ring Spanner:20, 22, 24, 27mm				
3		Ventilation / Safety clearance	No. of trays : 12 nos.					
4		Initial inspection	Size of Manway : 24 in.x 600 CL					
5		Internal cleaning of packing, demisters, vessel, LG's etc.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MA4		Incinerator Unit					1	
1	350-H-101	Blinding	Size of Manway : 30" x 150 CL	Spanner: 32mm				
2		Opening of 30 " manway.	Size : I.D. 16ft, Length: 46ft					
3		Ventilation / Safety clearance						
4		Initial inspection of Combustion Chamber, Refractory,						

		Burners & Pilots etc.						
5		Repairing of Refractory if required.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MA5		Hot Oil Heaters (04 No's)					4	
1	900-H101-A/B/C/D	Blinding	Size Manways: 24 x 18inch					
2		Manways Opening (02)	Type: Vertical cylinder with overhead conviction & tack					
3		Internal Inspection of furnace/refractory						
4		Refractory repair if required	Manufacturer : BSS, China					
5		All Burners/ Pilots tips inspection/cleaning if required						
6		Ball valve (1" dia) installation on individual pilots line, (total 16 nos.)(cold work)						
7		Final Inspection						
8		Box up						
9		Deblinding						
MA6		Flare Stack					1	
1	990-ST101	Blinding	Flare tip size: 36"	Crane with cherry picker	Work at Height Job			
2		Flare Tip Inspection, Cleaning and repairing if required	Height of Stack : 110ft					
3		Flare Pilots Inspection, Cleaning and repairing if required						
4		Complete Stack Painting						
5		Final Inspection						
GROUP-B: VESSELS								
MB1		Slug Catcher Eastern					1	
1	210-V-101	Blinding	Horizontal Vessel	Strik.Span:65,50,41 mm				
2		Opening of manway	Size of Manway : 20" x 600 CL	Comb.Span.:27,32 mm				
3		Ventilation/Safety clearance	Size of Vessel : 83" ID x328" L	Adjustable Spanner				
4		Initial Internal Inspection of						

		vessel and demister						
5		Cleaning of complete vessel, Demister & LG's etc.						
6		Final inspection						
7		Box up						
8		Deblinding						
MB2		Slug Catcher Central					1	
1	211-V-101	Blinding	Horizontal Vessel	Strik.Span:65,41 mm				
2		Opening of manway	Size of Manway : 20" x 600 CL	Comb.Span.:27mm				
3		Ventilation/Safety clearance	Size of Vessel : 83" ID x 328" L	Adjustable Spanner				
4		Initial Internal Inspection of vessel and demister		Crow Bar				
5		Cleaning of complete vessel, demister & LG's etc.						
6		Final inspection						
7		Box up						
8		Deblinding						
MB3		Slug Catcher Western					1	
1	212-V-101	Blinding	Horizontal Vessel	Strik.Span:65,41 mm				
2		Opening of manway	Size of Manway : 20" x 600 CL	Comb.Span.:27mm				
3		Ventilation/Safety clearance	Size of Vessel : 94" ID x 379" L	Adjustable Spanner				
4		Initial Internal Inspection of vessel and demister		Crow Bar				
5		Cleaning of complete vessel, demister & LG's etc.						
6		Final inspection						
7		Box up						
8		Deblinding						
MB4		Condensate Water Separator					1	
1	250-V-101	Blinding	Horizontal Vessel	St.Sp.: 46 mm				
2		Opening of manway	Size of Manway : 20" x 50 CL	Comb.Sp.: 24,27mm				
3		Ventilation/Safety clearance	Size of Vessel : 59" ID x 229" L	Adjustable Spanner				
4		Initial Internal Inspection of vessel						
5		Cleaning of vessel, demisters & LG's.						

6		Relocation of 2" 150# gate valve downstream condensate water separator to uch-1(cold work)						
7		Final inspection						
8		Box up						
9		Deblinding						
MB5		Condensate Degassing Boot				1		
1	250-V-102	Blinding	Vertical Vessel	St.Sp.: 46 mm				
2		Opening of manway	Size of Manway : 18" x 150 CL	Comb.Sp.: 24,27mm				
3		Ventilation/Safety clearance	Size of Vessel : 1070mm ID x 3355mm L	Adjustable Spanner				
4		Initial Internal Inspection of vessel						
5		Cleaning of vessel, demisters & LG's.						
6		Final inspection						
7		Box up						
8		Deblinding						
MB6		Feed Gas K.O Drum (2 Nos)				2		
1	300-V-101 & 310-V-101	Blinding	Vertical Vessel	Strik. Span: 70,65mm				
2		Opening of manway	Size of Manway : 24" x 600 CL	Comb;Spanner: 27,30mm				
3		Ventilation/safety clearance	Size of Vessel : 45.27" I.D. X 100.4" L	Scaffolding Material				
4		Initial Internal Inspection of vessel		Crow Bar, Chain Blocks				
5		Internal cleaning of complete vessel, LG's/LT's etc.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MB7		Feed Gas Filter Coalescer (02 Nos)				2		
1	300-V-102 & 310-V-102	Opening Of Top Cover	Vertical Vessel	Strik. Span: 65mm				
2		Inspection Of Filter Coalescer Elements	Size of Vessel : 43.3" I.D. X 185.4" TL-TL	Comb; Spanner: 27,30mm				
3		Replacement Of Filter Coalescer Elements						
4		Final Inspection						
5		Box up						

MB8		Treated Gas K.O Drum (02 No's)				2		
1	300-V-103 & 310-V-103	Blinding	Vertical Vessel	Strik. Span: 70,75mm				
2		Opening of manway	Size of Manway : 24" x 600 CL	Comb; Spanner: 32,36mm				
3		Ventilation/safety clearance	Size: 1150 ID, 2550 L					
4		Initial Internal Inspection of vessel						
5		Internal cleaning of complete vessel, LG's/LT's etc.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MB9		Lean Amine Strainers (04 No's)				4		
1	300-S101 A/B & 310-S101 A/B	Opening of 28" Cover		Strik.Span: 32 mm				
2		Initial Inspection		Hammers, Crow bar				
3		Cleaning of strainer		Scaffolding material				
4		Final Inspection						
5		Box up						
MB10		Rich Amine Strainers (04 No's)				4		
1	300-S105 A/B & 310-S105 A/B	Opening of 28" Cover		Strik.Span: 32 mm				
2		Initial Inspection		Hammers, Crow bar				
3		Cleaning of strainer		Scaffolding material				
4		Final Inspection						
5		Box up						
MB11		Rich Amine Flash Drum (02 No's)				2		
1	300-V-104 & 310-V-104	Blinding	Horizontal Vessel	Str.Spanner: 46,50 mm	Arrangement for chem.circulation & water flushing is available at site.			
2		Provision of connections for chemical cleaning/water flushing	Size of Manway : 24" x 150 CL	Open/Ring Sp: 20,22,24,27mm				
3		Opening of manway	Size of Vessel :137.8" I.D. X 511.8"L	Crow bar, Chain Blocks				
4		Ventilation/safety clearance	Material : SA-240, TP.304/304L	Scaffolding Material				
5		Initial Inspection of vessel						
6		Dismantling/removal of demisters &						

		repair/replacement if any						
7		Internal cleaning of complete Vessel & LG's.						
8		Internal inspection of vessel for erosion / cracks, NDT and repair/buildup, if any required.			DPT if required			
9		Cleaning of demisters & re-installation						
10		Installation of LG of Vessel of train-310-V104 (cold work)						
11		Final Inspection						
12		Box up						
13		Deblinding						
MB1 2		Amine Surge Vessel (02 No's)					2	
1	300-V-105 & 310-V-105	Blinding	Horizontal Vessel	Str.Spanner: 46 mm				
2		Opening of manway	Size of Manway : 24" x 150 CL	Open/Ring Sp: 20,22,24,27mm				
3		Ventilation/safety clearance	Size of Vessel :3550mm I.D. X 12000mm L	General Tool Box				
5		Initial Inspection of vessel	Material : SA-240, TP.304/304L					
6		Internal cleaning of complete vessel, vertex breaker, LG's etc.						
7		Final Inspection						
8		Box up						
9		Deblinding						
MB1 3		Amine Reflux Drum (02 No's)					2	
1	300-V-106& 310-V-106	Blinding	Vertical Vessel	Strik.Spner: 46 mm				
2		Opening of manway	Size of Manway : 24" x 150 CL	Comb,Spner: 24,27mm				
3		Ventilation/safety clearance	Size of Vessel : 1880mm ID x 3370mm L	General Tool Box				
4		Internal cleaning of complete vessel, LG's/LT's etc.	Main Material : SA-240, TP.304L					
5		Internal inspection of vessel for erosion / cracks, NDT and repair/buildup, if any required.				DPT if required		
6		Inspection, cleaning/repair of Demisters, if any						

8		Final Inspection						
9		Box up						
10		Deblinding						
MB1 4		Amine Sump Drum (02 No's)				2		
1	300-V-107 & 310-V-107	Blinding	Horizontal Vessel	Strik.Spner: 46 mm				
2		Opening of manway	Size of Manway : 24" x 150 CL	Comb,Spner: 24,27,36,41mm				
3		Ventilation/safety clearance	Size of Vessel : 3150mm ID x 12000 mm L	General Tool Box				
4		Initial Inspection	Material : SA- 240, TP.304L					
5		Decanting of Sump Vessel						
6		Internal cleaning of complete vessel, LG's/LT's etc.						
7		Decanting & cleaning of Sump Vessel Pit						
8		Final Inspection						
9		Box up						
10		Deblinding						
MB1 5		Amine Sump Filter (02 No's)				2		
1	300-S-104 & 310-S-104	Blinding	Horizontal Vessel	Strik.Spner: 27 mm				
2		Opening of manway / top cover	Size of Manway : 18" x 150 CL	Comb,Spner: 24,27mm				
3		Ventilation/ safety clearance	Size of Vessel : 443mm ID x 2704 mm L	General Tool Box				
4		Initial Inspection of filters	Material : SA- 240, TP.304L					
5		Replacement of fliter if req						
6		Internal cleaning of complete vessel, LG's/LT's etc.						
8			Final Inspection					
9		Box up						
10		Deblinding						
MB1 6		Lean Amine Cartridge Filter (04 No's)				4		
1	300-S-103 & 310-S-103	Blinding	Vertical Vessel	Strik.Spner: 32 mm				
2		Opening of manway / top cover	Size of Manway : 24" x 150 CL	Comb,Spner: 30,32mm				
3		Ventilation/ safety clearance	Size of Vessel : 318mm ID x 2318 mm L	General Tool Box				
4		Initial Inspection of filters (10 and 15 micron filter)						

5		Replacement of filter if req							
6		Internal cleaning of complete vessel, LG's/LT's etc.							
7		Final Inspection							
8		Box up							
9		Deblinding							
MB1 7		Glycol Flash Drum (02 No's)				2			
1	400-V-103 & 410-V-103	Blinding	Horizontal Vessel	Strik.Spner: 50mm					
2		Opening of manway	Size of Manway : 24" x 150 CL	Comb,Spner: 24,27,36mm					
3		Ventilation/safety clearance	Size of Vessel : 4.43 ft ID x 12.47 ft L	General Tool Box					
4		Initial Inspection	Main Material : SA-240, 304/304L						
5		Internal cleaning of vessel, demisters, LG's etc.							
6		Overall cleaning/housekeeping of Skid							
7		Final Inspection							
8		Box up							
9		Deblinding							
MB1 8			Glycol Surge Vessel (02 No's)				2		
1		400-V-104 & 410-V-104	Blinding	Horizontal Vessel	Strik.Spner: 50mm				
2	Opening of manway		Size of Manway : 24" x 150 CL	Comb,Spner: 24,27,36mm					
3	Ventilation/safety clearance		Size of Vessel : 4.59 ft ID x 14.76 ft L	Scaffolding Material					
4	Initial Inspection		Main Material : ASTM A516 Gr. 70N	General Tool Box					
5	Internal cleaning of vessel, demisters, LG's etc.								
6	Overall cleaning/housekeeping of Skid								
7	Final Inspection								
8	Box up								
9	Deblinding								
MB1 9		Glycol Sump Vessel (01 No's)				1			
1		Blinding	Horizontal Vessel	Strik.Spner: 50mm					
2		Opening of manways	Size of Manway : 24" x 150 CL	Comb,Spner: 24,27,36mm					

3	410-V-105	Ventilation/safety clearance	Size of Vessel : 6.24 ft ID x 19.68 ft L	Scaffolding Material				
4		Initial Inspection	Main Material : ASTM A516 Gr. 70N	General Tool Box				
5		Internal cleaning of vessel, demisters, LG's etc.						
6		Decanting & cleaning of Sump Vessel Pit						
7		Final Inspection						
8		Box up						
9		Deblinding						
MB2 0			Incinerator K.O Drum				1	
1		350-V-101	Blinding	Vertical Vessel	Strik.Spner: 55,50mm			
2	Opening of manways		Size of Manway : 24" x 150 CL	Comb,Spner: 24,27,36,41mm				
3	Ventilation/safety clearance		Size of Vessel : 118" ID x 161" L	Scaffolding Material				
4	Internal cleaning of complete vessel, LG's/LT's etc.		Main Material : SA-240, TP.304L					
6	Final Inspection							
7	Box up							
8	Deblinding							
MB2 1			Slope Vessel				1	
1	940-V-102	Blinding	Horizontal Vessel	Strik.Spner: 46,50mm				
2		Opening of manways	Size of Manway : 20" x 150 CL	Scaffolding Material				
3		Ventilation/safety clearance	Size of Vessel : 79 I.D. X 300" L					
4		Initial Inspection	Material : SA516-70/SA105					
5		Internal cleaning of complete vessel and its pit						
6		Cleaning of LG's/LT's						
7		Decanting & cleaning of Vessel Pit						
8		Final Inspection						
9		Box up						
10		Deblinding						
MB2 2		Blow Case Vessel				1		
1	940-V-101	Blinding	Horizontal Vessel	Strik.Spner: 46,50mm				
2		Opening of manways	Size of Manway : 18" x 300 CL	Comb,Spner: 24,27,30,32mm				
3		Ventilation/safety clearance	Size of Vessel : 1220 mm ID x 3660mm L					

4		Initial Inspection	Main Material : SA-516-70					
5		Internal cleaning of complete vessel, LG's/LT's etc.						
6		Inspection						
7		Box up						
8		Deblinding						
MB2 3		Flare K.O Drum					1	
1	990-V-101	Blinding	Horizontal Vessel	Strik.Spanner:46mm				
2		Opening of manways	Size of Manway : 24" x 150 CL	Comb,Spner:24,27 mm				
3		Ventilation/safety clearance	Size of Vessel : 118" ID x 446" L					
4		Initial Inspection	Material : SA-516 Gr.70					
5		Internal cleaning of complete vessel, LG's/LT's etc.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MB2 4		Fuel Gas Knock Out					1	
1	960-V-102	Blinding	Vertical Vessel	Strik.Spanner:46mm				
2		Opening of manways	Size of Manway : 20" x 150 CL	Comb,Spner:24,27 mm				
3		Ventilation/safety clearance	Size of Vessel : 1375mm ID x 3965mm L					
4		Initial Inspection	Material : SA-516 Gr.70					
5		Internal cleaning of complete vessel, LG's/LT's etc.						
6		Final Inspection						
7		Box up						
8		Deblinding						
MB2 5		Cooling Tower					2	
1	300-CT-101 & 310-CT-101	Basin Cleaning	Type: Induced Draft Counter-flow	General Tool Box				
2		Inspection/Cleaning/Re-arrangement/Replacement of Drift Eliminators/Fills	Design Water Circulation: 8769.2 US gpm					
3		Inspection/Cleaning/Replacement of Water distribution Nozzles	No. of Modules: 08 No of Cells per Module: 02					
4		Cleaning of Air intake Panels/Louvers	Basin Size(LxWxD): 144x48x4 ft.					
5		Cleaning of Fan Blades &	By: Ilmed I,Pianti Italy					

		adjustment of blade angle, if required						
6		Final Inspection						
MB2 6		CPI (Oily Water Treatment System)					3	
1	950-TK-102-A/B/C	Initial Inspection of all pits.	Inlet Pit, Oil Chamber, Water Pit					
2		Decanting / Cleaning of all pits	Size: 51360mm L x 4080mm W x 4228mm H		Decanting pump(s) with explosion proof motor will be required			
3		Final Inspection						
MB2 7		Hot Oil Fuel Gas Strainer A/B/C/D					4	
1		Strainer Inspection / Cleaning and repair if any		General Tool Box				
2		Box up						
MB2 8		Hot Oil Main Strainer					1	
1	900-S101-A	Opening of Cover		Strik.Span: 41, G. Tool Box				
2		Initial Inspection		Crane-45Ton,				
3		Cleaning of strainer						
4		Final Inspection						
5		Box up						
MB2 9		Hot Oil Side Filters					2	
1	900-F101-A/B	Strainer Inspection / Cleaning and repair if any		Strik.Span: 60, G.Tool Box				
2		Box up		Crane-45Ton,				
MB3 0		Glycol Cartridge Filter (04 No's)					4	
1	400-F-101 A/B & 410-F-101 A/B	Opening of top cover	Vertical Vessel	Strik.Spanner:32mm				
2		Inspection of filter	Size of Vessel : 219mm ID x 1600mm L					
3		Replacement of filter elements if required	Material: SS-304					
4		Final Inspection						
5		Box up						

MB3 1		Glycol Contactor Over Head Separator					2		
1	400-V-102 & 410-V-102	Opening of top cover	Vertical Vessel	Strik.Spanner:60mm					
2		Inspection of filter	Size of Vessel : 915mm ID x 4700mm L						
3		Replacement of filter elements if required	Material: SS-304						
4		Final Inspection							
5		Box up							
MB3 2		Glycol Striping Column					2		
1	400-T-103 & 410-T-103	Opening of top cover	Vertical Vessel	Strik.Spanner:40,36 mm					
2		Inspection of chimney trays	Size of Manway: 12" x 150 CL						
3		Removal, cleaning and reinstallation of packing	Size of Vessel : 460mm ID x 4080mm L						
4		Final Inspection	Material : SA-240, TP=304						
5		Box up							
MB3 3		Glycol Still Column					2		
1	400-T-102 & 410-T-102	Blinding	Vertical Vessel	Strik.Spanner:36,46 mm					
2		Opening of manways	Size of Manway : 20" x 150 CL	Comb,Spner:32mm					
3		Ventilation/safety clearance	Size of Vessel : 508mm ID x 4180mm L						
4		Internal packing / bundle removal, cleaning and reinstallation	Material : SA-240, TP 304						
5		Vapors vent line diversion to vertical position (cold work)							
6		Final Inspection							
7		Box up							
MB3 4		Multimedia Filter (MMF)					4		
1	930- PU101A/B/C/ D	Opening of manways	Vertical Vessel	Strik.Spanner:41mm					
2		Ventilation/safety clearance	Size of Vessel : 3000mm ID x 4000mm L	Comb,Spner:32mm					
3		Cleaning/ Bed removal/addition (if required)	Material : Carbon Steel						
4		Initial Inspection							
5		Box up							

GROUP-C: HEAT EXCHANGERS

MC1		Feed Gas Cooler (02Nos)				2		
1	300-E-111 & 310-E-111	Blinding/Isolation	Type: BFU, U-Tube Bundle	Crane-45Ton, Chain Blocks,				
2		Initial Inspection	No.of Tubes : 1278, Two Pass	Strik.Span: 65,50 mm				
3		Arrangement/connections for chemical cleaning	Tube Size: 0.75"(OD) x 0.065"(thk)x 12.3ft (L)	Comb. Span: 27,36mm				
4		Chemical Cleaning of Shell Side (by 3rd Party)	Tube Bundle Weight : 3.89t	Jetting machine				
5		Pressure Testing	Shell Side Medium : Cooling Water	Sling, Shackles, etc.				
6		Final Inspection	Tube Side Medium : Raw/Feed Gas					
7		Deblinding						
8		Housekeeping / Area cleaning						
MC2		Lean Amine Trim Cooler (02 No's)				2		
1	300-E-113& 310-E-113	Blinding/Isolation	Type : BFM, No. of Tubes = 2224	Channel head weight = 2 ton				
2		Initial Inspection	Tube Size = 25.4(OD)x1.651 (thk.)x5850 (L)mm	Strik.Span: 1.8125" (46mm)				
3		Arrangement/connections for chemical cleaning	No. of Passes: Shell Side= 2 & Tube Side= 8	Chain Blocks: 5 ton				
4		Chemical Cleaning of Shell Side (by 3rd Party)	Bundle Weight = 28331 lb	Crow bar				
5		Pressure Testing	Overall Dim= 1820 (I.D.) x 7626 (TL-TL) mm					
6		Final Inspection	Shell Side Medium : Cooling Water					
7		Deblinding	Tube Side Medium : Lean Amine					
8		Housekeeping / Area cleaning						
MC3		Amine Regenerator Condenser (02 No's)				2		
1	300-E-114	Blinding/Isolation	Type: BEM, No. of Tubes: 1319	Crane-45Ton, Chain Blocks,				
2		Initial Inspection	Tube Size:1"(OD) x 0.065"(thk)x 29.53 ft (L)	Strik.Span: 50 mm				

3	& 310-E-114	Arrangement/connections for chemical cleaning	No. of Passes: Shell Side=01 Tube Side=01	Comb. Span: 27,36, 41mm					
4		Chemical Cleaning of Shell Side (by 3rd Party)	Bundle Weight = 25860 lb	Scaffolding material					
5		Pressure Testing	Channel head O.D.= 1640 mm	Jetting machine					
6		Final Inspection		Sling, Shackles					
7		Deblinding							
8		Housekeeping / Area cleaning							
MC4			Lean Amine Fin-Fan Cooler (02 Nos.)				2		
1		300-EA-103 & 310-EA-103	Inspection of Finned Tube Bundles	No. of tubes : 192	Chain Block: 10 ton				
2	External Chemical cleaning of Finned Tubes (by 3rd party)		Tube O .D. : 1 in.	Strik.Span: 27,30,32mm					
3	Cleaning of Fan Blades		Length : 540 in. or 45 ft	Comb. Span: 27,32mm					
4	Verification / Adjustment of Fan blade angle		No. of passes : Three	Crow bar					
5	Alignment of Fan								
6	Final Inspection								
7	Housekeeping / Area cleaning								
MC5		Treated Gas Cooler (04 Nos.)				4			
1	300-E-112 A/B & 310-E-112 A/B	Blinding/Isolation	No. of tubes : 532	Chain Block: 10 ton					
2		Initial Inspection	Tube O .D. :1 in.	Strik.Span: 55 mm					
3		Arrangement/connections for chemical cleaning	Tube Length : 230 in. or 19 ft	Comb. Span: 55mm					
4		Chemical Cleaning of Shell Side (by 3rd Party)	No. of passes : One	Crow bar					
5		Pressure Testing							
6		Final Inspection							
7		Deblinding							
8		Housekeeping / Area cleaning							
MC6		Amine Regenerator Reboiler (04 No's)				4			
1		Blinding/Isolation	Type: BKU, U-Tube	Sling, Shackles, Chain Blocks					
2		Arrangement/connections for water/chemical cleaning	No's of tubes : 2000	Strik.Span: 50 mm					

3	300-E-103 A/B & 310-E-103 A/B	Head cover dismantling	Size : 0.75"(OD)x.065"(Thk)x14.92 ft (L)	Hammers, Crow bar					
4		On-site drilling of 3/4" hole in tube sheet for Eye bolt for bundle removal	Thickness of Tube sheet: 3"	Scaffolding material					
5		Removal of Tube bundle	Tube Bundle Weight : 7.6t	Crane-35 Ton.					
6		Cleaning of shell and tube bundle	4-Four passes						
7		Tube bundle Insertion							
8		Head cover installation							
9		Pressure Testing and final Inspection							
10		Deblinding							
11		Housekeeping / Area cleaning							
MC7			Glycol Reboiler (02 No's)				2		
1		400-E-103 & 410-E-103	Blinding/Isolation	Type : BKU, No. of Tubes = 328	Crane-45Ton, Chain Blocks,				
2	Initial Inspection		Tube Size = 19(OD)x1.65 (thk.)x3291 (L)mm	Strik.Span: 36mm					
3	Arrangement/connections for water/chemical cleaning		No. of Passes: Tube Side= 8						
4	Bonnet opening and Tube bundle removal		Bundle Weight = 2482 lb						
5	Inspection and cleaning		Overall Dim= 609 (I.D.) x 4684 L mm						
6	Tube bundle Insertion and box up								
7	Deblinding								
8	Housekeeping / Area cleaning								
MC8		Lube Oil FinFan Cooler (03)				3			
1	SGT-1/2/3A/B/C	Inspection of Finned Tube Bundles	No. of tubes : 66						
2		External Chemical cleaning of Finned Tubes (by 3rd party)	Tube O.D.: 42mm .						
3		Cleaning of Fan Blades	Make: UK						
4		Verification / Adjustment of Fan blade angle							
5		Alignment of Fan							

6		Final Inspection						
GROUP-D: ROTARY								
MD1		Gas Turbines (03 No's)				3		
1	SGT-100- 1/2/3	Enclosure Inspection & Cleaning	SIEMENS GAS TURBINE	General Tool Box				
2		Cleaning of mist. Eliminator panels of Air-Intake Hood	MAKE: SIEMENS-UK					
3		Cleaning & Replacement of Air Intake Filters (Pulse (24 No's +24) + Hepa 15 No's)	MODEL: SGT- 100 -1S					
4		Overall cleaning of Turbine enclosure						
5		Inspection/replace ment of Fuel Gas skid K/O Filter Coalescer Elements.						
6		Cleaning of fuel gas and liquid fuel skids						
7		Ventilation air inlet Filter/duct cleaning						
8		Final Inspection						
9		Area cleaning						
MD2		Lean Amine Booster Pump (04 No's)				4		
1	300-P104A/B & 310-P104A/B	Decoupling of Pump & Motor	Single-stage Centrifugal pump	Strik.Span. 32,36mm				
2		Initial Alignment check	Capacity=1970 gpm.	General Tool Box				
3		Inspection/Disman tling of Pump casing, if required	Pressure= 79.49 psig	Comb. Spanner 16,17mm				
4		Service of Mechanical Seal if any having leakage problem.	Suc.x Disch. = 8 x 6 in	Millwright Special Tools				
5		Replacement of bearings if required.	Make: RUHRPUMPEN, GERMANY					
6		Assembly of pump						
7		Cleaning of suction & seal flush line strainers						
8		Alignment						
9		Housekeeping / Area cleaning						
MD3		Lean Amine Circulation Pump (04 No's)				4		

1	300-P105A/B & 310-P105A/B	Decoupling of Pump & Motor	7-stage Centrifugal pump	Striking Spanner 46mm,				
2		Initial Alignment check	Capacity=1960 gpm.	55,46 mm.				
3		Dismantling of bearing housings	Dis.Pressure= 922.2 psig	General Tool Box				
4		Removal of bearings for inspection	Suc.x Disch. = 8 x 6 in	Millwright Special Tools				
5		Cleaning / Repair / repl. of damage parts, if any	Make: RUHRPUMPEN, Germany					
6		Service of Mechanical Seal (Dismantling, cleaning/lapping & re-assembly)						
7		Assembling of bearing housing						
8		Cleaning of suction & seal flush line strainers						
9		Alignment						
10		Housekeeping / Area cleaning						
MD4		Regenerator Reflux Pump (04 No's)				4		
1	300-P106A/B & 310-P106A/B	Dismantling of pump	Magnetic Drive Centrifugal pump	Comb, Spner:24,27 mm				
2		Inspection of casing	Capacity=106.9 gpm.	General Tool Box				
3		Cleaning / Repair / repl. of damage parts, if any	Dis.Pressure= 64.5 psig	Millwright Special Tools				
4		Assembling of pump	Suc.x Disch. = 3 x 1-1/2 in					
5		Cleaning of suction & seal flush line strainer	Make: RUHRPUMPEN, Germany					
6		Housekeeping / Area cleaning						
MD5		Glycol Circulation Pumps (04 No's)				4		
1	400-P-101 A/B & 410-P-101 A/B	Decoupling of Pump & Motor	5-Stage Reciprocating pump	General Tool Box				
2		Initial Inspection of over all pump	Capacity= 6.6 m3/h.	Millwright Special Tools				
3		Cleaning of block gasket, plunger packing/bushing, crankcase or any other component if required	Pressure= 59.7bars/ 850 psi					
4		Dismantling of crankcase cover, inspect all moving	Suc.x Disch. = 4 x 2 in					

		parts for wear & tear, maintenance replace if required.						
5		Cleaning of pump strainers & other piping components	Make: OFFICINE MECCANICHE GALLARATESI - S.p.A					
6		Inspection and cleaning of crankcase breather						
7		Inspection of gear box, cleaning, repairing/ maintenance if any						
8		External cleaning of pump body and overall skid						
9		Housekeeping / Area cleaning						
MD6		Hot Oil Circulation Pumps (10 No's)					10	
1	900-P-102A/B/C/D/E /F/G/H/I/J	Decoupling of Pump & Motor	Single-stage Centrifugal pump	General Tool Box				
2		Service of Mechanical Seal if any having leakage problem.	Capacity=2496 gpm.	Millwright Special Tools				
3		Replacement of bearings if required.	Pressure= 132 psig					
4		Alignment	Suc.x Disch. = 10 x 8 in					
5		Cleaning of suction & seal flush line strainers	Make: SULZER Pumps & Compressor. Italy					
6		Blue epoxy paint to outer surface of pump						
7		Area cleaning						
MD7		Hot Oil Heater FD Fans (04 No's)					4	
1	900-C52-A/B/C/D	Opening of FD Fan inspection windows.	Centrifugal Fan	Strik.Span. 30 mm				
2		Inspection/cleaning of Fan duct/dampers.	Flow rate = 38893 m3/h	Comb. Spanner 24mm				
3		Inspection/Replacement of bearings of FD Fans	RPM = 1450	General Tool Box				
4		Alignment		Millwright Special Tools				
5		Housekeeping / Area cleaning						

MD8		Cooling Water Pump (04 No's)				4		
1	300-P-111 A/B & 310-P-111 A/B	Decoupling of Pump & Motor	Centrifugal Pump	General Tool Box				
2		Service of Sealing system if any having leakage problem.	Capacity= 2915 gpm.	Millwright Special Tools				
3		Replacement of bearings if required.	Pressure= 30 psig					
4		Alignment	Suc.x Disch. = 20 x 24 in					
5		Cleaning of suction & seal flush line strainers	Make: STERLING Fluid System, ITALY					
6		Blue epoxy paint to outer surface of pump						
7		Area cleaning						
MD9		Combustion Air Primary Blower (Incinerator) (02 No's)				2		
1	350-C101 A/B	Opening of FD Fan inspection windows.	Centrifugal Fan	General Tool Box				
2		Inspection of dampers.	Make: PBN, Italy	Millwright Special Tools				
3		Greasing of bearings	MODEL: RAW1402/8G/R D315°-355SMA6					
4		Alignment	Flow Rate: 30cu.m/sec					
MD10		Secondary Blower (Incinerator) (03 No's)				3		
1	350-C102 A/B/C	Opening of FD Fan inspection windows.	Centrifugal Fan	General Tool Box				
2		Inspection of dampers.	Make: f.lli.farrari. Italy	Millwright Special Tools				
3		Greasing of bearings						
4		Alignment						
MD11		Pilot Air Blower (Incinerator) (02 No's)				3		
1	350-C103 A/B	Opening of FD Fan inspection windows.	Centrifugal Fan	General Tool Box				
2		Inspection of dampers.	Make: f.lli.farrari. Italy	Millwright Special Tools				
3		Greasing of bearings	Power: 550kw					
4		Alignment						

MD1 2		Flare Knockout Pump (02 No's)				2		
1	990-P-101 A/B	External cleaning of pump	Single Stage Centrifugal	General Tool Box				
2		Maintenance & repairing if required	Make: KSB	Millwright Special Tools				
3		Check lube oil level	Capacity: 4.5 gpm					
4		Check Alignment						
MD1 3		Nitrogen Compressor				2		
1	980-P-C101 A/B	Cleaning of enclosure	Type: Screw type	General Tool Box				
2		Cleaning/inspectio n of Intake air filter	Make: Ingersoll Rand	Millwright Special Tools				
3		Lube oil/coolant replacement if required	Design Pressure: 140psi					
4		Inspection of hose pipes						
5		Housekeeping / Area cleaning						
MD1 4		Instrument Air Compressor				2		
1	970-C101 A/B	Cleaning of enclosure	Type: Screw type compressor	General Tool Box				
2		Cleaning/inspectio n of Intake air filter	Make: Ingersoll Rand	Millwright Special Tools				
3		Lube oil/coolant replacement if required	Design Pressure: 140psi					
4		Inspection of hose pipes						
5		Housekeeping / Area cleaning						
MD1 5		Raw Water Pumps				2		
1	930-P-102 A/B	Initial inspection	Single Stage Centrifugal	General Tool Box				
2		Cleaning of pump body and skid	Make: Sterling, Italy	Millwright Special Tools				
3		Maintenance & repairing if required	Capacity: 1250 usgpm					
4		Check lube oil level						
5		Check Alignment						
MD1 6		Utility Water Pumps				2		
1		Initial inspection	Single Stage Centrifugal	General Tool Box				
2		Cleaning of pump body and skid	Make: Sterling, Italy	Millwright Special Tools				

3	930-P-103 A/B	Maintenance & repairing if required	Capacity: 625 usgpm					
4		Check lube oil level						
5		Check Alignment						
MD1 7		Demin Water Pumps				2		
1	930-P-104 A/B	Initial inspection	Single Stage Centrifugal	General Tool Box				
2		Cleaning of pump body and skid	Make: Sterling, Italy	Millwright Special Tools				
3		Maintenance & repairing if required	Capacity: 60 usgpm					
4		Check lube oil level						
5		Check Alignment						
GROUP-E: FABRICATION / MODIFICATION JOBS:-								
Area of JOBS:-			SPECIFICATIO N	Number of Joint	Dia Inches			
ME1	Utility Points (N2)	Utility points Installation at Slug catcher area	Pipe Size;1", GI	6	6			
ME2	Amine Charging Points	Amine charging points at both trains 300/310; fabrication of SS line permanent.	Pipe Size: 2", SS 304, 40S, A182	29	58			
ME3	Dehy Charging Points	Glycol charging points at both trains 400/410; fabrication of SS line permanent.	Pipe Size: 2", CS, 40S, A106	8	16			
ME4	DW to RO Line	4" 150, NRV installation in line (close circuit)	Pipe size: 4" , SS 304, 40S, A182	2	8			
ME5	DW pump	3" 150# handle valve installation at discharge for isolation to avoid heavy noise of DW pump	Pipe size: 3" , SS 304, 40S, A182	2	6			
ME6	Surge Drum	Level troll drain valve relocation	Pipe size: 0.50", SS 304, 40S, A182	4	2			
ME7	OWS (Trench)	Line dismantling from storm channel as per original scheme. End Blind Installation 6" (Cold Job)	Pipe Size: 12", CS, 40S, A106	2	24			
ME8	WHRU	Inlet and outlet lines of hot oil relocation with supports/ insulation.	Pipe Size: 10", CS, 80S, A105	18	180			
ME9	Hot Oil	All heaters FT flanges relocation.	Pipe Size: 6", CS, 40S, A106	8	48			
ME10	SGT 1&2	Gate valve to be replaced with ball	Pipe Size: 1.5", GI	4	6			

		valve due to fall down hazard						
ME11	N2 Compressor	N2 compressor discharge lines relocation	Pipe Size: 2", CS, 40S, A106	5	10			
			Pipe Size: 3", CS, 40S, A106	6	18			
GROUP-F: MANUAL VALVES:-								
MF1	Slug Catchers Area	Manual Valves Gathering Area (37 Nos.)			Valves list attached	37		
1		Dismantling of Valves from location						
2		Shifting of valves to workshop						
3		Initial Testing/Inspection of valves						
4		Repair of defected valves						
5		Pressure Testing						
6		Painting of Valves if required.						
7		Shifting of valves at Location						
8		Installation of valves at location						
MF2	Amine Train-300	Manual Valves of Amine Train-I (27 Nos.)	Onsite Service & Greasing: 18 out of 27		Valves list attached	27		
1		Dismantling of Valves from location						
2		Shifting of valves to workshop						
3		Testing/Inspection of valves						
4		Repair of defected valves						
5		Pressure Testing						
6		Painting of Valves if required.						
7		Shifting of valves at Location						
8		Installation of valves at location						
MF3	Amine Train-310	Manual Valves of Amine Train-II (26 Nos.)	Onsite Service & Greasing: 18 out of 26		Valves list attached	26		
1		Dismantling of Valves from location						
2		Shifting of valves to workshop						
3		Testing/Inspection of valves						
4		Repair of defected valves						
5		Pressure Testing						
6		Painting of Valves if required.						

7		Shifting of valves at Location						
8		Installation of valves at location						
MF4	Hot Oil/Utility	Manual Valves of Hot Oil & Utility Area (49Nos.)			Valves list attached	49		
1		Dismantling of Valves from location						
2		Shifting of valves to workshop						
3		Testing/Inspection of valves						
4		Repair of defected valves						
5		Pressure Testing						
6		Painting of Valves if required.						
7		Shifting of valves at Location						
8		Installation of valves at location						

OIL & GAS DEVELOPMENT COMPANY LIMITED

UCH-II GAS PROCESSING PLANT - ATA MARCH 2021

PRODUCTION FACILITIES - SCOPE OF WORK

Act #	Tag #.	Job Description	Specifications	Tools Required		Qty	Remarks	Unit Rate	Total Rate
MANUAL VALVES:-									
MV-1	Gathering Area	Manual Valves in-place servicing							
	Gathering,	Onsite service, greasing, painting etc.	Ball valves 10" Class-600 = 78 Nos.	Grease gun with nozzles		78	Only onsite service & greasing		
	Gathering/Separator		Ball valves 08" Class-600 = 19 Nos.			19			
	Flare header,		Ball valves 08" Class-150 = 15 Nos.			15			
	Gathering		Ball valves 06" Class-600 = 17 Nos.			17			
	Separator		Ball valves 02" Class-600 = 15 Nos.			15			
				Total =		144			
MV-2	Gathering Area	Shop Servicing of NRVs and Gate/Globe Valves							
	Gathering	dismantling of Valves from location	NRVs 10", 600#, Wafer, WCB, Dual Plates = 13 Nos.	St. Spanner # 50, Brass Hammer		13	Shop Servicing of NRVs and Gate/Globe Valves		
	Gathering	Shifting of valves to workshop	NRVs 08", 600#, Wafer, WCB, Dual Plates = 03 Nos.	St. Spanner # 46, Brass Hammer		3			
	Well Monitoring Lines	Testing/Inspection of valves	NRVs 06", 600#, Wafer, WCB, Dual Plates = 18 Nos.	St. Spanner # 41, Brass Hammer		18			
	Monitoring/Sep D/s	Repair of defected valves	Gate/Globe Valves 6", 600# WCB = 17 Nos.	St. Spanner # 41, Brass Hammer		17			
	Flare header,	Pressure Testing	Globe valves 2", 600# WCB = 15 Nos.	St. Spanner # 24, Brass Hammer		15			
		Painting of Valves if required.							
		Shifting of valves at Location							
		Installation of valves at location							
				Total =		66			
MV-3	Well Sites	Manual Valves							
	Uch-II well sites	In-Place service, greasing and painting etc.	Ball Valves 10", 900# = 26 Nos.	Grease gun with nozzles		26	Only onsite service & greasing		
			Ball Valves 08", 900# = 04 Nos.			4			
			Ball Valves 04", 900# = 15 Nos.			15			
				Total =		45			

OIL & GAS DEVELOPMENT COMPANY LIMITED								
UCH-II GAS PROCESSING PLANT - ATA 2021 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #	Job Description	Specifications	Tools Required	Remarks	Quantity	Unit Rate	Total Rate
Pressure Safety Valves PSV's								
Amine Train 300					Location			
1	300-PSV-001A	Removing from location, testing in workshop/bench and record "as found set" value (Psig/Bar), disassembling for Lapping trim and overhauling completely (if required), assembling, setting (provided by OGDCL) cold set points and reinstallation.	Size : 1.5" x 3"	Crane, Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set, Pressure Source 2000PSI, Other calibration equipment.	Feed gas Knockout	1		
2	300-PSV-003A		Size : 1" x 2"		Feed gas Filter coalescer	1		
3	300-PSV-004B		Size : 1" x 2"		Amine Contactor	1		
4	300-PSV-005A		Size : 1" x 2"		Treated gas Knock out	1		
5	300-PSV-006A		Size : 8" x 10"		Flash Drum	1		
6	300-PSV-006B		Size : 8" x 10"		Flash Drum	1		
7	300-PSV-008A		Size : 4" x 6"		Surge drum	1		
8	300-PSV-010B		Size : 6" x 8"		Amine Fin fan cooler	1		
9	300-PSV-011A		Size : 10" x 14"		Amine stripper	1		
10	300-PSV-015A		Size : 4" x 6"		Reflux drum	1		
11	300-PSV-021A		Size : 2" x 3"		Lean Amine Cooler	1		
DeHydration Train 400					Location			
1	400-PSV-001	Removing from location, testing in workshop/bench and record "as found set" value (Psig/Bar), disassembling for Lapping trim and overhauling completely (if required), assembling, setting (provided by OGDCL) cold set points and reinstallation.	Size : 3" x 6"	Crane, Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set, Pressure Source 2000PSI, Other calibration equipment. PSV Test Bench. Consumables.	Contactors	1		
2	400-PSV-002		Size : 3" x 6"		Contactors	1		
3	400-PSV-003		Size : 2" x 4"		Scrubber	1		
4	400-PSV-004		Size : 2" x 4"		Scrubber	1		
5	400-PSV-005		Size : 4" x 6"		Flash Drum	1		
6	400-PSV-006		Size : 4" x 6"		Flash Drum	1		
7	400-PSV-007		Size : 2" x 2"		Cartridge Filters	1		
8	400-PSV-008		Size : 2" x 2"		Charcoal Filter	1		
9	400-PSV-009		Size : 2" x 2"		Cartridge Filters	1		
10	400-PSV-010		Size : 2" x 2"		Glycol Circulation Pump	1		
11	400-PSV-011		Size : 2" x 2"		Glycol Circulation Pump	1		
12	400-PSV-012		Size : 1.5" x 2"		Storage Tank	1		
13	400-PSV-013		Size : 2" x 6"		Gas/TEG Exchanger	1		
14	400-PSV-014		Size : 2" x 6"		Gas/TEG Exchanger	1		
15	400-PSV-015		Size : 4" x 3"		Surge Drum	1		
16	400-PSV-016		Size : 4" x 3"		Surge Drum	1		
17	400-PSV-018		Size : 2" x 2"		Heat Exchanger	1		
18	400-PSV-019		Size : 2" x 2"		Heat Exchanger	1		
Utility Area					Location			

1	900-PSV-001	Removing from location, testing in workshop/bench and record "as found set" value (Psig/Bar), disassembling for Lapping trim and overhauling completely (if required), assembling, setting (provided by OGDCL) cold set points and reinstallation.	Size :	Crane, Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set, Pressure Source 2000PSI, Other calibration equipment. PSV Test Bench. Consumables.	Hot Oil Storage Tank	1		
2	900-PSV-002		Size : 1.5" x 3"		Expansion Vessel	1		
3	900-PSV-003A/B/C/D		Size : 3" x 4"		Side Filter	4		
4	900-PSV-004		Size :		Side Filter	1		
5	900-PSV-005		Size : 1" x 2"		Strainer	1		
6	900-TSV-003		Size :		Heaters	1		
7	970-PSV-001		Size : 1" x 2"		Instrument Air	1		
8	970-PSV-002		Size : 1" x 2"		Instrument Air	1		
9	970-PSV-003		Size : 1" x 2"		Instrument Air	1		
10	970-PSV-004		Size : 1.5" x 2"		Instrument Air	1		
11	980-PSV-001		Size : 1" x 3"		Nitrogen Package	1		
12	980-PSV-002		Size : 1" x 2"		Nitrogen Package	1		
13	980-PSV-003		Size : 1" x 2"		Nitrogen Package	1		
14	980-PSV-004		Size : 1.5" x 2"		Nitrogen Package	1		
15	980-PSV-005		Size : 1" x 2"		Nitrogen Package	1		
16	980-PSV-006		Size :		Nitrogen Package	1		
Control Valves CV's								
Slug Catcher Area					Location			
1	210-LCV-001	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), replacement of kits, actuator integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.	1.5"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	Eastern Slug Catcher	1		
2	211-LCV-001		1.5"/600		Central Slug Catcher	1		
3	212-LCV-001		1.5"/600		Western Slug Catcher	1		
4	210-PCV-006	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	1.5"/600		Eastern Slug Catcher	1		
Amine Train 300					Location			
1	300-FCV-018	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	3"/150	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	Feed Gas	1		
2	300-FCV-019		6"/150		Treated Gas	1		
3	300-PCV-033		6"/300		Gas to Flare	1		
4	300-FCV-020	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), replacement of kits, actuator	6"/150		Trim Cooler	1		
5	300-FCV-021	2"/150	Condensate		1			
6	300-FCV-036	10"/300	Hot Oil to Reboiler		1			

		integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.						
Amine Train 310					Location			
1	310-FCV-018	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	3"/150	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	Feed Gas	1		
2	310-FCV-019		6"/150		Treated Gas	1		
3	310-PCV-033		6"/300		Gas to Flare	1		
4	310-FCV-020	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), replacement of kits, actuator integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.	6"/150		Trim Cooler	1		
5	310-FCV-021		2"/150		Condensate	1		
6	310-FCV-036		10"/300			Hot Oil to Reboiler	1	
Dehydration Train 400					Location			
1	400-FCV-006B	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	8"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	Treated Gas to Flare	1		
Dehydration Train 410					Location			
1	410-FCV-006B	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), replacement of kits, actuator integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.	8"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	Treated Gas to Flare	1		
Fuel Knock Out					Location			
1	960-PCV-005	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	4"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools, calibration equipment	LP Fuel KO	1		
2	960-PCV-003		4"/150		LP Fuel KO	1		
Emergency Shutdown Valves ESDV's								
Amine Train 300					Location			
1	300-ESDV-013	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if	12"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Treated Gas	1		

		reqd.), replacement of kits, actuator integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.						
2	300-ESDV's	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	Shutdown Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Millimeter, consumables	Amine Unit 300	14		
Amine Train 310					Location			
1	310-ESDV-013	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), replacement of kits, actuator integrity testing, Functional Test, Reassembling, reinstallation and onsite Calibration.	12"/600	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Treated Gas	1		
2	310-ESDV's	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	Shutdown Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Millimeter, consumables	Amine Unit 310	15		
Hot Oil Area					Location			
1	900-ESDV-001A	Onsite Servicing, Cleaning, Greasing and functional testing and loop verification through CCR	Shutdown Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Millimeter, consumables	Hot Oil Heater A/B/C/D Inlet	4		
2	900-ESDV-002A				Hot Oil Heater A/B/C/D Outlet	4		
Transmitters & Switches								
Slug Catchers Area					Location			
1	210-LT-001	On Site internal Cleaning of level Trol and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia, 10 meter, length, HART Communicator	Eastern Slug catcher	1		
2	210-LSLL-002					1		
3	210-LSHH-002					1		
4	210-FT-006					1		
5	211-LT-001				Central Slug catcher	1		
6	211-LSLL-002					1		
7	211-LSHH-002					1		
8	211-FT-006					1		
9	212-LT-001				Western Slug catcher	1		
10	212-LSLL-002					1		
11	212-LSHH-002					1		
12	212-FT-006					1		

13	250-LT-002					1		
14	250-LSLL-001					1		
15	250-LSHH-001					1		
16	250-LSLL-002					1		
17	250-LSHH-002					1		
18	250-LT-003					1		
19	250-LSLL-003				Cond.Degassing Boot	1		
20	250-LSHH-003					1		
Amine Train 300						Location		
1	300-FIT-003	Dismantling, shifting to W/S, inspection, replacement of kits, Functional Test, reinstallation and onsite Verification through System.	Annubar Flow Transmitters	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Feed Gas	1		
2	300-FIT-002				Treated gas	1		
3	300-LT-002				Feed Gas Knockout	1		
4	300-LSLL-002					1		
5	300-LSHH-002					1		
6	300-LT-003				Filter Coalescer	1		
7	300-LSLL-003					1		
8	300-LSHH-003					1		
9	300-LT-013				Amine Contactor	1		
10	300-LSLL-014					1		
11	300-LSHH-014					1		
12	300-LT-008 A/B				Reboiler A/B	2		
13	300-LSLL-008A/B/C/D	On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia, 10 meter, length, HART Communicator		4		
14	300-LSHH-008A/B					2		
15	300-LT-004				Surge Vessel	1		
16	300-LSLL-004					1		
17	300-LSHH-004					1		
18	300-LT-006				Amine Flash Vessel	1		
19	300-LT-005					1		
20	300-FIT-005					1		
21	300-LSHH-005					1		
22	300-LSHH-006					1		
23	300-LSLL-005					1		
24	300-LSLL-006					1		
25	300-LIT-011				Amine Reflux Vessel	1		
26	300-LSHH-011					1		
27	300-LSLL-011					1		
28	300-LIT-009				Amine Stripper	1		
Amine Train 310						Location		
1	310-FIT-003	Dismantling, shifting to W/S, inspection, replacement of kits, Functional Test, reinstallation and onsite	Annubar Flow Transmitters	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Feed Gas	1		
2	310-FIT-002				Treated gas	1		

		Verification through System.									
3	310-LT-002	On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia, 10 meter, length, HART Communicator	Feed Gas Knockout	1					
4	310-LSLL-002					1					
5	310-LSHH-002					1					
6	310-LT-003				Filter Coalescer	1					
7	310-LSLL-003					1					
8	310-LSHH-003					1					
9	310-LT-013				Amine Contactor	1					
10	310-LSLL-014					1					
11	310-LSHH-014					1					
12	310-LT-008 A/B				Reboiler A/B	2					
13	310-LSLL-008A/B/C/D					2					
14	310-LSHH-008A/B					2					
15	310-LT-004				Surge Vessel	1					
16	310-LSLL-004					1					
17	310-LSHH-004				Amine Flash Vessel	1					
18	310-LT-006					1					
19	310-LT-005					1					
20	310-FIT-005					1					
21	310-LSHH-005					1					
22	310-LSHH-006					1					
23	310-LSLL-005				Amine Reflux Vessel	1					
24	310-LSLL-006					1					
25	310-LIT-011					1					
26	310-LSHH-011				Amine Stripper	1					
27	310-LSLL-011					1					
28	310-LIT-009										
Incinerator					Location						
1	350-FT-001				On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitters	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Incinerator	1		
2	350-PIT-001	1									
3	350-PIT-002	1									
4	350-PIT-003	1									
5	350-PIT-004	1									
Dehydration Train 400					Location						
1	400-FIT-006	Dismantling, shifting to W/S, inspection, replacement of kits, Functional Test, reinstallation and onsite Verification through System.	Annubar Flow Transmitters	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Dehy Inlet gas	1					
2	400-FIT-003				Dehy Outlet gas	1					
3	400-LSLL-001	On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent	Glycol contactor T-101	1					
4	400-LSHH-001					1					
5	400-LSLL-002					1					
6	400-LSHH-002					1					

7	400-LSLL-005	connection checking, Calibration verifications, loop testing.		nylon tube of 1" dia, 10 meter, length, HART Communicator	Flash drum V-103	1					
8	400-LSHH-005					1					
9	400-LIT-005					1					
10	400-LSLL-006					Surge Vessel V-104	1				
11	400-LSHH-006						1				
12	400-LIT-006						1				
13	400-LSLL-003					Overhead separator V-102	1				
14	400-LSHH-003						1				
15	400-LIT-003						1				
16	400-LSLL-007					Re boiler E-103	1				
17	400-LSHH-007	1									
18	400-LIT-007	1									
19	400-LIT-009				Glycol Storage Tank TK-101	1					
Dehydration Train 410						Location					
1	410-FIT-006	Dismantling, shifting to W/S, inspection, replacement of kits, Functional Test, reinstallation and onsite Verification through System.	Annubar Flow Transmitters	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	Dehy Inlet gas	1					
2	410-FIT-003				Dehy Outlet gas	1					
3	410-LSLL-001	On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia, 10 meter, length, HART Communicator	Glycol contactor T-101	1					
4	410-LSHH-001					1					
5	410-LSLL-002					1					
6	410-LSHH-002				Flash drum V-103	1					
7	410-LSLL-005					1					
8	410-LSHH-005					1					
9	410-LIT-005					1					
10	410-LSLL-006					Surge Vessel V-104	1				
11	410-LSHH-006						1				
12	410-LIT-006				1						
13	410-LSLL-003				Overhead separator V-102	1					
14	410-LSHH-003					1					
15	410-LIT-003					1					
16	410-LSLL-007				Re boiler E-103	1					
17	410-LSHH-007					1					
18	410-LIT-007					1					
19	410-LIT-009							Glycol Storage Tank TK-101	1		
Hot Oil Area						Location					
1	900 LSLL-004				On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia,	Expansion Vessel V-102	1		
2	900 LSHH-004	1									
3	900 LIT-004	1									
4	900-LSLL-001	1									
5	900 FI-11.01A	1									

6	900 FI-11.01B	checking, Calibration verifications, loop testing.		10 meter, length, HART Communicator	Fuel Gas to Heaters	1		
7	900 FI-11.01C					1		
8	900 FI-11.01D					1		
9	900 LIT-002				Sump Vessel V-101	1		
10	900 FI-014A				Hot Oil Flow	1		
11	900 FI-014B					1		
12	900-FI-014C					1		
13	900 FI-014D					1		
Flare Knock Out					Location			
1	990-LT-001	On Site internal Cleaning of level Troll and switches, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Transmitter & Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key set, Multi-meter, Pipe Wrench 18", 12", Transparent nylon tube of 1" dia, 10 meter, length, HART Communicator	Flare Knockout Vessel	1		
2	990-LSLL-001					1		
3	990-LSHH-001					1		
Miscellaneous Jobs					Location			
1	Analyzers	Calibration/servicing	Analyzers	Calibration Kit, Cal Gases	Incinerator & Hot Oil	5		
2	310-PSE-070		Size: 12", Make: Continental Disc Corporation		Feed gas cooler	1		
3	310-PSE-071		Size: 16", Make: Continental Disc Corporation		Treated Gas Cooler	1		

OIL AND GAS DEVELOPMENT COMPANY LIMITED
T&I- Section (PE&FD), Production Department
ATA-2021 - UGF-II

Well Site:-

Sr. No	Location	Tag No.	Instruments Type / Make	Job Description	Tools/Eqps. Required	Remarks	Quantity	Unit Rate	Total Rate
1	Well No 19 (Eastern Lobe)	100-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement. 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting	1		
		100-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		100-PIT-011	PT Smart HART / ABB; 266 HSH (CIP)0-1450 psig				1		
		100-PIT-014	PT Smart HART / ABB; 266 HSH (CIP)0-200 psig				1		
		100-LIT-001	LT Smart HART / ABB 266 HSH (CIP)0-100%				1		
		100-LIT-003	LT Smart HART / ABB 266 HSH (CIP)0-100%				1		
		100-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics				Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit	1
		100-FD-002		1					
		100-FD-003		1					

		100-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det- Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit , General Tool Kit	cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1		
		100-H2S-001B					1		
		100-H2S-001C					1		
		100 - H2S-002					1		
		100 - H2S-003					1		
		100-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		100-OGD-2B					1		
		100-OGD-3B					1		
		100-PCV-001	Pressure Control Valve Valvitalia LTG3-C-4-E WCC Y766002	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, Buildup , Chroming , Welding , & Machining etc	Spanners Set (In/mm) Screw Drivers Set , General Tool Kit , Hammer ,Pipe wrench , Hydro test Pump etc		1		

Well No 32 (Eastern Lobe)

103-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP) 0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement. 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1		
103-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
103-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
103-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
103-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
103-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
103-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
103-FD-002					1		
103-FD-003					1		
103-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
103-H2S-001B					1		
103-H2S-001C					1		

		103-H2S-002		will be monitored by CCR-HMI			1		
		103 - H2S-003					1		
		103-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		103-OGD-2B					1		
		103-OGD-3B					1		
3	Well No 28 (Eastern Lobe)	102-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP) 0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement	1		
		102-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		102-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		102-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		102-LIT-001	LT Smart HART / ABB 266 HSH (CIP)0-100%				1		
		102-LIT-003	LT Smart HART / ABB 266 HSH (CIP)0-100%				1		
		102-FD-001	Multispectrum IR Flame Detector				Calibration , servicing and	HART Communicator , Test Lamp ,	

		102-FD-002	X3301 / Det-Tronics	maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Magnet IO, MAN IO & General Tool Kit	6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1					
		102-FD-003					1					
		102-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1					
		102-H2S-001B					1					
		102-H2S-001C					1					
		102-H2S-002					1					
		102 - H2S-003					1					
		102-OGD-1B					OGD , OPECL / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit	1		
		102-OGD-2B	1									
		102-OGD-3B	1									
		4	Well No 27 (Eastern Lobe)	101-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min		Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box.Pressure	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration	1		
				101-PDT-001	Pressure Differential Transmitter Smart HART / ABB266 DSH(CIP)0-72 psig					1		

		101-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig		Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	<p>equipment.</p> <p>3. mA Source and pressure calibrator at Contractor end</p> <p>4. All the procedure as per manual will be provided by OGDCL that must be followed.</p> <p>5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs.</p> <p>7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs.</p> <p>8. Well is 25 Km approx. away from Plant.</p>	1		
		101-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		101-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		101-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		101-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
		101-FD-002					1		
		101-FD-003					1		
		101-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
		101-H2S-001B					1		
		101-H2S-001C					1		
		101-H2S-002					1		
		101-H2S-003					1		
		101-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		101-OGD-2B					1		
		101-OGD-3B				1			

				will be monitored by CCR-HMI					
		101-PCV-001	Pressure Control Valve Valvitalia LTG3-C-4-E WCC Y766002	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, Buildup, Chroming, Welding, & Machining etc	Spanners Set (In/mm) Screw Drivers Set, General Tool Kit, Hammer, Pipe wrench, Hydrotest Pump etc		1		
5	Well No 21 (Central Lobe)	111-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration, servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that	1		
		111-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		111-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		111-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		111-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		

		111-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%			must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1			
		111-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1			
		111-FD-002					1			
		111-FD-003					1			
		111-H2S-001A					H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit	1
		111-H2S-001B	1							
		111-H2S-001C	1							
		111-H2S-002	1							
		111-H2S-003	1							
		111-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit					1
		111-OGD-2B					1			
		111-OGD-3B					1			
6	Well No 33 (Central Lobe)	114-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenanc e will be carried out	All tools, consumables, calibration equipment at contractor's end Multi-meter		1. OGDCL will deduct from actual cost if any job is not possible to be carried	1		

		114-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig	and verification of reading will be monitored by CCR-HMI	Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1		
		114-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		114-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		114-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		114-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		114-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
		114-FD-002					1		
		114-FD-003					1		
		114-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
		114-H2S-001B					1		
		114-H2S-001C					1		
		114-H2S-002					1		
		114-H2S-003					1		

		114-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		114-OGD-2B					1		
		114-OGD-3B					1		
7	Well No 20 (Central Lobe)	110-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane	1		
		110-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		110-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		110-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		110-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		110-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		110-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics				Calibration , servicing and maintenance will be carried out and verification of reading will be monitored	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit	1
		110-FD-002		1					
		110-FD-003		1					

				by CCR-HMI		Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.			
		110-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
		110-H2S-001B					1		
		110-H2S-001C					1		
		110-H2S-002					1		
		110-H2S-003					1		
		110-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		110-OGD-2B					1		
		110-OGD-3B					1		
8	Well No 31 (Central Lobe)	109-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc		1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the	1	
		109-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig			1			
		109-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig			1			
		109-PIT-014	PT Smart HART / ABB;			1			

			266 HSH (CIP) 0-200 psig			<p>procedure as per manual will be provided by OGDCL that must be followed.</p> <p>5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs.</p> <p>7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs.</p> <p>8. Well is 25 Km approx. away from Plant.</p>			
	109-LIT-001		LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	109-LIT-003		LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	109-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit			1		
	109-FD-002						1		
	109-FD-003						1		
	109-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit			1		
	109-H2S-001B						1		
	109-H2S-001C						1		
	109-H2S-002						1		
	109-H2S-003						1		
	109-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit			1		
	109-OGD-2B						1		
	109-OGD-3B						1		

Well No 25 (Central Lobe)	112-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1		
	112-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
	112-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
	112-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
	112-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	112-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	112-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
	112-FD-002					1		
	112-FD-003					1		
	112-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
	112-H2S-001B					1		
	112-H2S-001C					1		

		112-H2S-002		will be monitored by CCR-HMI			1		
		112-H2S-003					1		
		112-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		112-OGD-2B					1		
		112-OGD-3B					1		
10	Well No 26 (Central Lobe)	113-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement	1		
		113-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		113-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		113-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		113-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		113-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		113-FD-001	Multispectrum IR Flame Detector				Calibration , servicing and	HART Communicator , Test Lamp ,	1

		113-FD-002	X3301 / Det-Tronics	maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Magnet IO, MAN IO & General Tool Kit	6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1					
		113-FD-003					1					
		113-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1					
		113-H2S-001B					1					
		113-H2S-001C					1					
		113-H2S-002					1					
		113-H2S-003					1					
		113-OGD-1B					OGD , OPECL / Det-Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit	1		
		113-OGD-2B	1									
		113-OGD-3B	1									
		11	Well No 29 (Western Lobe)	107-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min		Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box. Pressure	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration	1		
		107-PDT-001		Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig	1							

		107-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig		Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	<p>equipment.</p> <p>3. mA Source and pressure calibrator at Contractor end</p> <p>4. All the procedure as per manual will be provided by OGDCL that must be followed.</p> <p>5. Site test with SCADA left as per process requirement</p> <p>6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs.</p> <p>7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs.</p> <p>8. Well is 25 Km approx. away from Plant.</p>	1		
		107-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		107-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		107-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		107-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
		107-FD-002					1		
		107-FD-003					1		
		107-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
		107-H2S-001B					1		
		107-H2S-001C					1		
		107-H2S-002					1		
		107-H2S-003					1		
		107-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		107-OGD-2B				1			
		107-OGD-3B				1			

				will be monitored by CCR-HMI					
12	Well No 22 (Western Lobe)	104-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25	1		
		104-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1		
		104-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		104-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		104-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		104-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		104-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
		104-FD-002					1		
		104-FD-003					1		
		104-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule		1		
		104-H2S-001B					1		

		104-H2S-001C		and verification of reading will be monitored by CCR-HMI	Calibration Kit, General Tool Kit	Km approx. away from Plant.	1			
		104-H2S-002					1			
		104-H2S-003						1		
		104-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1			
		104-OGD-2B						1		
		104-OGD-3B						1		
13	Well No 23 (Western Lobe)	105-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers Set Resistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA	1			
		105-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH (CIP) 0-72 psig				1			
		105-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1			
		105-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1			
		105-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1			
		105-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1			

14	Well No 24 (Western Lobe)	105-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit	left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1		
		105-FD-002					1		
		105-FD-003					1		
		105-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
		105-H2S-001B					1		
		105-H2S-001C					1		
		105-H2S-002					1		
		105-H2S-003					1		
		105-OGD-1B	OGD , OPECL / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1		
		105-OGD-2B					1		
		105-OGD-3B					1		
		106-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP)0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers		1		
		106-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266DSH				1		

		(CIP) 0-72 psig	by CCR- HMI	SetResistance Box.Pressure Calibrator mA Source Suitable Pneumatic/Hydr aumatic Pump for Calibrator -etc	tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.			
	106- PIT- 011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
	106- PIT- 014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
	106- LIT- 001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	106- LIT- 003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
	106- FD- 001	Multispectrum IR Flame Detector X3301 / Det- Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR- HMI	HART Communicator , Test Lamp , Magnet IO, MAN IO & General Tool Kit		1		
	106- FD- 002					1		
	106- FD- 003					1		
	106- H2S- 001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det- Tronics	Calibration , servicing and maintenanc e will be carried out and verification of reading will be monitored by CCR- HMI	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule Calibration Kit, General Tool Kit		1		
	106- H2S- 001B					1		
	106- H2S- 001C					1		
	106- H2S- 002					1		
	106- H2S- 003					1		
	106- OGD- 1B	OGD , OPECL / Det- Tronics	Calibration , servicing and maintenanc e will be carried out	HART Communicator , Calibration Magnet , EQP Telescope,		1		
	106- OGD- 2B					1		

		106-OGD-3B		and verification of reading will be monitored by CCR-HMI	Aperture Kit & General Tool Kit		1		
15	Well No 30 (Western Lobe)	108-FIT-001	Flow Transmitter Smart HART / ABB 266DSH (CIP) 0-30 cc/min	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	All tools, consumables, calibration equipment at contractor's end Multi-meter Hart Communicator Spanners Set (In/mm) Screw Drivers SetResistance Box. Pressure Calibrator mA Source Suitable Pneumatic/Hydraulic Pump for Calibrator -etc	1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete Well site Jobs. 7. Crane Mounted Truck with man hoisting cradle will be	1		
		108-PDT-001	Pressure Differential Transmitter Smart HART / ABB 266 DSH (CIP)0-72 psig				1		
		108-PIT-011	PT Smart HART / ABB; 266 HSH (CIP) 0-1450 psig				1		
		108-PIT-014	PT Smart HART / ABB; 266 HSH (CIP) 0-200 psig				1		
		108-LIT-001	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		108-LIT-003	LT Smart HART / ABB 266 HSH (CIP) 0-100%				1		
		108-FD-001	Multispectrum IR Flame Detector X3301 / Det-Tronics	Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator, Test Lamp, Magnet IO, MAN IO & General Tool Kit		1		
		108-FD-002					1		
		108-FD-003					1		
		108-H2S-001A	H2S Detectors Infini Gas Transmitter U9500 Model R8471B / Det-Tronics	Calibration , servicing and maintenance will be carried out	Calibration Gas (H2S 100 ppm) , Multi-meter, NTMOS Calibration Kit, Ampoule		1		
		108-H2S-001B	1						

	108-H2S-001C			and verification of reading will be monitored by CCR-HMI	Calibration Kit General Tool Kit	required for activities on FDs & OGDs. 8. Well is 25 Km approx. away from Plant.	1			
	108-H2S-002						1			
	108-H2S-003						1			
	108-OGD-1B	OGD , OPECL / Det-Tronics		Calibration , servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI	HART Communicator , Calibration Magnet , EQP Telescope, Aperture Kit & General Tool Kit		1			
	108-OGD-2B							1		
	108-OGD-3B							1		
	108-PCV-001	Pressure Control Valve Valvitalia LTG3-C-4-E WCC Y766002		Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, Buildup , Chroming , Welding , & Machining etc	Spanners Set (In/mm) Screw Drivers Set , General Tool Kit , Hammer ,Pipe wrench , Hydro test Pump etc		1			
<u>UPL Site:-</u>										

16	UPL-2 SITE	600-PCV-002	Pressure Control Valve Valvitalia LTG3 14 PDA 24LI	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, Buildup , Chroming , Welding , & Machining etc	Spanners Set (In/mm) Screw Drivers Set , General Tool Kit , Hammer ,Pipe wrench , Hydrotest Pump etc	<ol style="list-style-type: none"> 1. OGDCL will deduct from actual cost if any job is not possible to be carried out. 2. OGDCL will deduct in case of non-availability of tools and calibration equipment. 3. mA Source and pressure calibrator at Contractor end 4. All the procedure as per manual will be provided by OGDCL that must be followed. 5. Site test with SCADA left as per process requirement 6. A dedicated Double Cabin Vehicle must be available to complete this Jobs. 7. Crane Mounted Truck will be required for the dismantling/in stallation and shifting of PCV. 8. UPL is 85 Km approx. away from Plant 	1		
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OIL & GAS DEVELOPMENT COMPANY LIMITED								
UCH GAS PROCESSING PLANT UCH-II - ATA 2021 (ELECTRICAL SCOPE OF WORK)								
S.No	Tag #.	Job Description	Specifications	Tools Required	Location	Quantity	Unit Rate	Total Rate
MV SWITCHGEAR								
1	HT-BB-A	HT Bus Bar A (6.6 KV, 3150 Amps, 40 KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars, VCB's, soft starters,tightening of power & control connections.	HT Panel +L01 to +L13 & SS1-2		MCC ROOM MV SWITCHG EAR	15		
2	HT-BB-B	HT Bus Bar B (6.6 KV, 3150 Amps, 40 KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars, VCB's, soft starters,tightening of power & control connections.	HT Panel +L19 to +L29 & SS1-2		MCC ROOM MV SWITCHG EAR	13		
3	HT-BB-C	HT Bus Bar Siemens (6.6 KV, 3150 Amps, 40 KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars, VCB's, soft starters,tightening of power & control connections.	HT Panel +L14 to +L18		MCC ROOM MV SWITCHG EAR	5		
LV SWITCHGEAR								
4	LT-BB-A	LT Bus Bar A (0.4 KV, 6300 Amps, 100 KAIC, 50 HZ);						
		Inspection and cleaning of Bus Bars, ACBs, Motor Starters (DOL,ASD,VFD, S.Starter), Feeders, tightening of power & control connections.	Row-1, Panel # 1 to 17		MCC ROOM LT SWITCH GEAR	17		
			Row-2, Panel # 1 to 16			16		
			Row-3, Panel # 1 to 16			16		
			Row-4, Panel # 1 to 4			4		
5	LT-BB-B	LT Bus Bar B (0.4 KV, 6300 Amps, 100 KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars, ACBs, Motor Starters (DOL,ASD,VFD, S.Starter), Feeders,	Row-1, Panel # 1 to 18		MCC ROOM LT SWITCH GEAR	18		
			Row-2, Panel # 17 to 22			6		
			Row-3, Panel # 17 to 22			6		

		tightening of power & control connections.	Row-4, Panel # 12 to 17			6		
6	LT-BB-C	LT Bus Bar C (0.4 KV, 4000 Amps, 100 KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars, ACBs, Feeders, tightening of power & control connections	Row-4, Panel # 5 to 11		MCC ROOM LT SWITCH GEAR	7		
7	LT-BB-MLDB	LT Bus Bar MLDB (0.4 KV, Amps, KAIC, 50 HZ)						
		Inspection and cleaning of Bus Bars and Feeders, tightening of power & control connections	Row-4, Panel # 1 to 3		MCC ROOM LT SWITCH GEAR	3		
LV SWITCHGEAR-SGTs & WHRU								
8	SGT 1-MCC-001	SGT-1 Motor Control Center (0.4 KV, 850 Amps, 100 KAIC, 1sec,50 HZ)						
		Inspection and cleaning of Bus Bars, Motor Starters, Feeders, tightening of power & control connections.	Panel # 1 to 4		MCC ROOM SIEMENS LV MCC PANEL	4		
9	SGT 2-MCC-001	SGT-2 Motor Control Center (0.4 KV, 850 Amps, 100 KAIC, 1sec,50 HZ)						
		Inspection and cleaning of Bus Bars, Motor Starters, Feeders, tightening of power & control connections.	Panel # 1 to 4		MCC ROOM SIEMENS LV MCC PANEL	4		
10	SGT 3-MCC-001	SGT-3 Motor Control Center (0.4 KV, 850 Amps, 100 KAIC, 1sec,50 HZ)						
		Inspection and cleaning of Bus Bars, Motor Starters, Feeders, tightening of power & control connections.	Panel # 1 to 4		MCC ROOM SIEMENS LV MCC PANEL	4		
11	WHRU-MCC-004	WHRU Motor Control Center (0.4 KV, 850 Amps, 100 KAIC, 1sec,50 HZ)						
		Inspection and cleaning of Bus Bars, Motor Starters, Feeders, tightening of power	Panel # 1 to 3		MCC ROOM SIEMENS LV MCC PANEL	3		

		& control connections.						
GCP's AND CSP								
12	GCP-SGT1/2/3	Inspection and cleaning, tightness of Power and control connections.	Generator Control Panel of SGT-1/2/3		MCC ROOM	3		
13	CSP-01		Common Synchronizing Panel (CSP)			1		
THYRISTOR CONTROL PANEL								
14	TCP-001/2/3	Inspection and cleaning, tightness of Power and control connections.	Thyristor Control Panel of SGT-1/2/3		MCC ROOM	3		
NER'S								
15	NER-SGT1/2/3	Inspection and cleaning, tightness of Power and control connections.	Neutral Earthing Resistor of SGT-1/2/3		MCC ROOM	3		
SIEMENS GAS TURBINES								
16	PMG-SGT1/2/3	Inspection and cleaning of generator and PMG Exciters, tightening of power and control connections.	PMG Exciter of SGT Generator 1/2/3		POWER GENERATION AREA	3		
17	SGT-GEN1/2/3		SGT-1/2/3 Generator			3		
Battery Charger and Battery Bank								
18	SGT-1/2/3 BATT-CHARGER	Inspection and cleaning of battery chargers and batteries, battery load testing, tightness of Power and control connections.	24 VDC Battery Chargers and Battery Banks Of SGTs		UPS/Battery Room	3		
19	BTC-SIEM-110VDC		110 VDC Battery Charger and Battery Bank (SIEMENS)			1		
20	BTC-SCH-110VDC		110 VDC Battery Charger and Battery Bank (SCHNEIDER)			1		
UPS								
21	80-KVA-UPS-01	Inspection/ Preventive maintenance on by	80 KVA UPS		UPS Room	1		

		pass mode and general cleaning.						
IGNITORS								
22	IG-SGT1/2/3	Inspection, cleaning and lightening of power and control connections.	AC Ignitor SGT1/2/3		POWER GENERATION AREA	3		
23	350-H101-IG1/2/3		Incinerator Ignitor-1/2/3		INCINERATOR AREA	3		
24	900-H101A/B/C/D-IG1/2/3/4		Hot Oil Fired Heater A/B/C/D Ignitor-1/2/3/4		HOT OIL AREA	16		
TRANSFORMERS								
25	TRAFO-1	Inspection, cleaning of transformers, BTD, Power/ control connections.	4000 KVA Transformer A (6.6 KV/ 415 Vac, 50 HZ KNAN type)		TRANSFORMER AREA	1		
26	TRAFO-2		4000 KVA Transformer B (6.6 KV/ 415 Vac, 50 HZ KNAN type)			1		
27	TRAFO-3		500 KVA Transformer (11 KV/ 415 Vac, 50 HZ ONAN type)			1		
MISC. SERVICES								
28		Cleaning, watering and resistivity measurement of earth pits	Earth Pits and Earth Connection Plates		Whole Plant			
29		Allied Services for electric supply at different locations of Plant.	Allied Services					
30		Rectification of faults of lights (if any) installed at plant premises.						
MV MOTORS, PLANT AREA								
31	300/310-P105A/B	Inspection and external cleaning of motor, heat exchanger,	Amine Circulation P. Motor, 6.6kv, 121.4 A, 1200 kW		AMINE-I/II	4		

		tightening of power and control connections.						
32	900-P102A-J	Inspection and external cleaning of motor, tightening of power and control connections. Bearing replacement if required	Hot Oil Circulation pump Motor, 6.6 V, 22.3 A, 220 kW		HOT OIL AREA	10		
LV MOTORS, PLANT AREA								
Amine-I/II								
33	300/310-P104 A/B	Inspection and external cleaning of motor, tightening of power and control connections.	Amine Booster P. Motor, 400V, 158A, 90 kW		AMINE-I/II	4		
34	300/310-P106 A/B		Amine Reg. Reflux P. Motor, 400V, 13.5A, 7.5 KW			4		
35	300/310-P107 A/B		Amine Transfer P. Motor, 400V, 3.9A, 1.5 KW			4		
36	300/310-P109		Amine Sump P. Motor, 400V, 21 A, 11KW			2		
37	300/310-P110 A/B		Anti-foam Injection P. Motor, 400V, 1.72A, 0.55 KW			4		
38	300/310-C103 A/B/C/D		Amine Cooler Fans, 400V, 70.5A, 37KW			8		
COOLING TOWER 1 & 2								
39	300/310-P111 A/B	Inspection and external cleaning of motor, tightening of power and control connections. Bearing replacement if required	Cooling Water Pump Motor, 400V, 330A, 185KW		AMINE-I/I, Cooling Tower-1/2	4		
40	300/310-C101 A to H		Cooling Water Air Fan Motor, 400V, 23A, 11KW			32		
INCINERATOR AREA								

41	350-C101 A/B	Inspection and external cleaning of motor, tightening of power and control connections.	Incinerator Primary Blower Motor A/B, 400V, 233A, 132KW		Incinerator	2		
42	350-C102 A/B/C		Incinerator Secondary Blower Motor A/B/C, 400V, 98.9A, 55KW			3		
43	350-C103 A/B		Incinerator Pilot Blower Motor A/B, 400V, 11.5A, 5.5KW			2		
DEHYDRATION 1 & 2 AREA								
44	400/410-P101 A/B	Inspection and external cleaning of motor, tightening of power and control connections.	Glycol Circulation Pump Motor, 400V, 45.9A, 25.5KW		DHY-1/2	4		
45	400-P104		Glycol Makeup Pump Motor, 400V, 3.9A, 1.5KW			1		
46	410-P102		Glycol Sump Pump Motor, 400V, 10.2A, 5.5KW			1		
HOT OIL SYSTEM AREA								
47	900-C520 A/B/C/D	Inspection and external cleaning of motor, tightening of power and control connections.	Hot OIL F.D Fan Motor, 400 V, 53 A, 30 KW		HOT OIL SYSTEM AREA	4		
48	900-P101		Hot Oil Make up Pump Motor, 400 V, 14.7A, 7.5 KW			1		
POWER GENERATION (TURBINE) AREA								
49	XM 11/33/70	Inspection and external cleaning of motor, tightening of power and control connections. Bearing replacement if required	ABLOC Fan Motors SGT-1/2/3 400V, 12.3A, 5.5KW		SIEMENS Gas Turbines-1,2&3	9		
50	XM 52/53		Gen: CACA Fan Motors SGT-1/2/3 400V. 13.75A, 7kw			6		
51	XM 1		Auxiliary Lube Oil Pump Motor, 400V, 18.6A, 9.5KW			3		
52	XM 2		Emergency DC Lube Oil Pump			3		

			Motor, 24Vdc, (32, 2.4)A, 0.46KW					
53	XM 3		Hydraulic Start Motor			3		
54	XM 5		Liquid Fuel Pump Motor, 400V, 24.5A, 13KW			3		
55	XM 6/7		Enclosure Vent Fan Main Motor/Standby SGT-1/2/3 400V, 53A, 36KW			6		
56	XM-105		Liquid Fuel Treatment Skid Motor, 400V, A, KW			3		
57	XM-24		Liquid Fuel Treatment Forwarding Skid Motor, 400V, A, KW			3		
58	XM-42		Vent Filter Bleed Fan Motor, 400V, 2.2A, 1.10KW			3		
59	XM-19		Secondary Air Fan Motor, 400V, 3.0A, 1.5KW			3		
60	WHRU-C302A1-C2-MT		Seal Air Fan Motor Main/Standby, 400V, 4kW			6		
R.O PLANT AREA								
61	930-P102 A-P1 A/B	Inspection and external cleaning of motor, tightening of power and control connections.	R.O Feed Water Pump Motor A/B, 400V, 19.8A, 11KW		R.O PLANT	2		
62	930-P-102A-P2		R.O High Pressure Pump Motor, 400V, 32.5A, 18.5KW			1		
63	930-P-102A-P3		CIP Pump Motor, 400V, 11A, 5.5KW			1		
UTILITIES, AREA MOTORS								
64	930-P102 A/B	Inspection and external cleaning of motor, tightening of power and control connections. Bearing	Raw Water Pump Motor A/B, 400V, 54.4 A, 30KW		UTILITY AREA	2		
65	930-P103 A/B		Utility Water Pump Motor A/B, 400V, 65A, 37KW			2		

66	930-P104 A/B	replacement if required.	Demin Water Pump Motor A/B, 400V, 27A, 15KW			2		
COMPRESSOR AREA								
67	970-C101A/B	Inspection and external cleaning of motor, tightening of power and control connections.	Inst. Air Comp. Motor A/B, 400V, 171A, 90KW		Compressor Area	2		
68	970-C101 A/B		Inst. Air Comp. Fan Motor A/B, 400v, 7.7A, 4KW			2		
69	980-C101 A/B		Nitrogen Comp. Motor A/B, 400V, 137A, 75KW			2		
70	980-C101 A/B		Nitrogen Comp. Fan Motor A/B, 400V, 4.5 A, 2.2 KW			2		
FIRE WATER SYSTEM AREA								
71	920-P-103 A/B	Inspection and external cleaning of motor, tightening of power and control connections.	Jockey Pump Motor A/B, 400V, 40A, 22KW		Fire Water System Area	2		
72	920-P-101 A/B		Fire Water Pump Motor A/B, 400V, 233A, 132KW			2		

Note:-

- Bid bond of PKR 800,000/- (Pak Rupees Eight Hundred Thousand Only) must be submitted with the technical bid. Please see master set of tender documents (services) for further detail.
- Master set of tender documents uploaded on OGDCL website is the integral part of this TOR.