

OIL & GAS DEVELOPMENT COMPANY LIMITED



TENDER ENQUIRY NO. PROC-SERVICES/CB/P&P-5411/2022
HIRING OF SERVICES FOR EXECUTION OF
ANNUAL TURN AROUND (ATA) 2022 OF UCH-I GAS PLANT

Note:

Bid bond of **PKR 950,000/- (Pak Rupees Nine Hundred Fifty 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.

HIRING OF SERVICES FOR EXECUTION OF
ANNUAL TURN AROUND (ATA) 2022 OF UCH-I GAS PLANT
TERMS & CONDITIONS

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-I 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.
- 19- Precision Lathe machines for the repair of manual valves, control valves & PSV's as per work scope requirement.
- 20- Gaskets for pressure testing/bench test of manual valves, control valves & PSV's.
- 21- 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.
- 22- Refractory work of Incinerators and Boilers 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. Contractor will arrange hoses for water flushing of equipment / vessels / columns. (250-300 psi, 2" dia x 100 ft length / 10 nos. at least)
- 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- 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:
- i) I/C HSEQ should be B.E Mech/Chemical with Nebosh certification with at least 05 Years of relevant experience.
 - ii) Supervisors should Graduate/D.A.E having Safety Courses certificates with at least 5 Years of relevant experience.
 - iii) HSE assistant should be at least Intermediate having Safety Courses/ certificates with at least 5 Years of relevant experience)
 - iv) Well-equipped First Aider & Rescuers (Trained/Certified at least 02 Nos.) e.g ropes/pulley, tri-pod, stretchers, medicines etc.
 - v) HSEQ crew will be interviewed by OGDCL HSEQ representative before commencement of ATA.
- 33- Contractor shall arrange Decanting pumps for ETP Sump Pit, Cooling Tower basin, Cooling Water Pump suction 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 identity card.
- 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. (Security concern)

ATA-2022 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-I Gas Processing Plant for the execution of the Annual Turnaround (ATA) 2022 maintenance activities from reputable companies in this field.
- 2- The tentative schedule of annual shutdown of UCH-I Gas Plant is from 16-10-2022 to 30-10-2022 (15 days), only 12 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 shutdown.
- 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:**

Refractory Work should be carried out through M/S Refra Product, Karachi or any other local expert firm/company in this field. The contractor will arrange the material required for the refractory repair work of Incinerator and Boilers. The rough estimated material required for repair work is given as below:

(i)- Cow/Ceramic Wool (2'x 16' x 1" thk. Roll)	Qty: 04 Rolls
(ii)- Fire Cement (25 Kg Bag)	Qty: 20 Nos.
(iii)-Castable (25 kg Bag)	Qty: 40 NOs.
(iv)-Anchors with lock (SS)	Qty: 20 Doz.

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 job and stripper repair work.

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- **FRP WORK OF COOLING TOWER :**

- The contractor shall arrange expert company/firm in the field of FRP Work as listed below.
 - 1- Fiber Craft Industries, Lahore (Tel: 042-36545346-46)
 - 2- Pak Fiber Glass Industry, Lahore (Tel:0302-4110665)
 - 3- AR Fiberglass Products Lahore (Tel: 42-35691050)
 - 4- Any other Equivalent (Mandatory experience of 05 years and above of Oil & Gas industry/ Fertilizer plant)
- FRP Works Company shall be responsible for the supply of material & services required for Cooling Tower Repairing as mentioned in SOW.

- 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.

Contractor Qualification Criteria (MARKS)

Sr. #	Evaluation Item	Description of Criteria	Max. Marks/ Calculations	Max Marks	Min Qualifying Marks	Remarks
1.	Contractor strength to execute Mechanical, Electrical, Instrument & Telemetry works	Contractor to fully comply the execution of complete SOW provided, Explanatory Notes and OGDCL T&C's	Full Compliance (mandatory)	15	15	Contractor should submit the signed/ stamped copy of SOW, Explanatory Notes and T&C's to prove the execution of all Mechanical, Electrical, Instrument & Telemetry activities during ATA in full spirit.
2.	Specific experience of Annual Turn Around (ATA)	Contractor's experience of ATAs	Contractor shall earn 06 marks against each ATA up to maximum of 30 marks	30	18	In order to get 06 Marks for each ATA, the value/ worth of each previous ATA performed by contractor should be at least 10 Million (PKR) each.
3.	Certifications.	Contractor should provide following valid certificates; 1. ISO 9000 certification: 2. ASME U/R/S-Stamp 3. PEC Registration	1. 04 Marks 2. 03/02/02 Marks 3. 04 Marks	15	9	Contractor should submit the valid copy of certificates. If the certificate status is in progress no marks will be given.
4.	Offices, Workshop, Tools, Equipment, Machinery, Infrastructure.	Contractor should have following facilities within Pakistan. 1. Workshop & office, 2. Tools to execute the ATA activities (Mechanical, Instrument, Electrical). 3. Equipment / Machinery (Valve test bench, hydro jetting machines, welding machines/ Generators). 4. Cranes, fork lifters. 5. Relevant professional CVs & site deployment Organogram	1. 03Marks (02+01) 2. 08 Marks (04+02+02) 3. 03 Marks 4. 06 Marks (04 + 02) 5. 10 Marks.	30	25	01 Mark for each main equipment / Machinery. Crane (Min 25 tons), fork lifters (Min 3 Tons) Organogram: 02 Mark. Mechanical CVs: 04 Mark Electrical CVs: 02Mark Instrument CVs: 02Mark

Sr. #	Evaluation Item	Description of Criteria	Max. Marks/ Calculations	Max Marks	Min Qualifying Marks	Remarks
		for Mechanical, Instrument & Electrical works.				
5.	Safety & HSE Policy	<p>1. Contractor's documentary evidence of HSE policy with commitment to provide PPE, Helmet, Ear plugs and safety shoes to the skilled labour at work.</p> <p>2. Well defined HSE policy with commitment and to provide 1 Million Safe Man hours' record.</p> <p>3. Deployment of first aid boxes & medical team for the labour at site.</p>	<p>1. 04 Marks for full compliance , partial compliance zero Marks.</p> <p>2. 04 Marks</p> <p>3. 02 Marks for full compliance , partial compliance zero Marks.</p>	10	08	The Contractor who will provide 1 Million safe man hours record will be awarded 04 marks while the Contractor who will provide 0.5 Million safe man hours record will be awarded 02 Marks.
Total Obtained Marks						

Minimum Qualifying Marks = 75

Total Marks= 100

FINANCIAL BID FORMAT/EVALUATION CRITERIA

UCH-II Plant ATA-2022

Sr. #	Description	Price in PKR
01.	Cost of Services for ATA jobs, activity wise breakdown should be provided as per enclosed document / scope of work (the cost must be inclusive of all types of equipments, tools, manpower, machinery, consumables and PPE) for:	Mechanical works
		Electrical works
		Instrument works
		PF/Corrosion Section
		T&I works
02.	Mob. / De-mob. Cost	
Total cost		
Note: a) Total Price should be inclusive of all taxes (except Provincial Sales Tax/ ICT Tax on services in Pakistan), duties, levies, charges etc. b) Bidders are requested to quote the above mentioned rates separately for each activity of the jobs at Sr. No. 01. & provide the activity wise break down. c) OGDCL reserves the right to delete / cancel any activity mentioned in the scope of work at any stage of the ATA and payment will be made as per actual job done. d) Contract will be awarded to technically responsive & financially lowest evaluated bidder on complete package basis.		

NOTE:

- Bid bond of **PKR 950,000/- (Pak Rupees Nine Hundred Fifty Thousand Only)** must be submitted with the technical bid. Please see tender documents for further detail.
- Following documents must be submitted with the technical bid (bid bond, bidding form, Integrity & ethics undertaking, Affidavit (duly signed & stamped by Notary Public), Data Summary Sheet, Unpriced draft contract, Unpriced financial rate format and certificate of incorporation.

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
H2S REMOVAL PLANT (TRAIN-10 & 20) - 02 UNITS:-								
Pre-shutdown Activities								
1		Connection for N2 Pumper						
2		Depressurising 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 N ₂ purging						
3		Removal of all scaffoldings						
4		Overall housekeeping/Area Cleaning						
GROUP-A: COLUMNS:-								
MA1	10C200	Amine Stripper (01 No.)				1		
1		Blinding	Height of Stripper = 90 ft	Strik.Sp: 65 mm				
2		Opening of manways	I.D. of Stripper = 132 in.	Comb.Sp.14mm (Trays)				
3		Ventilation / Safety clearance	No. of trays = 18	Socket Set,				
4		Initial Inspection	I.D. of Manway = 20 in.	Scaffolding Material				
5		Inplace Cleaning of all trays		Adjustable Spanner				
6		Cleaning of Column Shell internal, vortex breaker, distributor/Seal Pan, LG's/LT's etc.						
7		Replacement of LG glasses						
8		Straightening/repair of damaged trays by removing, if any						
9		Internal inspection of Column Shell for erosion/ corrosion and repair/buildup, if any required.						
10		Inspection/DPT of Bottom Shell S.S. Lining and repair/rebuild if required.						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
11		Reinforcement/replacement of existing lining plates, if required.						
12		Final inspection						
13		Boxup						
14		Deblinding						
MA2	20C200	Amine Stripper (01 No.)				1		
1		Blinding	Height of Stripper = 90 ft	Strik.Sp: 65 mm				
2		Opening of manways	I.D. of Stripper = 132 in.	Comb.Sp.14mm (Trays)				
3		Ventilation / Safety clearance	No. of trays = 18	Socket Set,				
4		Initial Inspection	I.D. of Manway = 20 in.	Scaffolding Material				
5		Inplace Cleaning of all trays	Empty Weight = 70 Tons	Adjustable Spanner				
6		Cleaning of Column Shell internal, vortex breaker, distributor/Seal Pan, LG's & LTs etc.						
7		Straightening/repair of damaged trays by removing, if any						
8		Final inspection						
9		Boxup						
10		Deblinding						
MA3	10C100	Amine Contactor (02 Nos.)				2		
1	&	Blinding	Height of Contactor=30 ft	Strik.Spanner: 65 mm				
2	20C100	Opening of manways	I.D. of Contactor = 114 in.	Comb.Sp.14mm (Trays)				
3		Ventilation / Safety clearance	No. of trays = 06	Socket Set,				
4		Initial Inspection	I.D. of Manway = 20 in.	Scaffolding Material				
5		Dismantling/removal of demisters cleaning & installation		Adjustable Spanner				
6		Inplace complete Cleaning of trays						
7		Mech.Cleaning of Column Shell internal, vortex breaker, distributor/Seal Pan, LG's & LTs etc.						
9		Final inspection						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
10		Boxup						
11		Deblinding						
MA4	10C100	Glycol Contactor c/w Integral Scrubber V101 (02 Nos.)				2		
1	20C100	Blinding	Height of Column = 37 ft	Strik.Sp: 65,50,32 mm				
2		Opening of top & bottom manways	I.D. of Column = 72 in.	Hammers & Bars				
3		Inplace cleaning of packing, LG's/LT & demisters	Material: S.S.(Duplex)					
4		Boxup						
5		Deblinding						
GROUP-B: VESSELS:-								
MB1	M200	Slug Catcher (01 No.)				1		
1		Blinding	Horizontal Vessel	Strik.Span:41,46,75 mm				
2		Opening of manways	Size: 78" ID x 204" LG	Comb.Span.:27,32mm				
3		Ventilation/Safety clearance	I.D. of Manway = 20 in.	Adjustable Spanner				
4		Internal Inspection of vessel and demister		Scaffolding				
5		Cleaning of complete vessel, Demister & LG's/LT's'						
6		Final inspection						
7		Boxup						
8		Deblinding						
MB2	V-100	LP Separator (01 No.)				1		
1		Blinding	Horizontal Vessel	St.Sp.:24,27,50,65 mm				
2		Opening of manways	Size: 78" ID x 204" LG	Comb.Sp.: 24,27mm				
3		Ventilation/Safety clearance	I.D. of Manway = 20 in.	Adjustable Spanner				
4		Internal Inspection of vessel						
5		Cleaning of vessel, demisters & LG's. Repair if any						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
6		Final inspection						
7		Boxup						
8		Deblinding						
MB3	10V202	Amine Reflux Drum (02 Nos.)				2		
1	&	Blinding	I.D.=7 ft	Striking Spanner:32 mm				
2	20V202	Opening of manways	Length= 10 ft	General Tool Box				
3		Ventilation/Safety clearance	Manway = 20 in.	Internal Scaffolding				
4		Internal Inspection of vessel						
5		Dismantling/removal of demisters & repair if any						
6		Cleaning of vessel, demisters & LG/LT						
7		Re-installation of demisters						
8		Final inspection						
9		Boxup						
10		Deblinding						
MB4	10V200	Amine Flash Drum (02 Nos.)				2		
1	&	Blinding	I.D of Vessel = 126 in.	Str.Spanner: 36, 41 mm				
2	20V200	Opening of top dome & bottom manway	Length of Vessel = 28ft S-S	Open/Ring Sp: 27mm				
3		Ventilation/safety clearance	Top Dome= 30 in OD x 33 in LG	Crane				
4		Initial Inspection of vessel	Bottom manway = 20in I.D.					
5		Dismantling/removal of demisters & repair if any						
6		Internal cleaning of complete Vessel, LG/LT						
7		Cleaning of demisters & re-installation						
8		Final Inspection						
9		Box up						
10		Deblinding						
MB5	10V201	Amine Surge Drum (02 Nos.)				2		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
1	&	Blinding	I.D of Surge Drum = 108 in	Strik.Span: 36, 41 mm				
2	20V201	Opening of manways	Length of Vessel = 30 ft S-S					
3		Ventilation/safety clearance	I.D of manway = 20 in					
4		Internal cleaning of complete Vessel & LG's/LTS's						
5		Inspection						
6		Box up						
7		Deblinding						
MB6	90X903	Incinerator K.O Vessel (01 No.)				1		
1		Blinding	Vessel size: O.D. 60" x 28' LONG					
2		Opening of manways	Manway: 20"X150CL					
3		Ventilation/safety clearance						
4		Internal cleaning of complete vessel.						
5		Cleaning of LG's/LT's of K.O. vessel						
6		Inspection						
7		Box up						
8		Deblinding						
MB7	90V100A/B	Flare Knock Out Vessel (02 Nos.)				2		
1		Blinding	I.D of Surge Drum = 135 in					
2		Opening of manway	Length of Vessel = 288 in S-S					
3		Ventilation/Safety clearance	I.D of manway = 20 in					
4		Internal Inspection of vessel						
5		Cleaning of vessel & LG's / LT's						
6		Final inspection						
7		Boxup						
8		Deblinding						
MB8	90V902	Amine Sump (01 No.)				1		
1		Decanting of Sump	Vessel size: I.D. 84" x 127"/T	Crane				

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
2		Opening of manway/removal of A.Sump Pump	Manway: 20"					
3		Inspection of Pump and rectification if any						
4		Internal/external cleaning of Sump						
5		Box up after inspection						
MB9	50V100	Glycol Sump (01 No.)				1		
1		Decanting of Sump	Vessel size: I.D. 40" x 120"/T/T					
2		Opening of manway/Removal of Sump Pump	Manway: 20"					
3		Inspection of Pump and rectification if any						
4		Internal/external cleaning of Sump						
5		Inspection of Vessel						
6		Box up						
MB10	10V100	Inlet Separator (02 Nos.)				2		
1	&	Blinding	I.D : 3 ft 6 inch,O.D : 4 ft	Str. Spanner: 50,65 mm				
2	20V100	Opening of manways	Length : 10 ft	General Tool Box				
3		Ventilation/Safety clearance	Inlet Nozzle = 12 in.	Crow bar				
4		Internal Inspection of vessel	Outlet Nozzle =12 in.					
5		Cleaning of vessel, LT's& LG's.	Manway=20 in					
6		Inspection/cleaning of Vane Pack & Liner						
7		Final inspection						
8		Boxup						
9		Deblinding						
GROUP-C: HEAT EXCHANGERS:-								
MC1	10E100	Inlet Gas Cooler Heater (02 Nos.)				2		
1	&	Blinding/Isolation	Type:U tube,No.of tubes=278	Crane, Chain Blocks,				
2	20E100	Opening of Channel Head Cover	278 U-Tubes x 1"(OD) x 0.065"					
3		Removal of bundle	(AW)x222" LG 1.25 square pitch					
4		Inspection of bundle						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
5		Cleaning of tubes & tube bundles by Water jetting						
6		Cleaning & Painting of Shell and channel internal						
7		Insertion of Bundle						
8		Pressure Testing						
9		Final Inspection						
10		Box Up						
11		Deblinding						
MC2	10E200A/B	X-Heat Exchanger (04 Nos.)				4		
1	&	Opening of Inlet/Outlet nozzles	Plate Type Heat Exchanger		Arrangement for chem.			
2	20E200A/B	Provision of connection for chemical cleaning	No. of Plates = 431		circulation is available at site.			
3		In place chemical cleaning of plates.						
4		Replacement of 01 No. Plate Pack						
5		Cleaning of dismantled Amine X-Heat Exchanger Plate Pack (01 no.) and Gasket Installation (if replaced)						
6		Removal of connections						
7		Cleaning/Repair of Strainers						
8		Box up						
9		Area cleaning						
MC3	10E201	Amine Stripper Reboiler (02 Nos.)				2		
1	&	Opening of Channel Head Covers	Type:I-Single pass,No.of tubes=2162	Sling, Shackles				
2	20E201	Cleaning of tubes by Hydrojetting	Size=1"(OD)x.065"(AW)x24'-0"(LG)	Strik.Span: 27,30 mm				
3		Inspection of Channel head / Tube sheet welding joints and repair (if req.)	Channel Head Cover : 69-1/8" OD x 2-7/8" THK	Hammers, Crow bar				
4		Hydro Pressure testing	Over all Length = 33ft & 9 in.					
5		Final Inspection		Scaffolding material				
6		Box up		Crane.				

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
7		Area cleaning						
MC4	10E202	Amine Reflux Condenser (02 Nos.)				2		
1	&	Opening of Channel Head Covers	Type:I-Double pass,No.of tubes =753	Sling				
2	20E202	Inspection of Channel head / Tube sheet welding joints and repair (if req.)	Size=1"(O.D.)x.065"(A.W.)x24'-0"(L.G.)	Strik.Span: 27,30 mm				
3		Cleaning of tubes Mechanically & with Aquablaster	Channel head size:O.D.=49¼"	Hammers,				
4		Hydro Pressure testing	B .C. =47 5/8 "	Crow bar,				
5		Final Inspection	Over all Length = 29 ft& 4 in.	Scaffolding material				
6		Box up of Channel Head Covers		Crane				
7		Area cleaning						
MC5	10E203	Amine Solution Cooler (02 Nos.)				2		
1	&	Opening of Channel Head Covers	No. of tubes = 1184	Chain Block: 10 ton	Arrangement for chem.			
2	20E203	Cleaning of tubes with Aquablaster machine.	Tube O .D. = 1 in.	Strik.Span: 27,30,32mm	circulation is available			
3		Chemical Cleaning of Shell Side	Triangle pitch= 1.250	Comb. Span: 27,32mm	at site.			
4		Hydropressure testing	M.W.Thickness=0.075	Crow bar, Pipe Wrench				
5		Final Inspection	Length= 576 in. or 48 ft	Crane				
6		Box up of Channel Head Covers	No. of passes= One					
7		Area cleaning (house keeping)	Channel cover O.D.= 53 5/8 "					
GROUP - D: ROTARY EQUIPMENTS:-								
MD1	10P201A/B	Amine Circulation Pump (04 Nos)				4		
1	&	Decoupling of Pump & Motor	6-stage Centrifugal M type pump	Striking Spanner 36,41,				
2	20P201A/B	Initial Alignment check	Capacity=1800 gpm.	50 mm.				
3		Dismantling of bearing housings	Dis.Pressure= 930 psig	General Tool Box				
4		Removal of bearings for inspection	Suc.x Disch. = 8 x 6 in					
5		Cleaning/Repair/repl. of damage parts, if any	Make: Union Pumps Co., USA					

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
6		Service of Mechanical Seal (Dismantling, cleaning/lapping & re-assembly)						
7		Assembling of bearing housing						
8		Painting of Pump Body/Casing & Skid						
9		Cleaning of suction & seal flush line strainers						
10		Alignment						
11		Area cleaning						
MD2	10P200A/B	Amine Booster Pump (04 Nos.)				4		
1	&	Decoupling of Pump & Motor	Single-stage Centrifugal pump	Strik.Span. 32,36,41mm				
2	20P200A/B	Dismantling of pump casing	Capacity=1980 gpm.	Comb.Spanner 24mm				
3		Inspection of casing	Pressure= 52 psig	General Tool Box				
4		Service of Mechanical Seal if any having leakage problem.	Suc.x Disch. = 10 x 8 in					
5		Replacement of bearings if required.	Make: Union Pumps Co., USA					
6		Assembling of pump						
7		Painting of Pump Body/Casing & Skid						
8		Alignment						
9		Cleaning of suction & seal flush line strainers						
10		Area cleaning						
MD3	10P202A/B	Amine Reflux Pumps (04 Nos.)				4		
1	&	Dismantling of pump	Single-stage Vertical Centrifugal pump	General Tool Box				
2	20P202A/B	Inspection of casing	Capacity=100 gpm.					
3		Cleaning/Repair/repl. of damage parts/M.Seal etc.	Dis.Pressure= 66 psig					
4		Assembling of pump	Suc.x Disch. = 3 x 2 in					
5		Cleaning of suction & seal flush line strainer						
6		Painting of Pump outer body/casing						
7		Area cleaning						
MD4	10-P-200 A/B	Glycol Circulation Pump (04 Nos.)				4		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
1	20-P-200 A/B	Inspection of power end, i.e. sleeve bearings, crankshaft, crosshead pin & bush for any wear & tear and repalce if required	Reciprocating Capacity = 42.2 US GPM Make: Union Pumps Co., USA	General Tool Box				
2		Inspection of fluid end, i.e. plunger, inlet/outlet valves, gland pusher/ bush/packing etc. for any wear & tear and replace if required	Dis. Pressure = 935.1 psia Size/type : 2 ½ X 3 TD 60					
3		Inspection of sheeves/pulleys & V-belts and replace (if required)						
4		Replacement of lube oil						
5		Alignment						
6		Area claining (House keeping)						
MD5	90X903	Cooling Tower Fan/Gearbox-A/B/C/D (04 Nos.)				4		
1		Dismantling, Cleaning, Repairing & Painting of Fan Blades & hub	AMARILLO Right Angle Gear Drive	General Tool Box				
2		Dismantling of Gearbox	Service Factor: 2.0 HP					
3		Shifting of Gearbox to Workshop	RPM Input: 1750					
4		Inspection / repair of Gearboxes	Ratio: 14:1 Reducing					
5		Grey epoxy paint to outer surface of gear box, fan and foundation structure channels.						
6		Re-installation of Gear boxes and Fans						
7		Replacement of Lube Oil						
8		Alignment						
9		Area cleaning						
MD6	LP-1/2/3	FD Fan LP Boiler #1 , 2 & 3 (03 Nos.)				3		
1		Opening of FD Fan inspection windows.		General Tool Box				
2		Inspection/cleaning of Fan duct/dampers.						
3		Replacement of bearings of FD Fan						
4		Alignment						
5		Area cleaning						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
MD7	EGT-1,2,3,4	Gas Turbine (04 Nos)				4		
1		Inspection/Cleaning of EGT's Fuel Gas Separators.	EUROPEAN GAS TURBINE	General Tool Box				
2		Inspection / replacement of Fuel Gas Skid Filters	MAKE: SIEMENS, UK					
3		Cleaning/Replacement of Air Intake Filters (80 nos.each unit)	CAP: 4.9 MW AT 15 ^o C					
4		External Cleaning of Lube Oil Coolers	MODEL: SGT-100-1S					
5		Overall cleaning of Turbine enclosure						
6		Area cleaning						
MD8	X-200A-D	Instrument Air & Nitrogen Package Compressors (06 Nos.)				6		
1	X-201A/B	Overall cleaning of enclosure	MAKE: INGERSOLL-RAND &	General Tool Box				
2		Alignment checks and inspection/cleaning of complete packages	QUINCY					
3		Cleaning of Oil Cooler/Radiator	Type: Screw Compressor					
4		Inspection/repair of Compressor Airend, if req.						
5		Replacement of Filter Elements & Coolant, if required						
6		Area cleaning						
MD9	90P900A	Cooling Water Circulation Pump (01 No.)				1		
1		Dismantling/Removal of pump from site.	Single Stage Vertical Turbine Pump	Striking Spanner 36,41,				
2		Inspection of complete pump casing, strainers etc.	Dis.Capacity= 15000 GPM	General Tool Box				
3		Dismantelling/overhauling of pump if any found critical damaged.	Dis.Press.= 60 PSIG					
4		Installation of Pump.						
5		Area cleaning						
GROUP-E: UTILITIES:-								
ME1	170S101	ETP Sump Pit				1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
1		Internal cleaning i.e.removal of mud/slurry	Size :4.0 M X 3.0 M X 3.6 M	Scraper and buckets				
2		Cleaning of Suction Foot Valve		Special mud/slurry decanting				
3		Inspection		submersible Pump				
ME2	90PF910	Pressure Filters (02 Nos.)				2		
1	A/B	Scaffolding	Vessel Size: 98" I.D.x 145" HT					
2		Opening of manways.	Manway: 20" x 150 CL					
3		Removal, Cleaning & Charging of gravel/sand/resin (optional) i.e. if required						
4		Repair/Painting of Shell Internal and distributor						
5		Inspection						
6		Box up						
ME3	90SF910	Side Stream Filters (02 Nos.)				2		
1	B/C	Scaffolding	Vessel Size: 98" I.D.x 145" HT					
2		Opening of top manway	Manway: 20" x 150 CL					
3		Removal & charging of gravel/sand/resin (optional) i.e. if required						
4		Repair/Painting of Shell Internal and distributor						
5		Inspection						
6		Box up						
ME4	90V900	Deaerator				1		
1		Opening of manway	Manway: 20x150lb"					
2		Dismantling of top Dome	Size:2500mm DIA x 5800mm LG					
3		Internal cleaning of vessel, LG's LT's						
4		Repair of shell internal & internal distribution pipe, nozzle(s) if required.						
5		External Painting of complete vessel						
6		Inspection of nozzles						
7		Box up						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
ME5	90X902A	LP BOILER # 1, 2 & 3 (03 Nos)				3		
1	90X902B	Blinding	Model # NSX-G-100	Air driven Grinders				
2	90X902D	Opening of manways of Combustion chamber, Mud and Steam drums.	Make(LP-1&2): National Dynamic Corporation Nebraska USA	Power Brushes for cleaning				
3		Internal inspection of comb. Chamber, Mud and Steam drums.	W. Pressure = 70 psig.					
4		Internal cleaning of tubes(Chem./Mech.)	Steam temperature=315 deg.F					
5		Cleaning of burners & comb. Chamber and sight glasses	Max .W. Pressure = 200 psig.					
6		Repair of refractory, if any	Steam capacity = 145000 lbs/hr					
7		Cleaning of Mud & Steam drums	Tube size= 02"x 0.095 &0.105 in.th					
8		Painting of tubes, steam drum & mud drum with apexior compound paint.	Total nos. of tubes = 1742					
9		Hydro/Pressure Test	Material of drums = SA – 516-70					
10		Cleaning of flue gasses chimeny, painting internally & externally including structure/platforms	Material of tubes = SA-178 A					
11		Painting of Boilers outer body/casing/structure.	Make (LP-3): Descon-Lahore					
12		Inspection by Chief Inspector of Boilers						
13		Gas Fuel line strainer cleaning						
14		Inspection/Repair/Replacement of LP steam traps						
15		Box up						
16		Deblinding						
ME6	90X902C	HP BOILER# 1 & 2 (02 Nos.)				2		
1	&	Blinding	Model # HRNC-480	Air driven Grinders				
2	90X902E	Opening of manways of Combustion chamber, Mud and Steam drums.	Make (HP-1): WICKERS HOSKINS(M)SDN. BHD	Power Brushes for cleaning				
3		Internal inspection of comb. Chamber, Mud and Steam drums.	W. Pressure = 497 psig.					

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
4		Internal cleaning of tubes (Chem./Mech.)	Steam capacity= 10500 lbd/hr					
5		Cleaning of burners & comb. Chamber and sight glasses	Max .W. Pressure = 568 psig.					
6		Repair of refractory, if any	Test Pressure = 852 psig.					
7		Cleaning of Mud & Steam drums	Steam temperature= 477 deg.F					
8		Damper cleaning/servicing						
9		Painting of tubes, steam drum & mud drum with apexior compound paint.	Size of water tube=02 in.dia.x0.128"th					
10		Hydro/Pressure Test	Total nos. of finned tubes = 110					
11		Inspection by Chief Inspector of Boilers	Material of tubes= SA- 192					
12		Opening of flue gasses chimney manway. External painting of stack/chimney.	Make (HP-2): HMC, Taxila					
13		Painting of Boilers outer body/casing/structure.						
14		Inspection /Replacement of HP Steam traps						
15		Gas Fuel line strainer cleaning						
16		Box up and deblinding						
ME7	90X903	COOLING TOWER				1		
1		Cleaning of top water deck & nozzles	Type: Induced Draft Counterflow					
2		Cleaning of CT basin & pump suction pit	Design Water Circulation:27000 USGPM					
3		Cleaning, Repair and Painting of suction pit gate strainers/structure, if any	No. of Cell: 04					
4		Removal/cleaning/Re-Installation of drift eliminators	Basin Size(LxWxD): 144x48x4 ft.					
5		Inspection/Installation of damaged/fallen fills,drift eliminator & fill supports/hangers etc.						
6		Inspection/repair of internal cell walls, walk ways, Side walls, Louvers, Top Deck, water distribution/nozzle area etc. (FRP repairs)			FRP work shall be carried out by expert firm in field of FRP Cooling Towers			
7		Torque tightening of structure nut/bolts						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
8		Civil repair of CWP suction pit (Plaster repair) and Cooling Tower basin (Seepage repair)						
9		Cleaning / repair of pump suction strainers						
ME8	90X904	INCINERATOR				1		
1		Opening of manway	Manway: 24"					
2		Initial Inspection	Size: I.D. 4ft, Length: 5ft					
3		Repair of Burner duct, furnace & exhaust duct and stack refractory & external insulation etc.	Size: I.D. 10ft, Length: 37.5ft					
4		Cleaning/replacement of flame sight glasses						
5		Cleaning of burner tips						
6		Repair / replacement of ceramic wool of Combustion chamber.						
7		Cleaning of FD Fans, dampers & links. (repair if req.)						
8		Inspection						
9		Box up						
GROUP-F: MANUAL VALVES:-								
MF1	H2S T-10	Manual Valves of H2S T-10			Valves list attached	36		
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 with Silver/Aluminium Paint.						
7		Shifting / Installation of valves at location						
8		Replacement of Valves having size 1-1/2" & below						
9		Inplace cleaning/service & greasing of manual valves of H2S T-10 as per operation requirement						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
MF2	H2S T-20	Manual Valves of H2S T-20			Valves list attached	33		
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 with Silver/Aluminium Paint.						
7		Shifting / Installation of valves at location						
8		Replacement of Valves having size 1-1/2" & below						
9		Inplace cleaning/service & greasing of all manual valves of H2S T-20						
MF3	Dehy.	Manual Valves of Dehydration			Valves list attached	26		
1	T-10, 20 &30	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 with Silver/Aluminium Paint.						
7		Shifting / Installation of valves at location						
8		Inplace cleaning/service & greasing of all manual valves of Dehy. T-10 & 20						
MF4	UTILITIES & GATHERING	Manual Valves of Utilities & Gathering Area			Valves list attached	24		
1		Dismantling of Valves from location						
2		Shifting of valves to workshop						
3		Testing/Inspection of valves						
4		Repair of defected valves						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
5		Pressure Testing						
6		Painting of Valves with Silver/Aluminium Paint.						
7		Shifting / Installation of valves at location						
8		Inplace cleaning/service & greasing of all manual valves of Utilities area						
MF5		Manual Valves Onsite Service/Greasing			Valves list attached	32		
1		Onsite service, greasing and gland replacement (if required)						
GROUP-G: MISCELLANEOUS JOBS:-								
MG1	Flare Stack	Inspection of main flare stack diode seal						
MG2	10/20-S-202	LG's / LT's cleaning of filter coalescer						
MG3		Insulation Jobs:- To remove/install insulation at Misc. Piping of Plant	XHE H2S Trains: [12", 5' long] X 4 Booster Pumps: [6", 25' long] X 2 Condensate Pot: [4", 10' long] X 2 Steam Cir. Dehy : [3", 10' long] X 2 Other Minor Patches					
Paint Jobs:-			Approx. Dimensions					
MG4		Flare header from gas turbines fuel gas to boilers fuel gas skid.	[8", 250' long]	Work at Height				
MG5		EGT's gas 2" vent header from EGT-1 to turbines fuel gas skid	[2", 250' long]	Work at Height				
MG6		EGTs gas 2" line from slug catcher area to incinerator	[2", 150' long]	Work at Height				
MG7	10/20-V-201	Surge drums PSV downstream line to flare header in H2S area	[4", 35' long] X 2	Work at Height				
MG8		Amine booster pump recycle line to surge drum in H2S area	[6", 25' long] X 2	Work at Height				
MG9		Cooling Water return header 30" from CW blow down to upward Cell A-D.	[30", 60' long] + [20", 85' long]					

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
MG10		Pressure Filters & Side Stream Filter Piping Segments	[8", 15' long] x 10					
MG11		Pressure Filters & Side Stream Filter Common Drain	[8", 35' long]					
MG12		LP-3 BFWP suction/discharge lines + header	[8", 6' long]x2 + [8"x15' long]					
MG13		HP BFWP (A/B) suction/discharge lines	[2.5", 15' long]x2 + [1.5"x30' long]					
MG14		HP BFWP (C/D) suction/discharge lines	[3", 15' long]x2 + [2"x30' long]					
MG15		LP BFWP recycle line	[2"x60' long]					
GROUP-H: MODIFICATION/FABRICATION JOBS:-								
MH1	10/20-E-200	Leakage rectification lean/rich amine nozzles/lines from stripper to 10/20-E-200 A/B (XHE)	12" joint, CS			4 joints		
MH2	90X903	Incinerator K.O Vessel Acid gases bypass line spool replacement (Pre-Fab job)	18" dia CS Line	12 ft spool change req		2 joints		
MH3	HP Steam Circuit	Provision of two drain points on HP steam condensate return header in order to depressurize and drain the header (With double drain valves on each point).	CS, 3/4" (12 joints) x 2		01 Point at Dehy Area & 01 Point at Boiler Area	24 joints		
MH4	Deaerator	De-aerator blow-down line (2"), highly corroded need replacement	CS, 2" Joints			2 joints		
MH5	Valves Replacement (Welding/Fabrication Jobs):-							
1	INLET SEPARATOR (10-V-100)	ISOLATION VALVES OF 10-LT-104 (HC SIDE)	Gate Valve (SW),1-1/2", 800 lb		SS	2 valves		
2		DRAIN VALVE OF HC SIDE LEVEL TROLL	Gate Valve (SW) 3/4" x 800 lb		SS	1 valve		
3		DRAIN VALVE OF P/W SIDE LEVEL TROLL	Gate Valve (SW) 3/4" x 800 lb		SS	1 valve		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (MECHANICAL SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
4	AMINE STRIPPER REFLUX DRUM (10-V-202)	NITROGEN VALVE (N2) TO REFLUX DRUM	Gate Valve (Threaded), 3/4"x800		CS	1 valve		
5	INLET SEPARATOR (20-V-100)	DRAIN VALVE P/W SIDE LEVEL SWITCH 20-LSLL-101	Gate Valve(SW)1/2"x800,		CS	1 valve		
6	INTEGRAL SCRUBBER (30-C-100/v-100)	OPEN DRAIN VALVE OF INTEGRAL SCRUBBER	Gate Valve (SW), 3/4x800lb		SS	1 valve		
7	BOILER AREA	HP HEADER DRAIN VALVE	Gate Valve (SW), 3/4x800lb		CS	1 valve		
8		LP HEADER DRAIN VALVE	Gate Valve (SW), 3/4x800lb		CS	1 valve		
9		LP-3 STEAM SAMPLE POINT VALVE	Gate Valve (SW), 1/2"x800lb		CS	1 valve		
10	DEAREATOR	LCV (TOP PLATFORM) BY-PASS VALVE	Globe Valve (SW), 1-1/2"x800lb		CS	1 valve		
11	SOFT WATER PUMPS	RECYCLE VALVES	Gate Valve (SW), 1"x800lb		CS	4 valves		
12	Gas Turbines	AUTO-DRAIN VALVE: AD-140 OF F-100A	Ball/Plug Valve (SW), 1" 600 lb		SS, (Black-out Activity)	1 valve		
13	AMINE STRIPPER (10-C-200)	DRAIN VALVE REPLACEMENT OF STRIPPER TROLL	Gate Valve (Threaded), 3/4"x800		CS	1 valve		
Total Cost (Mechanical SOW)								

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
SWITCHGEAR ROOM:					Location			
1	10-P-200A	LV(380V) Modules Inspection, Servicing, Cleaning, Testing of Contactors, Thermal Relays, Aux. Contactors, Power Points & tightening of all connections. Thermography of all modules.	Amine Booster P.M. Modules, 380v, 138A, 100hp		LV & EGTs MCC Modules	1		
2	10-P-200B		Amine Booster P. M. Modules, 380v, 138A, 100hp			1		
3	20-P-200A		Amine S. Reflux P.M. Modules, 380v, 15.5A, 10hp			1		
4	20-P-200B		Amine S. Reflux P. Motor, 380v, 15.5A, 10hp			1		
5	10-P-202A		Cooling Tower Fan Motor , 380v, 210A, 150hp			1		
6	10-P-202B		Raw Water P. Motor 380v, 138A, 100hp			1		
7	20-P-202A		L.P Boiler Feed Water P. Motor 380v, 66.4A, 50hp			1		
8	20-P-202B		Siemens Pond water motor modules, 380 V, 40 HP			1		
9	90-X-903A		H.P Boiler Switch gear			1		
10	90-X-903B		HP Boiler Feed Water Switchgear			1		
11	90-X-903C		Incinerator F.D Fan Motor , 380v, 22A, 15kw			1		
12	90-P-911A		Glycol Circulation P. Motor 25kw, 380v, 52amps			1		
13	90-P-911B		Glycol Circulation P. Motor 25kw, 380v, 52amps			1		
14	90-P-911C							
15	90-P-902A							
16	90-P-902B							
17	Siemens Pond 1							
18	Siemens Pond 2							
19	Siemens Pond 3							
20	HP Bolier Switchgear							
21	HP Boiler Feed Water Switchgear							
22	90-X-904A							
23	90-X-904B							
24	10-P-200A							
25	10-P-200B							
26	20-P-200A							
27	20-P-200B							

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost	
28	UCH2-BL-ST		UCH-2 Black Start Panel			1			
29	2A		ABLOC Fan Motor 380v, 25.8A, 9.5 Kw			1			
30	3A		1						
31	4A		1						
32	2A		Enclosure Vent Fan Motor 380v, 55A, 30kw			1			
33	3A		1						
34	4A		1						
35	2A		Gen: CACA Fan Motor 380v. 8.7A, 4kw			1			
36	2B		1						
37	3A		1						
38	3B		1						
39	4A		1						
40	4B		1						
41	2A		VGV Motor 380v, 3.6A, 1.5kw		1				
42	3A		1						
43	4A		1						
44	Incomer Tafo 1 & 2		LV incomer of trafo 1 & 2, ACB, 3200 Amp,TERASAKI			LV incomer of Trafo 1 & 2	2		
45	LV Bus ACBs		ACBs installed on LV Bus 2000 Amp, TERASAKI			LV Bus 181 & 176 ACBs	2		
46	Essential Bus ACBs		ACBs installed on Essential bus 1200 Amp & 800 Amp, Merlin Gerin			Essential Bus ACBs	2		
47	LV Bus		LV(380V) Bus Bar Inspection, Cleaning, Tightening, Maggar,Thermography of Bus Bars		LV Bus Bar 176,181		LV Bus Bar	2	
48	10-P-201A	MV(6.6KV) Modules Inspection, Servicing, Cleaning, Testing of Contactors, Thermal Relays, Aux. Contactors, Power Points, & Tightening of all connections.Thermography of all modules.	Amine Circulation P. Motor, 6.6kv, 117A, 1500hp		MV Modules	1			
49	10-P-201B		1						
50	20-P-201A		Amine Circulation P. Motor 20-P-201, 6.6 Kv, 117A, 1500hp			1			
51	20-P-201B		1						
52	90-P-900A		Cooling Water Circulation P.			1			

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
53	90-P-900B		Motor,6.6kv, 67A, 700hp			1		
54	90-P-900C					1		
55	90-X-902A		L. P. Boiler F. D. Fan Motor, 6.6kv, 20A, 250hp			1		
56	90-X-902B					1		
57	52-A		Main Incoming Vacuum Circuit Breaker 52 A/B/Tie, 6.6kv, 1200A			1		
58	52-B					1		
59	Transformer MV Modules		Vacuum Contactors of Transformer 1 & 2, 2500 KVA, 6.6KV			2		
60	EGT VCBs	Inspection, service, maintenance, tightening of connections and function test of VCBs.Measurement of VCB closing time and opening time for EGTs VCBs (04 Nos, 630 Amps, make: ABB) with help of proper, calibrated tools and equipments. This job is to be carried out by OEM of VCB i.e. M/S ABB Engineer Only.	Vacuum Circuit Breaker of EGTs and Unit Transformer, 6.6KV		VCBs	5		
61	Transformers	Inspection, cleaning of transformers, BTD, Power/ control connections. Complete oil testing i.e. multi DGA and dielectric strength test, water content for all transformers. Oil dehydration if required after test. Testing/Calibration of instruments installed on transformers.	Transformer 1 and 2, Unit Transformer, UCH-2 Black Start, Colony and Pat FeederTransformer		Transformers	6		
62	MV Bus	MV(6.6KV) Bus Bar Inspection, Cleaning,Tightening, Thermography of Bus Bar	MV Bus Bar		MV Bus Bar	1		
63	1	Battery Charger and Battery Bank	Battery Chargers and Battery Banks Of EGTs		Battery Room	1		

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
64	2	Inspection, Cleaning, Checking And Tightening of connections, Chargers & Battery Cabinets. Batteries Inspection, load testing, tightening, greasing of connections & Servicing. Replacement of bank if required after inspection.				1		
65	3					1		
66	4						1	
67	1	Inspection,Tightening of connections,Preventive maintenance on by pass mode and general cleaning. Batteries Inspection, load testing, tightening, greasing of connections & Servicing. Replacement of bank if required after inspection.	30 KVA UPS		UPS	1		
68	1		30 KVA UPS (Stand by)			1		
69	1	Inspection,Tightening of connections,Preventive maintenance on by pass mode and general cleaning.	Static Transfer Switch		STS	1		
69	X-200A	LV(380V) Modules Inspection, Servicing, Cleaning, Testing of Contactors, Thermal Relays, Aux. Contactors, Power Points, Tightening of all connections.	Inst. Air Comp. Main Motor (Caps) , 380v, 67A, 50hp		Instrument Air Compressors	1		
70	X-200B						1	
71	X-200C		Quincy Inst. Air Comp. Motor, 380v, 67A, 50hp			1		
72	X-200D					1		
73	X-201A(181)		Inert Gas Comp. Motor, 380v, 44A, 30hp			1		
74	X-201B(176)					1		
75	2	EGT Generators Checking of Generators' connections, Exciters, PMGs,Diode Assembly. Inspection and removal of dust and webs. Cleaning & Washing of Generator's outer body.	Main Generator, PMG & Exciter Units.		EGTs	1		
76	3					1		
77	4					1		
78	LP3-MCC	LV(380V) Modules Inspection, Servicing, Cleaning, Testing of Contactors, Thermal Relays, Aux. Contactors, Power Points, Tightening of all conections.	MCC Panel of LP Boiler 3		LP boiler 3	5		

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
79		Allied Services for Electric Supply At Different Locations of Plant.	Allied Services		Whole Plant			
80	Eps	Cleaning, testing and resistivity measurement of Earth pits at UCH-1 and Colony	Earth Resistance Measurement			70		
81	LIGHTS	Maintenance , cleaning, refurbishment, replacement (if required) of skid(2x36W) and ploe lights (250W, 400W) at UCH-1 and Colony	Job on Skid and Pole lights		Amine, Dehydration , EGTs, Utility Systems, Colony	75		
82	1 job	Inspection, Cleaning Of Switch Gear,DBs, tightening of control and power cables.	LT Switch Gear Installed in Residential Colony		LV Switch Gear	1		
83	1 job		LT Switch Gear installed at Pat Feeder Water Pumping Station		LV Switch Gear and MCCs	1		
84	DBs	Inspection, servicing cleaning, tightness of DBs Installed in plant area, workshops, offices and admin building of UCH-1	Maintenance of DBs		LT DBs	25		
85	DBs	Inspection, servicing cleaning, tightness of DBs Installed in different Areas of UCH Colony and colony water supply motor modules	Maintenance of DBs		LT DBs	30		
H2S REMOVAL PLANT AREA MOTORS					Location			
1	10-P-201A	MV (6.6KV) MOTORS Cleaning of motor and heat exchanger, Meggering Of Windings, Inspection, Tightening Of Connections In JBs, And Earth Testing. Bearings clearance check. Replacement Of Bearings (If Required after Inspection)	Amine Circulation P. Motor, 117A, 1500hp	6.6kv,	Train – 10	1		
2	10-P-201B					1		
3	20-P-201A		Amine Circulation P. Motor, 117A, 1500hp	6.6kv,	Train – 20	1		
4	20-P-201B					1		
5	10-P-200A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection,	Amine Booster P. Motor, 138A, 100hp	380v,	Train – 10	1		
6	10-P-200B					1		
7	20-P-200A		Amine Booster P. Motor, 138A, 100hp	380v,	Train – 20	1		
8	20-P-200B					1		

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost	
9	10-P-202A	Tightening Of Connections In JBs and Earth Testing	Amine S. Reflux P. Motor, 380v, 15.5A, 10hp		Train – 10	1			
10	10-P-202B					1			
11	20-P-202A		Amine S. Reflux P. Motor, 380v, 15.5A, 10hp		Train – 20	1			
12	20-P-202B					1			
UTILITY AREA MOTORS					Location				
13	90-P-900A	MV (6.6KV) MOTORS Cleaning, Greasing ,Meggering Of Windings, Inspection, Tightening Of Connections In JBs, Earth Testing and Paint Job. Replacement of Bearings (If Required after Inspection)	Cooling Water Circulation P. Motor, 6.6kv, 67A, 700hp		Cooling Tower	1			
14	90-P-900B					1			
15	90-P-900C					1			
16	90-X-903A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, And Earth Testing.	Cooling Tower Fan Motor, 380v, 210A, 150hp		Top Of Cooling Tower	1			
17	90-X-903B					1			
18	90-X-903C					1			
19	90-X-903D					1			
UTILITY AREA MOTORS					Location				
20	90-P-901A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, And Earth Testing.	Treated Water P. Motor, 380v, 14.5A, 10hp		Blow The De-Rater Tank.	1			
21	90-P-901B					L.P.B. Feed Water P. Motor, 380v, 66.4A, 50hp	1		
22	90-P-901C						1		
23	90-P-902A		1						
24	90-P-902B		1						
25	90-P-902C		1						
26	90-P-902D	1							
27	90-P-903B	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, And	H.P.B. Feed Water P. Motor, 380V, 40HP, 53A		Below The De-Rater Tank.	1			
28	90-P-903C					1			

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
29	90-P-903D	Earth Testing.				1		
30	90-X-902A	MV (6.6KV) MOTORS Cleaning, Greasing, & Replacement Of Bearings, Paint Job (If Required) Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	F. D. Fan Motor 6.6kv, 20A, 250hp		L.P. Boiler "A" & "B"	1		
31	90-X-902B					1		
32	HP-1	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings, Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	H.P. Boiler Air Blower Motor 380v, 4.5A, 2.2kw		H.P Boiler	1		
33	HP-1		H.P. Boiler FD Fan Motor 380v, 22A, 15kw			1		
34	HP-2		H.P. Boiler Air Blower Motor 380v, 22A, 11kw			1		
35	90-X-902C	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings, Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	Boiler Air Blower Motor 400V,271A,160KW,		L.P.3 Boiler	1		
36	L.P.3-A	LT (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	L.P.3 B. Feed Water P. Motor 400V, 92.9A, 55KW		L.P.3 Boiler	1		
37	L.P.3-B					1		
POWER GENERATION (TURBINE) AREA MOTORS					Location			
38	2A	LT (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	ABLOC Fan Motor 380v, 25.8A, 9.5 Kw		European Gas Turbines	1		
39	3A					1		
40	4A					1		
41	2A		Enclosure Vent Fan Motor 380v, 55A, 30kw			1		
42	3A					1		
43	4A					1		

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
44	2A		Gen: CACA Fan Motor 380v. 8.7A, 4kw			1		
45	2B					1		
46	3A					1		
47	3B					1		
48	4A					1		
49	4B					1		
50	2A		VGV Motor 380v, 3.6A, 1.5kw			1		
51	3A					1		
52	4A					1		
INCINERATOR AREA MOTORS					Location			
53	90-X-904A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	Incinerator F.D Fan Motor, 380v, 22A, 15kw		Incinerator	1		
54	90-X-904B					1		
AMINE STORAGE TANK AREA MOTORS					Location			
55	90-P-905A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings,Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	Amine Sump Motor 380v, 6A, 4kw		Amine Storage Tank Area	1		
RAW WATER PUMP AREA MOTORS					Location			
56	90-P-911A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	Raw Water P. Motor 380v, 138A, 100hp		Pond Water Area	1		
57	90-P-911B					1		
58	90-P-911C					1		
COMPRESSOR AREA MOTORS					Location			

OGDCL UCH-1 GAS PROCESSING PLANT - ATA 2022 (ELECTRICAL SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
59	X-200A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings, Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In Jbs, And Earth Testing.	Inst. Air Comp. Main Motor (Caps), 380v, 67A, 50HP		Compressor Area	1		
60	X-200B					1		
61	X-200A		Inst. Air Comp. Condenser Fan Motor (Caps), 380v, 22A, 15HP			1		
62	X-200B					1		
63	X-200C		Quincy Inst. Air Comp. Motor, 380v, 67A, 50hp			1		
64	X-200D					1		
65	X-201A(181)		Inert Gas Comp. Motor, 380v, 44A, 30hp			1		
66	X-201B(176)					1		
FIRE WATER STORAGE TANK AREA MOTORS					Location			
67	160-P-101A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings (If Required), Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, & Earth Testing	Fire Water P. Motor (Jockey) , 380v, 21.2A, 15hp		Fire Water Storage Tank	1		
68	160-P-101B					1		
69	10-P-200A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, And Earth Testing Replacement of Bearings if Required	Glycol Circulation P. Motor 25kw, 380v, 52amps		Train-10	1		
70	10-P-200B					1		
71	20-P-200A		Glycol Circulation P. Motor, 25KW, 380V, 52Amps		Train-20	1		
72	20-P-200B					1		
73	GSP-A		Glycol Sump P. Motor 380v, 6A, 4kw		Dehydration Area	1		
				1				
74	170-P-101A	LV (380V) MOTORS Cleaning, Greasing & Replacement Of Bearings and Paint Job (If Required), Meggering Of Windings, Inspection, Tightening Of Connections In JBs, & Earth Testing	ETP Sump P. Motor 380v, 15kw		ETP Area	1		
75	170-P-101B					1		
Total Cost (Electrical SOW)								

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
H2S Removal Plant Train – 10								
					Location			
1	10-PCV-1280	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments.	Size: 10" CL 150 Fisher Control Valve	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	REFLUX DRUM	1		
2	10-TCV-1112		Size: 4" CL 150 Fisher Control Valve		STEAM TO INLET GAS	1		
3	10-PCV-1106		Size: 6" CL 600 Fisher Control Valve		CONTACTOR OUTLET	1		
4	10-TCV-1254		Size: 8" CL 150 Fisher Control Valve		BYPASS OF STRIP EX.	1		
5	10-PCV-1103		Size: 12" CL 600 AES(ROBOTARM)	Valve Lifting and shifting equipment, Scrwe Driver Set, Terminal Screw Drivers, Spanner Set	MAIN INLET	1		
6	10-LCV-1140		Size: 1" CL 600 Fisher Control Valve		CONTACTOR OUTLET	1		
7	10-LCV-1203		Size: 8" CL 150 Fisher Control Valve	mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	FLASH DRUM O/L TO STRP.	1		
8	10-PCV-1200		Size: 4" CL 150 Fisher Control Valve		FLASH DRUM	1		
9	10-LCV-1276		Size: 2" CL 150 Control Valve Fisher		REFLUX DRUM LEVEL	1		
10	10-FCV-1133	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, service of pneumatic regulator, I/P converter & positioner. Inspection/testing of SOVs (if required). Loop testing with DCS, Replacement of Poritioner if required	Size: 6" CL 600 Fisher Control Valve		CIR PUMP TO CONTACTOR	1		
11	10-LCV-1136		Size: 6" CL 600 Fisher Control Valve		FLASH DRUM O-LET TO STR	1		
12	10-LCV-102		Size: 1" CL 600 Fisher Control Valve		P/W INLET GAS SEPARATOR	1		
13	10-LCV-104		Size: 1" CL 600 Fisher Control Valve		HC INLET GAS SEPARATOR	1		
14	10-LCV-9314	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments.	Size: 3" CL 150 Fisher Control Valve		STEAM CONDANSATE POT	1		
15	10-FCV-9315		Size: 1- 1/2" CL 150 Fisher Control Valve		STEAM TO STRIPPER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
16	10-PCV-1217	Replacement of Poritioner if required	Size: 2" Regulator, Make: Fisher		Surge Drum	1		
17	10-PCV-1218		Size: 2" Regulator, Make: Fisher		BLANKETING REGULATOR	1		
18	10-SDV-101	Greasing, testing of loop & on/off position, verification of position switches, service of all local pneumatic regulators, loop testing, testing/overhauling of SOVs	Size: 1" CL 600 EL-O-MATIC	Grease Gun, all necessarytools for the job	INLET GAS SEPT	1		
19	10-SDV-102		Size: 1" CL 600 EL-O-MATIC		INLET GAS SEPT	1		
20	10-XSV-1101	Greasing, testing of loop & on/off position, verification of position switches, service of all local pneumatic regulators, loop testing, testing/overhauling of SOVs.	SIZE:12" CL 600 Rotork	Grease Gun, all necessarytools for the job	TREATED GAS OUTLET	1		
21	10-XSV-1102		SIZE:12" CL 600 Rotork		FEED GAS INLET	1		
22	10-XSV-1144		SIZE:10" CL 600 Rotork		AMINE CONTACTOR O/L	1		
23	10-PT-1103	Onsite pressure calibration, leak test of connectors, checking of isolating valves, loop verification.	Pressure Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	MAIN INLET	1		
24	10-PT-1106				FLARE INLET	1		
25	10-FT-1133	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Flow Transmitter Rosemount		CIR PUMP TO CONT	1		
26	10-FT-1269				REF PMP TO STRPP	1		
27	10-FT-1107	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification.	Flow Transmitter Rosemount		MAIN GAS INLET	1		
28	10-FT-9311	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Flow Transmitter Rosemount		STEAM TO REBOILER	1		
29	10-FT-9315				STEAM TO STRIPPER	1		
30	10-DPT-1151	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismanteling and overhauling if required	DP Transmitter Rosemount		ACROSS CONTACTOR	1		
31	10-DPT-1292				ACROSS STRIPPER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
32	10-LT-102	Level troll internal cleaning, Sensor inspection and setting, field signal electric connection checking, onsite calibration, verification and loop testing.	Level Transmitter Masoneilan	Spanners Set (In/mm) Screw Drivers Set Hex Key set. Multi-meter Pipe Wrench 18", 12"². Transparent nylon tube of 1" dia, 10 meter length.	INLET SEPERATOR P/W	1		
33	10-LT-104				INLET SEPERATOR H/C	1		
34	10-LT-1140				OVERHEAD SCRUBBER	1		
35	10-LT-1203				FLASH DRUM	1		
36	10-LT-1219				SURG DRUM	1		
37	10-LT-1276				REFLUX DRUM	1		
38	10-LT-9314				STEAM CONDENSATE POT	1		
39	10-LT-1136	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Level Transmitter Rosemount	General Tool Kit. Pressure Calibrators. HART Communicator, consumables.	CONTACTOR	1		
40	10-LT-1250				STRIPPER	1		
41	10-TT-1139	Integrity testing of sensor, onsite calibration of transmitters, checking of electric signals and verification of complete loop.	RTDs	Spanners Set(In/mm) Screw Drivers Set Multi-meter Temperature Bath (500DegF)	CONT.FLASH DRUM	1		
42	10-TT-1253				STRIPPER TO XHE	1		
43	10-TT-1254				XHE TO STRIPPER	1		
44	10-TT-1264				STRIPPER TOP	1		
45	DPI-10	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	H2S Train 10 (Coaleser Filters Train 10/)	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
H2S Removal Plant Train – 20					Location			
46	20-PCV-2280	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments.	Size: 10" CL 150 Fisher Control Valve	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	REFLUX DRUM	1		
47	20-TCV-2112		Size: 4" CL 150 Fisher Control Valve		STEAM TO INLET GAS	1		
48	20-TCV-2254		Size: 6" CL 600 Fisher Control Valve		BYPASS OF STRIP EX.	1		
49	20-PCV-2106		Size: 8" CL 150 Fisher Control Valve		CONTACTOR OUTLET	1		
50	20-PCV-2103		Size: 12" CL 600 AES(ROBOTARM)	Valve Lifting and shifting equipment, Scrwe Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	MAIN INLET	1		
51	20-LCV-2140		Size: 1" CL 600 Fisher Control Valve		CONTACTOR OUTLET	1		
52	20-LCV-2203		Size: 8" CL 150 Fisher Control Valve		FLASH DRUM O/L TO STRP.	1		
53	20-PCV-2200		Size: 4" CL 150 Fisher Control Valve		FLASH DRUM	1		
54	20-LCV-2276		Size: 2" CL 150 Control Valve Fisher		REFLUX DRUM LEVEL	1		
55	20-FCV-2133	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, service of pneumatic regulator, I/P converter & positioner. Inspection/testing of SOVs (if required). Loop testing with DCS, Replacement of Poritioner if required	Size: 6" CL 600 Fisher Control Valve		CIR PUMP TO CONTACTOR	1		
56	20-LCV-2136		Size: 6" CL 600 Fisher Control Valve		FLASH DRUM O-LET TO STR	1		
57	20-LCV-102		Size: 1" CL 600 Fisher Control Valve		P/W INLET GAS SEPARATOR	1		
58	20-LCV-104		Size: 1" CL 600 Fisher Control Valve	HC INLET GAS SEPARATOR	1			
59	20-LCV-9514	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 3" CL 150 Fisher Control Valve		STEAM CONDANSATE POT			
60	20-FCV-9515		Size: 1- 1/2" CL 150 Fisher Control Valve	Valve Lifting and shifting equipment, Scrwe Driver Set, Terminal Screw Drivers, Spanner Set	STEAM TO STRIPPER			
61	20-PCV-2217		Size: 2" Regulator, Make: Fisher					

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
62	20-PCV-2218		Size: 2" Regulator, Make: Fisher	mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	BLANKETING REGULATOR	1		
63	20-SDV-101	Greasing, testing of loop & on/off position, verification of position switches, service of all local pneumatic regulators, loop testing, testing/overhauling of SOVs.	Size: 1" CL 600 EL-O-MATIC	Grease Gun, all necessarytools for the job	INLET GAS SEPT	1		
64	20-SDV-102		Size: 1" CL 600 EL-O-MATIC		INLET GAS SEPT	1		
65	20-XSV-2101	Greasing, testing of loop & on/off position, verification of position switches, service of all local pneumatic regulators, loop testing, testing/overhauling of SOVs.	SIZE:12" CL 600 Rotork	Grease Gun, all necessarytools for the job	TREATED GAS OUTLET	1		
66	20-XSV-2102		SIZE:12" CL 600 Rotork		FEED GAS INLET	1		
67	20-XSV-2144		SIZE:10" CL 600 Rotork		AMINE CONTACTOR O/L	1		
68	20-PT-2103	Onsite pressure calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantling and overhauling if required.	Pressure Transmitter Rosemount	Screw Driver Set,Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator,consumables.	MAIN INLET	1		
69	20-PT-2106				FLARE INLET	1		
70	20-FT-2133	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Flow Transmitter Rosemount		CIR PUMP TO CONT	1		
71	20-FT-2269				REF PMP TO STRPP	1		
72	20-FT-2107	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dimantling, Sensor cleaning or replacement if required.	Flow Transmitter Rosemount		MAIN GAS INLET	1		
73	20-FT-9511	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.			STEAM TO REBOILER	1		
74	20-FT-9515				STEAM TO STRIPPER	1		
75	20-DPT-2151	Onsite calibration, leak test of connectors, checking of isolating valves,	Diff Pressure Transmitters Rosemount		ACROSS CONTACTOR	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
76	20-DPT-2292	loop verification.			ACROSS STRIPPER	1		
77	20-LT-102	Level troll internal cleaning, Sensor inspection and setting, field signal electric connection checking, onsite calibration, loop testing.	Level Transmitter Masoneilan	Spanners Set (In/mm) Screw Drivers Set Hex Key set. Multi-meter Pipe Wrench 18", 12"². Transparent nylon tube of 1" dia, 10 meter length.	INLET SEPERATOR P/W	1		
78	20-LT-104				INLET SEPERATOR H/C	1		
79	20-LT-2140				OVERHEAD SCRUBBER	1		
80	20-LT-2203				FLASH DRUM	1		
81	20-LT-2219				SURG DRUM	1		
82	20-LT-2276				REFLUX DRUM	1		
83	20-LT-9514				STEAM CONDENSATE POT	1		
84	20-LT-2136	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Level Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	CONTACTOR	1		
85	20-LT-2250				STRIPPER	1		
86	20-LT-9501				Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dimantling, Sensor cleaning or replacement if required.	1		
87	20-TT-2139	Integrity testing of sensor, onsite calibration of transmitters, checking of electric signals and verification of complete loop.	RTDs	Spanners Set(In/mm) Screw Drivers Set Multi-meter, Temperature Bath (500DegF)	CONT.FLASH DRUM	1		
88	20-TT-2253				STRIPPER TO XHE	1		
89	20-TT-2254				XHE TO STRIPPER	1		
90	20-TT-2264				STRIPPER TOP	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost	
91	DPI-20	Dismantling, shifting to W/S, Record as found calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	H2S Train Train 20 (Coaleser Filters Train 20)	1			
Dehydration Train - 10					Location				
92	20-TCV-200	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, service of pneumatic regulator, I/P converter & positioner. Inspection/testing of SOVs (if required). Loop testing with DCS.Replacement of Poritioner if required	Size: 4" CL 300 Fisher Control Valve		STEAM LINE TO REBOILER	1			
93	20-PCV-111		Size: 6" CL 600 Fisher Control Valve		SCRUBBER OUT TO FLARE	1			
94	20-PCV-215		To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required		Size: 1" CL 150 Fisher Control Valve	FLASH DRUM TO FLARE	1		
95	20-LCV-108		Size: 1" CL 600 Fisher Control Valve		INTEGRAL SCRUBBER	1			
96	20-LCV-112		Size: 1- 1/2" CL 600 Fisher Control Valve		GLYCOL CONTACTOR	1			
97	20-LCV-208		Size: 1- 1/2" CL 150 Fisher Control Valve		FLASH DRUM	1			
98	20-PCV-100		Size: 12" CL 600 Fisher Control Valve		DEHY O/L TO SALE GAS	1			
99	10-FT-100	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantelling, Sensor cleaning, replacement if required	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low	DEHY INLET	1			
100	10-FT-101A				DEHY OUTLET	1			
101	10-FT-101B				DEHY OUTLET	1			
102	10-FT-200				DEHY REBOILER	1			

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)											
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost			
103	10-FT-201	Dismantling, shifting to W/S, Record as fondcalibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.		Pressure and High Pressure Ranges.HART Communicator, consumables.	GLYCOL PUM OUTLET	1					
104	10-LT-206				SURGE DRUM	1					
105	10-DPT-107				CONTACTOR	1					
106	10-DPT-213				CARTRIDGE FILTER	1					
107	10-DPT-214				CHARCOL FILTER	1					
108	10-PT-201				REBOILER PRESSURE	1					
109	10-PT-203				REBOILER.INLET	1					
110	10-PT-215				FLASH DRUM	1					
111	10-PT-100				Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantelling, Sensor cleaning, replacement if required	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	SYSTEM PRESSURE	1		
112	10-PT-109							SALE GAS	1		
113	10-PT-212							GLYCOL PUMP OUTLET	1		
114	10-LT-108	On Site Level troll internal Cleaning, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Level Troll Masoneilan	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.	INTEGRAL SCRUBBER	1					
115	10-LT-112				GLYCOL CONTACTOR	1					
116	10-LT-116				O/ HEAD SCRUBBER	1					
117	10-LT-208				FLASH DRUM	1					
118	10- SDV-103	Greasing, Testing of loop & On/ Off position, Verification of Position Switches, Testing/Overhauling Of SOVs, service of all local Pneumatic regulators.	Size: 10" CL 600 LEDEEN ITALIA	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	MAIN INLET	1					
119	10- SDV-104		Size: 2" CL 600 EL-O-MATIC		CONTACTOR.OUT LET	1					
120	10- SDV-105		Size: 10" CL 600 LEDEEN ITALIA		SALE GAS LINE	1					
Dehydration Train - 20					Location						

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
121	20-TCV-200	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, service of pneumatic regulator, I/P converter & positioner. Inspection/testing of SOVs (if required). Loop testing with DCS.Replacement of Poritioner if required To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 4" CL 300 Fisher Control Valve		STEAM LINE TO REBOILER	1		
122	20-PCV-111		Size: 6" CL 600 Fisher Control Valve		SCRUBBER OUT TO FLARE	1		
123	20-PCV-215		Size: 1" CL 150 Fisher Control Valve		FLASH DRUM TO FLARE	1		
124	20-LCV-108		Size: 1" CL 600 Fisher Control Valve		INTEGRAL SCRUBBER	1		
125	20-LCV-112		Size: 1- 1/2" CL 600 Fisher Control Valve		GLYCOL CONTACTOR	1		
126	20-LCV-208		Size: 1- 1/2" CL 150 Fisher Control Valve		FLASH DRUM	1		
127	20-PCV-100		Size: 12" CL 600 Fisher Control Valve		DEHY O/L TO SALE GAS	1		
128	20-FT-100	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantelling, Sensor cleaning, replacement if required	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	DEHY INLET	1		
129	20-FT-101A				DEHY OUTLET	1		
130	20-FT-101B				DEHY OUTLET	1		
131	20-FT-200				DEHY REBOILER	1		
132	20-FT-201				GLYCOL PUM OUTLET	1		
133	20-LT-206				SURGE DRUM	1		
134	20-DPT-107				CONTACTOR	1		
135	20-DPT-213				CARTRIDGE FILTER	1		
136	20-DPT-214				CHARCOL FILTER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost	
		loop verification.							
137	20-PT-201	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantling, Sensor cleaning, replacement if required			REBOILER PRESSURE	1			
138	20-PT-203				REBOILER.INLET	1			
139	20-PT-215				FLASH DRUM	1			
140	20-PT-100	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantling, Sensor cleaning, replacement if required	Transmitter Rosemount	Same As Job No. 3	SYSTEM PRESSURE	1			
141	20-PT-109				SALE GAS	1			
142	20-PT-212				GLYCOL PUMP OUTLET	1			
143	20-LT-108	On Site Level troll internal Cleaning, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Level Troll Masoneilan	Spanners Set (In/mm) Screw Drivers Set Hex Key set. Multi-meter Pipe Wrench 18", 12"². Transparent nylon tube of 1" dia, 10 meter length.	INTEGRAL SCRUBBER	1			
144	20-LT-112				GLYCOL CONTACTOR	1			
145	20-LT-116				O/ HEAD SCRUBBER	1			
146	20-LT-208				FLASH DRUM	1			
147	20- SDV-103	Greasing, Testing of loop & On/ Off position, Verification of Position Switches, Testing/Overhauling Of SOVs, service of all local Pneumatic regulators.	Size: 10" CL 600 LEDEEN ITALIA	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	MAIN INLET	1			
148	20- SDV-104				Size: 2" CL 600 EL-O-MATIC	CONTACTOR.OUT LET	1		
149	20- SDV-105				Size: 10" CL 600 LEDEEN ITALIA	SALE GAS LINE	1		
Dehydration Train - 30					Location				
150	30-TCV-200	Dismantling, shifting to W/S, body & trim inspection, lapping of plug/seat (if reqd.), hydro testing, replacement of kits, actuator integrity testing and calibration, service of pneumatic regulator, I/P converter & positioner. Inspection/testing of SOVs (if required). Loop testing with DCS.Replacement of Poritioner if required	Size: 4" CL 300 Fisher Control Valve		STEAM LINE TO REBOILER	1			
151	30-PCV-111				Size: 6" CL 600 Fisher Control Valve	SCRUBBER OUT TO FLARE	1		
152	30-PCV-215				Size: 1" CL 150 Fisher Control Valve	FLASH DRUM TO FLARE	1		
153	30-LCV-108				Size: 1" CL 600 Fisher Control Valve	INTEGRAL SCRUBBER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
154	30-LCV-112	and hard copies of assignments. Replacement of Poritioner if required	Size: 1- 1/2" CL 600 Fisher Control Valve		GLYCOL CONTACTOR	1		
155	30-LCV-208		Size: 1- 1/2" CL 150 Fisher Control Valve		FLASH DRUM	1		
156	30-PCV-100		Size: 12" CL 600 Fisher Control Valve		DEHY O/L TO SALE GAS	1		
157	30-FT-100	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantelling, Sensor cleaning, replacement if required	Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	DEHY INLET	1		
158	30-FT-101A				DEHY OUTLET	1		
159	30-FT-101B				DEHY OUTLET	1		
160	30-FT-200				DEHY REBOILER	1		
161	30-FT-201				GLYCOL PUM OUTLET	1		
162	30-LT-206				SURGE DRUM	1		
163	30-DPT-107				CONTACTOR	1		
164	30-DPT-213				Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.			CARTRIDGE FILTER
165	30-DPT-214	CHARCOL FILTER	1					
166	30-PT-201	REBOILER PRESSURE	1					
167	30-PT-203	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantling, Sensor cleaning, replacement if required			REBOILER.INLET	1		
168	30-PT-215				FLASH DRUM	1		
169	30-PT-100	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification. Dismantling, Sensor cleaning, replacement if required	Transmitter Rosemount	Same As Job No. 3	SYSTEM PRESSURE	1		
170	30-PT-109				SALE GAS	1		
171	30-PT-212				GLYCOL PUMP OUTLET	1		
172	30-LT-108	On Site Level troll internal Cleaning, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Level Troll Masoneilan	Spanners Set (In/mm) Screw Drivers Set Hex Key set. Multi-meter Pipe Wrench 18", 12"².	INTEGRAL SCRUBBER	1		
173	30-LT-112				GLYCOL CONTACTOR	1		
174	30-LT-116				O/ HEAD SCRUBBER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
175	30-LT-208			Transparent nylon tube of 1" dia, 10 meter length.	FLASH DRUM	1		
176	30-SDV-103	Greasing, Testing of loop & On/ Off position, Verification of Position Switches, Testing/Overhauling Of SOVs, service of all local Pneumatic regulators.	Size: 10" CL 600 LEDEEN ITALIA	Crane, Spanner Set mm/Inch, Screw Driver Set, General Tools.	MAIN INLET	1		
177	30-SDV-104		Size: 2" CL 600 EL-O-MATIC		CONTACTOR.OUT LET	1		
178	30-SDV-105		Size: 10" CL 600 LEDEEN ITALIA		SALE GAS LINE	1		
Uch-I DCS								
179	DCS	On Site Technical/Engineering Services of ABB Lahore/ Nextreme Techno Solutions Lahore for 05 Day. Scope of Work: General Checks for Health Status. Minor Changes on HMI. Software Backups of Servers and Controller.	Back End: Infi-90 DCS Front End: 800xA	ABB Software tools	DCS			
LP Boilers 1 & 2					Location			
180	FCV-8062 (Both boilers)	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 6" CL 150 Fisher Control Valve	Valve Lifting and shifting equipment, Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	FUEL GAS BURNER	2		
181	LCV-8048 (Both boilers)	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 3" CL 300 Fisher Control Valve	All necessarytools	FEED WATER IN LET	2		
182	PCV-8063 (Both boilers)	Dismantling, shifting to W/S, Inspection of Trim and cleaning, reassembling and testing.	Size: 6" Fisher Regulator	Screw Driver Set, Spanner Set mm/Inch, Hex Key Set, Consumables	GAS FUEL TRAIN	2		
183	LGP	Inspection & Calibration of Switch,	Pressure Switches	Spanners Set (In/mm) Screw	SWITCH, LOW GAS	2		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
184	HGP	Verification of Electrical Connections, inspection of loop,		Drivers Set, Hex Key Set Multi-meter Pressure Calibrator/Dead Weight Tester (300 Psi).	PRESSURE			
185	HFP				SWITCH HIGH GAS PRESS.	2		
186	AS				SWITCH HIGH FURNACE PRESS	2		
					SWITCH LOW COMB. Air Press.	2		
187	IAP	Inspection & Calibration of Switch, Verification of Electrical Connections, inspection of loop	Pressure Switches	Spanners Set (In/mm) Screw Drivers Set, Hex Key Set Multi-meter Pressure Calibrator/Dead Weight Tester (300 Psi).	SWITCH LOW INST. AIR PRESS.	2		
188	HSP				SWITCH, HIGH STEM PRESS	2		
189	EHSP				SWITCH, EXCESS high steam press	2		
190	(Both boilers)					2		
191	WLS(Both boilers)	Dismantling, shifting to W/S, cleaning of float and internal body, re-installation, Testing of operation, leak test of connectors, checking of isolating valves, loop verification.	Float type level switch	Screw Driver Set, Spanner Set, Hex Key Set, Consumables	SWITCH, WATER LEVEL	2		
192	Low Cutout, Low Alarm, High alarm (Both boilers)		Conductive Probe type Level Detector	Screw Driver Set, Spanner Set, Hex Key Set, Consumables	DRUM LEVEL	2		
193	PCV-9802	The loop test and Calibration, at location is required only. With I/P converter & Positioner	Size: 16" CL 150 Fisher Control Valve	General Calibration Tools	LP STEAM HEADER	1		
194	LT	Dismantling, shifting to W/S, Record as found calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Level Transmitter	General Calibration Tools	DRUM LEVEL	2		
195	FT		Flow Transmitter	General Calibration Tools	FUEL GAS LINE	2		
196	PT-9802	On Site setting, Calibration, Field signal electric connection, Leak test of connectors. Checking of isolating valves, Loop verification	Press Transmitter	General Calibration Tools	LP STEAM HEADER	1		
LP Boilers 3					Location			
197	LCV-101	Record of as found calibration data, site	Size: 4" CL 300 ARCA REGLER	General Calibration Tools	LEVEL CONTROL VALVE	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
198	FCV-301	calibration, Actuator, Positioner, I/P Converter testing and replacement if required. Loop Test with HMI at Local and Boiler operator room.	Size: 8" CL 150 PARCOL		GAS FLOW CONTROL VALVE	1		
199	PCV-301		Size: 6" CL 150 PARCOL		GAS PRESSURE CONTROL VALVE	1		
200	PSH-101	Inspection & Calibration of Switch, Verification of Electrical Connections, inspection of loop,	Switches	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	BOILER DRUM VERY HIGH PRESSURE (PRESSURE SWITCH)	1		
201	LSLL-101				BOILER DRUM VERY LOW LEVEL (LEVEL SWITCH)	1		
202	LSL-101				BOILER DRUM LOW LEVEL (LEVEL SWITCH)	1		
203	LSH-101				BOILER DRUM HIGH LEVEL (LEVEL SWITCH)	1		
204	PSL-202	Inspection & Calibration of Switch, Verification of Electrical Connections, inspection of loop,	Switches	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	INSTRUMENT AIR VERY LOW PRESSURE(PRESSURE SWITCH)	1		
205	PSLL-301				GAS VERY LOW PRESSURE(PRESSURE SWITCH)	1		
206	PSHH-301				GAS VERY HIGHPRESSURE(PRESSURE SWITCH)	1		
207	PSL-101				PRESSURE SWITCH	1		
208	LT-101	Dismantling, shifting to W/S, Record as fond calibration data, Sensor and cleaning, Calibration, re-installation, leak test of connectors, checking of isolating valves, loop verification.	Level Transmitter	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	UPPER STEAM DRUM LEVEL TRANSMITTER	1		
209	FT-101		Flow Transmitter		FLOW TRANSMITTER	1		
210	FT-102		Flow Transmitter		STEAM FLOW TRANSMITTER	1		
211	PT-101	On Site setting, Calibration, Field signal electric connection, Leak test of connectors. Checking of isolating valves,	Transmitters	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA	UPPER STEAM DRUM PRESSURE TRANSMITTER	1		
212	PT-201				PRESSURE TRANSMITTER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
213	FT-201	Loop verification		Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	COMBUSTION AIR FLOW TRANSMITTER	1		
214	AT-201				OXYGEN TRANSMITTER	1		
215	PT-301				GAS PRESSURE TRANSMITTER	1		
216	PT-302				GAS PRESSURE TRANSMITTER	1		
217	FT-301				GAS FLOW TRANSMITTER	1		
218	TT-301				GAS TEMPERATURE TRANSMITTER	1		
219	SDV-301	Inspection, Functional Testing & Calibration of Switch, Service/overhauling/parts replacement if required. Verification of Electrical Connections, inspection of loop,	Size: 8" CL 150 VALBIA	Scrwe Driver Set, Multimeter, Consumables	MAIN GAS SHUT-OFF VALVE (SDV)	1		
220	SDV-302		Size: 2" CL 150 ADLER		MAIN GAS VENT VALVE (SDV)	1		
221	SDV-303		Size: 8" CL 150 VALBIA		BURNER GAS SHUT-OFF-VALVE (SDV)	1		
222	XV-304		SOV		PILOT GAS VENT VALVE (SOV)	1		
223	XV-305		SOV		PILOT GAS VENT VALVE (SOV)	1		
224	XV-306		SOV		PILOT GAS SHUT-OFF VALVE (SOV)	1		
Deaerator					Location			
225	LV-9110	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 1-1/2" CL 150 SPIRAX SARCO	Scrwe Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	SOFT WATER TO DEAERATOR	1		
226	PV-9101		Size: 1-1/2" CL 150 SPIRAX SARCO		SATURATED STEAM I/ LET	1		
227	LT-9110	On Site Level troll internal Cleaning, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing.	Level Troll Magnitroll	General Tools for LT Calibrations.	DEAERATOR LEVEL	1		
228	PT-9101	On Site setting, Calibration, Field signal electric connection, Leak test of	Press Transmitter Rosemount	General Tools for PT Calibrations.	DEAERATOR PRESSURE	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
		connectors. Checking of isolating valves, Loop verification						
229	TT-9101	Inspection of sensor, Hydro test of thermo well. Calibration of Transmitters,. Checking of electric signals and verification of complete loop.	Temp Transmitter Rosemount	General Tools for TT Calibration, Temp Bath 500 Deg F	DEAERATOR	1		
Fuel Gas Skid					Location			
230	PCV-9601	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 3" CL 600 Fisher Control Valve	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	RAW GAS TO HP SCRUBBER	1		
231	PCV-9603		Size: 4" CL 600 Fisher Control Valve		HP. SCRUBBER INLET	1		
232	PCV-9615		Size: 4" CL 300 Fisher Control Valve		LP. SCRUBBER INLET	1		
233	PT-9601	Sensor cleaning and setting, Calibration, Field signal electric connection checking, leak test of connectors. Checking of isolating valves, Loop verification	Press. Transmitter Rosemount	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, Resistance box, Pressure Calibrators Low Pressure and High Pressure Ranges.HART Communicator, consumables.	RAW GAS TO HPSCRUBBER	1		
234	PT-9603				HP. SCRUBBER INLET	1		
235	PT-9615				LP. SCRUBBER INLET	1		
236	TE-9613	Inspection of sensor, Calibration of Transmitters, Checking of electric signals and verification of complete loop.	Temp. Transmitter Rosemount	Temp Bath, General Tools	TO HP BOILER	1		
237	TE-9616				TO LP FUEL	1		
238	FT-9612	On Site setting, Calibration, Field signal electric connection, Leak test of connectors. Checking of isolating valves, Loop verification	Flow Transmitter Rosemount	Pressure Calibrator, General Tools	HP. OUTLET TO HP BOILER	1		
239	FT -9617				LP. OUTLET TO UTILITIES	1		
240	XSV-9602	Greasing, Testing of loop & On/ Off position, Verification of Position Switches, Testing/Overhauling Of SOVs,	SIZE:8" CL 600 Rotork	General Tools	MAIN INLET TO FUEL GAS SKID	1		
241	90-LCV-9609	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 1" CL 300 Fisher Dump Valve	General Tools	HP Scrubber	1		
242	90-LCV-9622		Size: 1" CL 150 Fisher Dump Valve	General Tools	LP Scrubber	1		
HP Boiler					Location			

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
243	PSL- N/A	Inspection of sensor, tubing/ electric connections. Calibration of switch, Inspection of loop	Pressure Switch	Pressure Calibrator, General Tools	FUEL GAS LINE	1		
244	PSH- N/A				FUEL GAS LINE	1		
245	PSL-1045				COOLING AIR	1		
246	PSHH- N/A				STEAM PRESS	1		
247	PCV Control Valve Valtek	On site calibration of positioner / Convertor and valve Calibration, Loop Calibration/ Test	Size: 3" CL 150 Valtek Valve	General Tools	FUEL GAS LINE (VALTEK)	1		
248	FT-911	Sensor cleaning, inspection of electric signal and connections. Verification of operating parameters and calibration, loop test. Replacement of damaged and choked tubes. Leak test of joints and connectors.	Transmitters	General calibrtrion Equipment/Tools	STEAM FLOW	1		
249	LT-910				DRUM LEVEL	1		
250	PT-910	On Site Calibration,Checking of isolating valves, Loop verification	Transmitters	General calibrtrion Equipment/Tools	STEAM PRESSURE	1		
251	LSLL	Inspection & Cleaning of Float, Verification of Security.	Level Switch	General Tools	DRUM LEVEL	1		
252	LCV (Feed Water)	Onsite Calibration	Size: 1-1/2" CL 300 Melso Control Valve			1		
Incinerator					Location			
253	PDSLL-9951	INSPECTION, CALIBRATION & MAINTENAINCE JOB (If Reqd)	PDSLL-9951	General calibrtrion Equipment/Tools	AIR DAMPERS	1		
254	PDSLL-9950		PDSLL- 9950			1		
255	TCV- 9917	INSPECTION, CALIBRATION & MAINTENAINCE JOB (If Reqd) Body Hydro test in Workshop	SIZE: 4" CL 150 WORCESTER	General calibrtrion Equipment/Tools	GAS FUEL LINE	1		
256	TT- 9917	INSPECTION, CALIBRATION & MAINTENAINCE (If Reqd)		General Tools	CONTROL CABINET	1		
257	XSV- 9933	Dismantling, Shifting To W/S, Body & Trim inspection, Lapping of Plug/Seat (If	SIZE: 1-1/2" CL 150 MAXON	Grease Gun, General Tools.	FLASHGASTO INCINERATOR	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
258	XSV- 9935	Reqd.) Replacement of kits, Actuator integrity, Hydro test, Calibration, Shifting to location, Re- Installation, loop test, service of all local Pneumatic regulators, I/P Converters & Positioner. Painting Body as actual color arranged by Contractor.	SIZE: 1-1/2" CL 150 MAXON		FLASHGASTO INCINERATOR	1		
259	Actuators & Positioner	Inspection / Testing / Position Verification Any Maintenance Job If Required	Actuators & Positioner	General Tools	DAMPERS	1		
260	PSLL-9912	Inspection & Calibration Of Switch, Verification of Electrical Connections, inspection of loop,	PSLL-9912	General calibrtion Equipment/Tools	FUEL GAS TO INCINERATOR	1		
261	PSHH-9918		PSHH-9918		FUEL GAS TO INCINERATOR	1		
Cooling Tower					Location			
262	FCV- 9803	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 4" CL 150 Fisher Control Valve	Scrwe Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	COOLING TOWER BLOW DOWN	1		
263	LT-9801	Onsite calibration, leak test of connectors, checking of isolating valves, loop verification.	Level Transmitter Masoneilan	Spanners Set (In/mm) Screw Drivers Set Hex Key set. Multi-meter Pipe Wrench 18", 12" ² . Transparent nylon tube of 1" dia, 10 meter length.	COOLING WATER MAKE-UP (BASIN)	1		
264	LCV-9801	To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through DCS. Provide soft and hard copies of assignments. Replacement of Poritioner if required	Size: 6" CL 150 Fisher Control Valve	Scrwe Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Multimeter, mA Current Source, HART Communicator, consumables	COOLING WATER MAKE-UP	1		
265	FT- 9803	Sensor cleaning and setting, Field signal electric connection checking,	Flow Transmitter Rosemount	General calibrtion Equipment/Tools	COOLING TOWER BLOW DOWN	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
266	FT-9805	Calibration verifications, loop testing. Checking of isolating valves			COOLING WATER MAKE-UP	1		
267	FT-9809				COOLING TOWER SUPPLY	1		
268	PT-9813	On Site Level troll internal Cleaning, Sensor cleaning and setting, Field signal electric connection checking, Calibration verifications, loop testing. Checking of isolating valves	Press. Transmitter Rosemount	General calibrtion Equipment/Tools	COOLING TOWER SUPPLY	1		
Water Treatment Plant					Location			
269	KV-9001-A	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re- Installation, On/Off Testing	Size: 6" Butterfly Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	PRESS.FILTERS A	1		
270	KV-9002-A				PRESS.FILTERS A	1		
271	KV-9003-A				PRESS.FILTERS A	1		
272	KV-9004-A				PRESS.FILTERS A	1		
273	KV-9005-A				PRESS.FILTERS A	1		
274	KV-9006-A				PRESS.FILTERS A	1		
275	KV-9009-A				PRESS.FILTERS A	1		
276	KV-9027-A				PRESS.FILTERS A	1		
277	KV-9001-B	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re- Installation, On/Off Testing	Size: 6" Butterfly Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	PRESS.FILTERS B	1		
278	KV-9002-B				PRESS.FILTERS B	1		
279	KV-9003-B				PRESS.FILTERS B	1		
280	KV-9004-B				PRESS.FILTERS B	1		
281	KV-9005-B				PRESS.FILTERS B	1		
282	KV-9028-A	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re- Installation, On/Off Testing	Size: 6" Butterfly Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	SIDE STREAM FILTERS A	1		
283	KV-9029-A				SIDE STREAM FILTERS A	1		
284	KV-9030-A				SIDE STREAM FILTERS A	1		
285	KV-9033-A				SIDE STREAM FILTERS A	1		
286	KV-9034-A				SIDE STREAM FILTERS A	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
287	KV-9028-B	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re-Installation, On/Off Testing	Size: 6" Butterfly Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	SIDE STREAM FILTERS B	1		
288	KV-9029-B				SIDE STREAM FILTERS B	1		
289	KV-9030-B				SIDE STREAM FILTERS B	1		
290	KV-9031-B				SIDE STREAM FILTERS B	1		
291	KV-9028-C	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re-Installation, On/Off Testing	Size: 6" Butterfly Valves	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	SIDE STREAM FILTERS C.	1		
292	KV-9029-C					1		
293	KV-9030-C					1		
294	KV-9031-C					1		
EGTs 1,2,3 & 4 -- Fuel GAS Skid/Turbine Skid/TCM					Location			
295	PCV-1	Calibration, loop test, service of all local Pneumatic regulators. The calibrations Tools of the vender must be certified by some recognized institution.	Size: 1-1/2" CL 600 Valtek Valve	Pressure Calibrator, General Tools	EGT's Fuel gas skid	1		
296	PCV-1A		Size: 1-1/2" CL 600 Valtek Valve			1		
297	PSV-1	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 4"x6"	Crane, Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set, Pressure Source 2000PSI, Other calibration equipment. PSV Test Bench. Consumables	EGT's Fuel gas skid	1		
298	PSV-2		Size 1"x1"			1		
299	PSV-3		Size 1"x1"			1		
300	NYA	Dismantling, Shifting To W/S, Body & Trim inspection, Lapping of Plug/Seat (If Reqd.) Replacement of kits, Actuator integrity, Hydro test, Calibration, Shifting to location, Re- Installation, loop test, service of all local Pneumatic regulators.	Dump Valve 1" 600CL	General Tools	Horizontal K/O Vessel at EGT's Area.	4		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)								
Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
301	Off Skid Valves	Dismantling, Shifting to W/S Inspection and cleaning of respective SOVs, Body, Disc and Seal Inspection, Checking the integrity of actuator, Cleaning/overhauling of Manual Override, Shifting to location, Re-Installation, On/Off Testing	1"	Screw Driver Set, Terminal Screw Drivers, Spanner Set mm/Inch, Hex Key Set	EGTS Off Skids valves	8		
302	04 Turbines	Inspection/ cleaning of all SOV's and Diaphragm Valves.	Pneumatic purging Cleaning by pulse controller	General Tools	Enclosure and Ventilation Purging and ventilation system.	76		
303	04 Turbines	Dismantling of valves from location, shifting to workshop, inspection and maintenance , changing of repair kit, reinstallation and verification of operation, on-off position		General Tools	BLOW OFF VALVE (01 No. Each Unit)	4		
304	04 Turbines	Pressure Switches On Site Calibration Check	Hand Pump Pneumatic Pressure Calibrator, General Tools	General Tools	Pressure Switches (05 Nos. Each Unit)	20		
305	04 turbines	Pressure Tx On Site Calibration Check	Hand Pump Pneumatic Pressure Calibration General Tools.	General Tools	Transmitters (06 Nos. Each Unit)	24		
PRESSURE SAFETY VALVES: -								
Boiler/Utilities Area					Location			
306	LP1-PSV-8001	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: 4" 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.	LP1 BOILER	1		
307	LP1-PSV-8002		Size: 6" x 6"		LP1- BOILER	1		
308	LP2-PSV-8001		Size: 4" x 6"		LP2- BOILER	1		
309	LP2-PSV-8002		Size: 6" x 6"		LP2- BOILER	1		
310	HP1-PSV-915		Size: 1" x 1", Make: ESER		HP1- BOILER	1		
311	HP1-PSV-916		Size: 1" x 1", Make: ESER		HP1- BOILER	1		

OGDCL UCH-I GAS PROCESSING PLANT - ATA 2022 (INSTRUMENT SCOPE OF WORK)

Act #	Tag #.	Job Description	Specifications	Tools Required	Remarks	Qty	Unit Rate	Total Cost
312	HP1-PSV-917		Size: 1" x 1", Make: ESER		HP1- BOILER	1		
313	HP2-PSV-A		Size: 2" x 3", Make: FARRIS		HP2-A	1		
314	HP2-PSV-B		Size: 2" x 3", Make: FARRIS		HP2-B	1		
315	HP2-PSV-C		Size: 2" x 3", Make: FARRIS		HP2-C	1		
316	DE-AREATOR		Size: 3" x 4", Make: TELEDYNE		DE-AREATOR	1		
317	LP3-PSV-A		Size: 6" x 8", Make: CROSBY		LP3 Boiler	1		
318	LP3-PSV-B		Size: 6" x 8", Make: CROSBY		LP3 Boiler	1		
319	LP3-PSV-C		Size: 6" x 8", Make: CROSBY		LP3 Boiler	1		
320	PSV-9606		Size: 6" x 8", Make: TELEDYNE		Fuel Gas Skid	1		
321	PSV-9619		Size: 6" x 8", Make: TELEDYNE		Fuel Gas Skid	1		
322	10-PSV-201		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-10	1		
323	10-PSV-202		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-10	1		
324	20-PSV-201		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-20	1		
325	20-PSV-202		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-20	1		
326	30-PSV-201		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-30	1		
327	30-PSV-202		Size: 2"x 3/4", Make: HYDROSEAL		Glycol Pump Discharge Train-30	1		
Total Cost (Instrument SOW)								

OGDCL SOW OF PF/CORROSION SECTION FOR UCH-I ATA-2022 (OCTOBER)

Sr. #	Instruments Type / Make	Qty	Job Description	Terms/Tools/Eqps. Required	Unit Rate	Total Cost
UPL END (DERA MURAD JAMALI) -PRODUCTION FACILITIES						
1	Epoxy painting of delivery station that includes mainly. 1: 4 Nos vertical vessels of dia 42" ,20 ft height/each 2: 3 Nos meter runs of 14"dia, 12 ft length/each 3: Riser and pig receiving assembly of 26" dia, 50 ft length 4: Inlet/outlet piping of 14" dia of 04 vessels (total 80ft length) & headers of 24" dia.(100 ft length) 5: Plate form around 4 no vertical vessels (5ftX 100ft)	01 Nos (Lupm sum)	2 coat epoxy painting of delivery station	<ul style="list-style-type: none"> • Contractor will arrange all certified machinery/tools like crane, scaffolding,compressor and lifting gears. • Contractor will arrange proper tool for roughing of surfaces • Contractor will arrange its transport for mob/demob of its manpower to/from UPL • Contractor will pay messing charges to m/S UPL as per UPL rate. No ousource messing is allowed. • Contractor will arrange its boarding/lodging/pick & drop in nearby city if it is not provided by m/S UPL . • Contractor will follow all covid-19 protocols including quarantine on its own cost as required by m/s UPL. • Contractor will provide police verification of its manpower 		
2	42" dia vertical filter vessels-B (27 filter elements)	01 Nos	Replacement of filters from 01 Nos 42" dia vertical filter vessels (27 filter elements/vessel)			
Activities at UGF, Gathering Area						
1	Prefabricated SS spool of 1" dia	1	Replacement of boot line at slug catcher.LCV-2025			
2	Ball Balve, 12",#600 ,RF	2	Deblinding and installation of valve at pig launcher/reciever			
3	Ball Balve, 12",#600 ,RF	1	Replacemnt of valve of inter connecting line well#21 at header			
4	Ball Balve, 8",#600 ,RF	6	Deblinding and installation of valve at pig launcher/reciever			
5	Ball Balve, 6",#600 ,RF	1	Replacement of isolation valve at LCV-2020			
6	Ball Balve, 6",#600 ,RF	1	Replacement of isolation valve at LCV-2021			
7	Wafer Type NRVs of size 26" of SGL	1	Dismantling,repairing, leakage testing & box up			
Total Cost (PF-Prod SOW)						

OGDCL T&I- SECTION (PE&FD), PRODUCTION DEPARTMENT ATA-2022 - UCH-I

Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
1. Gathering Area:-									
1	Western & Central Lobe	PRV_2001A PRV_2001B	16" Emergency Valve Morin/Emerson	<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of PRVs 	All tools, consumables, calibration equipments at contractor's end 1-Multi-meter 2-Engineering Station 3-Hart Communicator 4-Spanners Set (In/mm) 5-Screw Drivers Set 6-Resistance Box. 7-Pressure Calibrator 8-mA Source 9-Heavy Machinery (if reqd.).	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 equipments. 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	2		
		ESDV_2001A ESDV_2001B		<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of ESDVs 			2		
		FCV_2001A FCV_2001B	Control Valves 16" / Fisher	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity checks of actuator , positioner , I/P converter and service verified by CCR HMI Rectify Feedback transmitting signals Open/ Close of FCV & etc Rectify faulty indications of all instruments / valves etc (if required) 			2		
		MVT_2001A MVT_2001B	Rosemount	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity of service verified by SCADA CCR HMI 			2		
2	Eastern Lobe	FCV_2001C FCV_2001D FCV_2001F FCV_2001E	Control Valves 8" / Fisher	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity checks of actuator , positioner , I/P converter and service verified by CCR HMI Rectify Feedback transmitting signals Open/ Close of FCV & etc Rectify faulty indications of all instruments / valves etc (if required) 			4		

OGDCL T&I- SECTION (PE&FD), PRODUCTION DEPARTMENT ATA-2022 - UCH-I

Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
		ESDV_2001C ESDV_2001D ESDV_2001F ESDV_2001E	8" ESDV Valve Morin/Emerson	<ul style="list-style-type: none"> Dismantling of Actuator , shifting to W/S, replacement of Gasket & O Rings and maintenance etc. Actuator integrity testing and calibration, <ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of ESDVs 			4		
		PRV_2001C PRV_2001D PRV_2001F PRV_2001E	8" ESDV Valve Morin/Emerson	<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of PRVs 			4		
		MVT_2001C MVT_2001D MVT_2001E MVT_2001F		<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity of service verified by SCADA CCR HMI 			4		
2	Well Site:-								
1	Eastern Lobe	FCV_07	Flow Control Valve , Size 4" / Mokveld	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity checks of actuator , positioner , I/P converter and service verified by CCR HMI Rectify Feedback transmitting signals Open/ Close of FCV & etc Rectify faulty indications of all instruments / valves etc (if required) 	All tools, consumables, calibration equipments at contractor's end 1-Multi-meter 2-Engineering assistance software 3-Hart Communicator 4-Spanners Set (In/mm) 5-Screw Drivers Set 6-Resistance Box. 7-Pressure Calibrator 8-mA Source 9-Heavy Machinery (if reqd.).	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 equipments. 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	4		
2		FCV_08							
3		FCV_09							
4		FCV_06B							
5		ESDV_07	TK valve , Emergency Shutdown Valve Size 4"	<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of ESDVs 			4		
6		ESDVV_08							
7		ESDV_09							
8		ESDV_06B							
9		FT_o7	MVT / Rosemount 3095	<ul style="list-style-type: none"> Calibration, servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI 			4		
10		FT_08							
11		FT_09							
12		FT_6B							

OGDCL T&I- SECTION (PE&FD), PRODUCTION DEPARTMENT ATA-2022 - UCH-I

Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
13	Central Lobe	FCV_03	Flow Control Valve , Size 4" / Mokveld	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity checks of actuator , positioner , I/P converter and service verified by CCR HMI Rectify Feedback transmitting signals Open/ Close of FCV & etc Rectify faulty indications of all instruments / valves etc (if required) 			5		
14		FCV_17							
15		FCV_18							
16		FCV_11							
17		FCV_14							
18		ESDV_03	TK valve , Emergency Shutdown Valve Size 4"	<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of ESDVs 			5		
19		ESDV_17							
20		ESDV_18							
21		ESDV_11							
22		ESDV_14							
23		FT_03	MVT / Rosemount 3095	<ul style="list-style-type: none"> Calibration, servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI 			5		
24		FT_17							
25		FT_18							
26		FT_11							
27	FT_14								
28	Western Lobe	FCV_12	Flow Control Valve , Size 4" / Mokveld	<ul style="list-style-type: none"> Onsite Testing, Calibration, integrity checks of actuator , positioner , I/P converter and service verified by CCR HMI Rectify Feedback transmitting signals Open/ Close of FCV & etc Rectify faulty indications of all instruments / valves etc (if required) 	6				
29		FCV_13							
30		FCV_15							
31		FCV_16							
32		FCV_02							
33		FCV_10							
34		ESDV_12	TK valve , Emergency Shutdown Valve Size 4"	<ul style="list-style-type: none"> Onsite Testing & Rectification of PRVS Opening / Closing indications(Limit Switch) through CCR HMI Display Greasing & Cleaning of ESDVs 	6				
35		ESDV_13							
36		ESDV_15							
37		ESDV_16							
38	ESDV_02								
39	ESDV_10								
40	FT_12	MVT / Rosemount 3095	<ul style="list-style-type: none"> Calibration, servicing and maintenance will be carried out and verification of 	6					
41	FT_13								

OGDCL T&I- SECTION (PE&FD), PRODUCTION DEPARTMENT ATA-2022 - UCH-I

Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
42		FT_15		reading will be monitored by CCR-HMI					
43		FT_16							
44		FT_02							
45		FT_10							
2 LP Separators (V-100 & V-101):-									
1	LP Separator	LT -3201 LT-3250	LT	<ul style="list-style-type: none"> • V-100 & V-101 (LCVs, PSVs, PCVs) Inspection, calibration and maintenance will be carried out and verification of controlling will be executed by CCR-HMI [operator command]. • To record as found calibration data. Site calibration and integrity checks of actuator, positioner, I/P converter. Loop calibration through SCADA 	<ul style="list-style-type: none"> • All tools, calibration equipments at contractor's end Spanners Set (In/mm) • Screw Drivers Set • Hex Key set. • Multi-meter • Pipe Wrench set • Engineering assistance software • Hart Communicator • Spanners Set (In/mm) • Screw Drivers Set • Multi-meter • Resistance Box. • Pressure Calibrator 	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 equipments. 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	2		
		25-PSV-3205 25-PSV-3255	PSV, Size= 4" / Anderson Greenwood & Co.				2		
		PCV-3215 PCV-3271	PCV , Size=2" / Fisher				2		
2 Slug Catcher:-									
1	Slug Catcher	LT_2025 LT_2020	LT	Rectify following inspection, calibration and maintenance will be carried out and verification of controlling will be executed by CCR- HMI [operator command]. [Boot calibration & Servicing] [calibration and servicing]	<ul style="list-style-type: none"> • All tools, consumables, calibration equipments at contractor's end Spanners Set (In/mm) • Screw Drivers Set • Hart Communicator & Etc • Spanners Set (In/mm) • Screw Drivers Set 	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 equipments. 3. mA Source and pressure calibrator at Contractor end	2		

OGDCL T&I- SECTION (PE&FD), PRODUCTION DEPARTMENT ATA-2022 - UCH-I

Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
					<ul style="list-style-type: none"> Multi-meter Resistance Box. Pressure Calibrator 	4. All the procedure as per manual will be provided by OGDCL that must be followed.			
		FT_2002	MVT / Rosemount	Calibration, servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI.	<ul style="list-style-type: none"> Hart Communicator Spanners Set (In/mm) Screw Drivers Set Multi-meter Resistance Box. Pressure Calibrator Engineering Assistance software 	5. Site test with SCADA left as per process requirement	1		
		25-PSV-2015	PSV , Size = 4" / Anderson Greenwood & Co	Calibration, servicing and maintenance will be carried out and verification of reading will be monitored by CCR-HMI.	<ul style="list-style-type: none"> Hart Communicator Spanners Set (In/mm) Screw Drivers Set Multi-meter Resistance Box. Pressure Calibrator 		1		
5 Condensate Storage Tanks (T-101 & T-102)									
1	Condensate Tanks	LT_3405 LT_3305	LT- [T-101 & T-102]	Rectify error and calibrations of the LT- (T-101 & T- 102) will be carried out and verified by CCR – HMI , Operator command	<ul style="list-style-type: none"> Hart Communicator Spanners Set (In/mm) Screw Drivers Set Multi-meter Resistance Box. Pressure Calibrator 	<ul style="list-style-type: none"> OGDCL will deduct from actual cost if any job is not possible to be carried out. OGDCL will deduct in case of non-availability of tools and calibration equipments. mA Source and pressure calibrator at Contractor end All the procedure as per manual will be provided by OGDCL that must be followed. Site test with SCADA left as per process requirement 	2		
		LS_3310 LS_3410	LS- [T-101 & T-102]	Rectification of error and calibration job will be executed both LS-(T-101 & T-102); will be verified by CCR-HMI, Operator command.				2	

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Sr. No.	Location	Tag No.	Instruments Type /Make	Job Description	Tools/Eqps. Required	Remarks	Qty	Unit Rate	Total Cost
6- Inlet Station									
1	Inlet Station	SDV-2001	SDV/Fluid System Lucca-Italy	Repair / Inspection/ Greasing of inlet station sale line SDV	Grease Gun, Spanner Set (in/mm), Screw driver set, Pipe wrench set, Multimeter	The Valve has passing issue	1		
7- Inlet Station									
1	UPL1	SDV-2260	SDV/Fluid System Lucca-Italy	Repair / Inspection/ Greasing of inlet station sale line SDV	Grease Gun, Spanner Set (in/mm), Screw driver set, Pipe wrench set, Multimeter	The Valve has stuck issue	1		
8- Uch1 Control Room SCADA									
1	Control Room SCADA		SCADA Server/ IntelliMax	Repair and maintenance of Uch1 IntelliMax and Factorytalk Servers		Require experties of IntelliMax and Factory Talk Servers troubleshooting capability.	1		
			SCADA Server/ Factorytalk				1		
Tota Cost (Tele-Prod SOW)									

NOTE:

1. Contractor will responsible to provide all mandatory equipments for calibration and maintenance of above mentioned instruments.
2. Deidcated Double Cabin Vehicle and Crane Mounted Truck with man hoisting cradle must be provided by Contractor to ensure smooth ATA activities on Well Sites i.e. 5-28 Km approx and at UPL i.e 85 Km in distance from Plant.

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