

OIL & GAS DEVELOPMENT COMPANY LIMITED

TERMS OF REFERENCE (TOR)/SCOPE OF WORK(SOW)



TENDER ENQUIRY NO: PROC-SERVICES/CB/P&P-4405/2019

**HIRING TECHNICAL SERVICES FOR EXECUTION OF ANNUAL TURN
AROUND (ATA) 2019 JOBS OF UCH-I AND UCH-II PLANTS**

Note: Master set of tender documents (services) uploaded on OGDCL's website (www.ogdcl.com) is the integral part of this TOR/Tender.

Annexure-A

ATA OF UCH-I & UCH-II GAS PROCESSING PLANT

ATA-2019 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 & UCH-II Gas Processing Plants for the execution of the Annual Turnaround (ATA) 2019 maintenance activities from reputable companies in this field.
2. The tentative schedule of annual shutdown of UCH-II Gas Plant is from 10-10-2019 to 20-10-2019 (11 days), only 08 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 tentative schedule of annual shutdown of UCH-I Gas Plant is from 23-10-2019 to 03-11-2019 (12 days), only 09 days should be available for maintenance activities and remaining 01 days will be required for the shutting down and 02 days for startup activities.
4. **Contract Period** will be six months from the date of issuance of Service Order by OGDCL.
5. **Completion Period** Contractor shall complete the ATA services within time specified above for UCH-I and UCH-II from the date of plant shut down. Contractor mobilization & plant shutdown date will be communicated through mobilization notice issued by OGDCL's P&P Department (via email or letter).
6. The contractor shall develop and submit a detailed work schedule including mobilization and preparatory works prior to shutdown.
7. The Contractor shall quote separate rate in PKR for each activity against the quantities mentioned in the scope of work.
8. 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.
9. 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.

10. 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. The successful contractor will be required to submit detailed procedures for undertaking shutdown jobs especially repair works and modification jobs for Owner's approval.
11. 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 etc., shall be the Contractor's responsibility.
12. 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.)
13. 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.
14. Unit rates quoted by bidder shall be firm. No extra payments on account of escalation in prices due to any reason shall be admissible.
15. 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.
16. 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.
17. 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.
18. 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.
19. The painting of repaired piping/stripper weld seams with primer (red oxide) and painting of piping modification jobs with primer (red oxide) & topcoat with high build high solids epoxy (off-white) as per applicable code and all other painting jobs wherever mentioned in scope shall be the responsibility of Contractor while OGDCL will provide the paint for the given scope of work.

20. Removal/Re-installation of insulation where applicable shall be the responsibility of Contractor.
21. The contractor will arrange cranes and all other lifting/rigging gears for all activities to be carried out during ATA.
22. The Owner for any job will not provide any tools to contractor. Otherwise owner's representative will be liable to deduct the charges accordingly.
23. Skilled manpower should be well experienced in their respective crafts.
24. HSEQ Rules & Regulations will be strictly observed.
25. All the participating companies/contractors should have at least 5 years of similar experience especially in turnaround of Oil & Gas, Petrochemical & Fertilizers Plants.

26. **REFRACTORY WORK:**

The contractor will arrange the material required for the refractory repair work of Incinerators (UCH-I & UCH-II), Boilers (UCH-I) & Hot Oil Heaters (UCH-II). 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: 60 N0s. |
| (iv)-Anchors with lock (SS) | Qty: 25 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.

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

- The contractor shall arrange expert company/firm in the field of chemical cleaning as listed below.
 - 1- Multilink Engineering Services, Islamabad ([Tel:051-4499251](tel:051-4499251))
 - 2- Pakistan Associates of Industrial Engg. Lahore ([Tel:042-35321158](tel:042-35321158))
 - 3- Any other Equivalent
- Chemical cleaning firm shall be responsible for the supply of chemicals & services required for chemical cleaning of heat exchangers as mentioned in SOW including manpower, chemical circulation tanks, circulation pumps, hosepipes, fittings, hand tools & PPE's as per job requirement.
- Chemical cleaning firm shall propose/select suitable chemical according to the service and material of equipment as given in scope of work.
- It is the responsibility of contractor to ensure the effective cleaning of heat exchangers.

28. **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.

29. INSPECTION/REPAIR/TESTING OF VALVES:

- The Contractor shall quote separate rates for each/individual valve.
- Individual tags 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 low hydrogen electrodes E-7018 will be used and good brands will be used.
- All gate valves will be tested from both sides i.e. front and back.
- Lapping of valve seats shall be carried out on high-level precision machine.

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

References:

- ASME Sec II Part-A (Ferrous material Specifications)
- ASME Sec II Part-C (Specifications for welding rods, electrodes and filler materials)
- ASME VIII Div-I (Rules for Construction of Pressure Vessels)
- ASME Sec IX (Welding and Brazing Qualifications)
- ASME B31.3 (Process Piping)

- ASME Sec V (Non Destructive Examination)
- API-510 (Code for Inspection of pressure vessels repair, alteration and re-rating)
- API-572 (Inspection of Pressure Vessels)
- API-570 (Inspection, Repair, Alteration and re-rating of piping)
- API-598 (Valves Inspection & Testing)
- MSS-SP-61 (Pressure Testing of Steel Valves)
- NACE MR-0175
- OGDCL's Specifications & HSEQ Manual

TERMS & CONDITIONS FOR CONTRACTORS
UCH-I & UCH-II GAS PLANT ATA-2019

31. OGDCL'S RESPONSIBILITIES:

- 31.1 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.
- 31.2 Only lodging (accommodation) will be provided to the Contractor manpower. The arrangement for 300 persons is available at site.
- 31.3 Only Emergency/First Aid medical coverage will be the responsibility of OGDCL.
- 31.4 All gaskets and direct material/spare parts will be provided.
- 31.5 OGDCL will provide paint for jobs wherever mentioned in scope of work.
- 31.6 OGDCL will provide pumps, tanks and hosepipes for in-place chemical cleaning of plate type heat exchangers, vessels & columns only.
- 31.7 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.

32. CONTRACTOR'S RESPONSIBILITIES:

- 32.1. 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.
- 32.2. Contractor will ensure mobilization of management staff, tools/equipment at least 07 days before commencement of ATA.
- 32.3. Locals should be given preference while hiring of skilled/unskilled manpower.
- 32.4. 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 & Uch-II Gas Plant successfully with high level quality within stipulated time period. Contractor should submit separate execution plan for Uch-I & Uch-II Plants. (Soft copy of Primavera Plan is mandatory)
- 32.5. Contractor should prepare/submit daily progress report and percentage Gantt chart (planned vs actual) at end of the day.
- 32.6. Tools and consumables for the execution of each job including welding / fabrication consumables for all repair and modification jobs.
- 32.7. Painting job where ever given in the scope including painting equipment/tool like brushers, roller, spray nozzles/guns, hosepipes etc.
- 32.8. Pneumatic Ejectors/Blowers for the ventilation of Columns and Vessels as per job scope requirement.
- 32.9. 24V Lighting arrangement inside the Column and vessels.
- 32.10. In case of any accident, OGDCL will provide only general first aid whereas any other medical treatment would be the responsibility of contractor.

- 32.11. 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.
- 32.12. All tools, consumables and calibration equipment/tools for all instruments, control valves & PSV's should be the responsibility of contractor.
- 32.13. Site administration personnel with associated resources like computer, printers, photocopiers etc.
- 32.14. Contractor should arrange the blind flanges for PSV's, control valves and manual valves testing which will not be available at OGDCL store stock.
- 32.15. 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.
- 32.16. Nitrogen gas for PSV's and Regulators testing will be arranged by contractor.
- 32.17. Cranes and fork lifters suitable to carry out the activities within stipulated time frame.
- 32.18. Precision Lathe machines for the repair of manual valves, control valves & PSV's as per work scope requirement.
- 32.19. Gaskets for pressure testing/bench test of manual valves, control valves & PSV's.
- 32.20. Water jetting machines with all accessories up to 15000psig operating pressure for hydro-jetting of heat exchangers etc. as per job scope requirement.
- 32.21. Chemical cleaning of heat exchangers as mentioned in scope of work is the responsibility of contractor and will be carried out by expert firm/company in this field (Refer clause # 25 of explanatory notes).
- 32.22. Refractory work of Incinerators, Boilers and Hot Oil Heaters including material is responsibility of contractor and should be carried out through M/S Refra Product, Karachi or any other local expert firm/company in this field (Refer clause # 24 of explanatory notes).
- 32.23. Scaffolding material and services, as when and where required.
- 32.24. Electrical Supply Boards/Cables along with earth leakage circuit breaker as per HSE standard.
- 32.25. Pneumatic/24V tools for confined spaces i.e. grinders/power brushes (Vessel and Columns).
- 32.26. Contractor will arrange sufficient air compressors in view of complete scope of work (ventilation/filter cleaning/pneumatic tools etc.)
- 32.27. Shock absorbing safety harness and respirators for contractor employees as per job requirement.
- 32.28. 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.
- 32.29. Provision of PPE'S to their manpower and each worker should display ID card (HSE concern)
- 32.30. 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)

- 32.31. The valid certification of welders, scaffolder etc. will be mandatory. Tags should be displayed for certified scaffolding (HSE Concern).
- 32.32. HSEQ manpower by contractor:
- 32.32.1. I/C HSEQ should be B.E Mech/Chemical with Nebosh certification with at least 05 Years of relevant experience.
 - 32.32.2. Supervisor should Graduate/D.A.E. having Safety Courses certificates with at least 5 Years of relevant experience.
 - 32.32.3. HSE assistant should be at least Intermediate having Safety Courses/ certificates with at least 5 Years of relevant experience)
 - 32.32.4. Well-equipped First Aider & Rescuers (Trained/Certified at least 02 Nos.) e.g ropes/pulley, tri-pod, stretchers, medicines etc.
 - 32.32.5. HSEQ crew will be interviewed by OGDCL HSEQ representative before commencement of ATA.
- 32.33. Contractor shall arrange Decanting pumps for UCH-I ETP Sump Pit, Cooling Tower basin, Cooling Water Pump suction pit etc. and UCH-II CPI Pits, Slope Vessel Pit, Amine Sump Pit, Glycol Sump Pit etc. wherever mentioned in SOW.
- 32.34. Contractor shall submit WPS & PQR for welding jobs prior to execution of job no deviation will be permissible.
- 32.35. Contractor shall depute qualified quality control inspectors (Level-II, Level-III CSWIP 3.1, API certified) for the supervision of welding/modification jobs.
- 32.36. DPT of all welding jobs (Repair work/Modifications) shall be the responsibility of main execution contractor including material.
- 32.37. Submit Total no's of deployed manpower list (designation wise) for the execution of individual job.
- 32.38. Contractor shall provide adequate meals and laundry services to their employees. Local area Contractor's may be introduced to provide such services.
- 32.39. 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.
- 32.40. Contractor should ensure the police verification of all manpower direct and indirect and must have bio-data file of each. (Security concern)
- 32.41. Contractor manpower must have CNIC and Contractor identity card.
- 32.42. Contractor should ensure his manpower has no any kind of ammunition and narcotics. (Security concern)
- 32.43. Mobiles and photo camera are prohibited in the plant premises and contractor should be ensured. (Security concern).
- 32.44. 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).

33. Contractor Qualification Criteria

Sr. No.	Evaluation Item	Description of Criteria	Max. Marks / Calculations	Maximum Marks	Minimum Qualifying Marks	Remarks
1.	Contractor strength to execute Mechanical, Electrical & Instrumentation work.	Contractor should have experience for execution of Mechanical, Electrical and Instrument works in ATAs.	Fully Complied = 15	15	15	The Contractor should submit the detail of scope of work along with supporting documents to prove that they have executed Mechanical, Electrical & Instrument activities during ATAs. Experience of Contractor itself will be considered only (experience of manpower is separately covered in TOR)
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, Only 05 ATAs will be considered for Marks calculation.	30	10	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). If value/ Cost of ATA performed is less than 10 Million but above 07 Million (PKR) 05 points each. If value/ Cost of ATA performed is less than 07 Million but above 04 Million (PKR) 04 points each. If value/ Cost of ATA performed is less than 04 Million but above 1.5 Million (PKR) 03 points each. If value/ Cost of ATA performed is less than 1.5 Million then it will not be considered.

Sr. No.	Evaluation Item	Description of Criteria	Max. Marks / Calculations	Maximum Marks	Minimum Qualifying Marks	Remarks
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 4. 04 Marks	15	04	Contractor should submit the valid copy of certificates. If the certificate status is in progress no marks shall be given.
4.	Offices, Workshop, Tools, Equipment, Machinery, Infrastructure.	Contractor should have following facilities with in 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 for Mechanical, Instrument & Electrical works.	1. 03Marks 2. 08 Marks 3. 03 Marks 4. 06 Marks (04 + 02) 5. 10 Marks.	30	15	Established workshop: 02 Marks Established Office: 01 Marks Mechanical tools: 04 Marks. Instrument tools: 02 Marks. Electrical tools: 02 Marks. 01 Marks for each main equipment / Machinery. 01 Crane (Min 25 tons). 02 Marks Max: 04 Marks 01 fork lifters (Min 3 Tons). 01 Mark Max: 02 marks Organogram: 02 Mark. Mechanical CVs: 04 Mark Electrical CVs: 02Mark Instrument CVs: 02Mark

Sr. No.	Evaluation Item	Description of Criteria	Max. Marks / Calculations	Maximum Marks	Minimum Qualifying Marks	Remarks
5.	Safety & HSE Policy	<ol style="list-style-type: none"> 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. 2. Well defined HSE policy with commitment and to provide 1 Million Safe Man hours' record. 3. Deployment of first aid boxes & medical team for the labour at site. 	<ol style="list-style-type: none"> 1. 04 Marks for full compliance, partial compliance zero Marks. 2. 04 Marks, 3. 02 Marks for full compliance partially compliance zero Marks. 	10	06	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 Marks= 100

Minimum Qualifying Marks = 70

34. FINANCIAL BID FORMAT/EVALUATION CRITERIA

UCH-I&II Plant ATA-2019

Sr.	Description	Price in PKR (exclusive of PST/ICT)
1.	<p>Cost of Services/Manpower, activity wise breakdown as per enclosed document (the cost must be inclusive of all types of equipment, tools, machinery, consumables and PPE) for</p> <p><u>UCH-I</u></p> <ul style="list-style-type: none"> I. Mechanical Works II. T&I Works III. Instrument Works IV. Electrical Works <p><u>UCH-II</u></p> <ul style="list-style-type: none"> I. Mechanical Works II. T&I Works III. Instrument Works IV. Electrical Works 	
2.	Mob / De-mob cost (lumpsum)	
3.	Total cost	
<p>Note:</p> <ul style="list-style-type: none"> i) Total Price should be inclusive of all taxes (except Provincial Sales Tax/ ICT Tax on services in Pakistan), duties, levies, charges etc. ii) 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 as per attached list. iii) 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. iv) Contract will be awarded to technically qualified and financially lowest evaluated bidder on complete package basis. v) Contract will be issued on estimated amount however 100% payment will be made after completion of job as per Scope of Work and against verified invoices at actual along with completion certificate issued by OGDCL. 		

35. BID PRICE:

- i. Bid price must be quoted in PKR otherwise the bid will be rejected.
- ii. Bid price shall be inclusive of all taxes, duties, levies, charges etc., except Provincial Sales Tax (PST)/ Islamabad Capital Territory Sales Tax (ICT) on services in Pakistan.
- iii. The prices quoted by the successful bidder (contractor) for required services shall remain firm and final throughout contract period. The price charged by the successful bidder (contractor) for required services shall not vary from the prices quoted by the service company.

(This clause shall prevail instead of Master Tender document "ITB" clause # 06 'BID PRICE')

36. PAYMENT TERMS:

100% payment will be made after completion of job as per Scope of Work and against verified invoices at actual along with completion certificate issued by OGDCL.

(This clause will prevail instead of Master Tender document "ITB" clause # 07 'PAYMENT')

- 37. AMOUNT OF BID BOND:** Bid Bond /Bid Security amounting to **PKR: 1,800,000/-** is to be attached / provided with the technical bid strictly as per format provided in "Master Set of Tender documents (Services)" uploaded on OGDCL Website. Please see/download Master Set of Tender Document (Services) for further details.

Note :-

The "Master Set Of Tender Documents (Services)" uploaded on OGDCL's website (www.ogdcl.com) is the integral part of this TOR.