

TERMS OF REFERENCE (TOR)

FOR

**HIRING OF CP SYSTEM'S MONITORING,
MAINTENANCE, REHABILITATION, UP-
GRADATION, INSTALLATION &
CONSULTANCY SERVICES**



**TENDER ENQUIRY # PROC-
SERVICES/CB/CORR-4968/2021**

Terms of Reference (TOR) / Scope of Work (SoW)

CP SYSTEM'S MONITORING, MAINTENANCE, REHABILITATION, UP-GRADATION, INSTALLATION & CONSULTANCY SERVICES

1. Introduction.

- i. OGDCL, the largest Oil & Gas Exploring and Production Company in Pakistan intends to hire services of experienced and reputed CP contractor for hiring cathodic protection services at its various fields in all areas of the country to ensure external corrosion control of the installed assets.
- ii. The services shall be required on rate-running contract basis initially for a period of ONE year (*to be extendable for one more year with mutual consent on same rates, terms and conditions*) at all field locations where OGDCL carries its field operations.
- iii. Since the operating fields and area of operation are very wide and also nature of CP systems are different therefore the services have been split in two groups. Detail of the groups are given in below paras. The bids shall be submitted group wise because the technical & commercial evaluation shall be carried out group-wise and contract shall also be awarded group-wise.
- vi. The bid shall be evaluated on group basis therefore the bidder can offer bid for any single group or for both groups separately.

2. Purpose of Services

- i. To hire reputable cathodic protection systems engineering & consultancy contractor with specialized experience and certified man-power to monitor, audit, inspection, repairs, maintenance, rehabilitation & up-gradation of already installed CP Systems and install new systems where ever and whenever needed / required at all OGDCL fields / processing plants for all type of assets such as well casings, pipelines, storage tanks and processing plant's under-ground piping network etc and to provide consultancy services.
- ii. To ensure that installed CP Systems are efficiently and effectively working for proper protection of the assets as per NACE standards / recommended practices.
- iii. To enhance life expectancy of the installed CP Systems hence enhance working life of assets.

3. Technical Job Responsibilities / Required Services.

- i. The prime responsibility and basic KPIs for successful bidder of each group shall be that all CP Systems at the fields falling under their group shall keep

on working effectively by providing proper cathodic protection to the OGDCL assets to prevent external corrosion so that the assets shall be operationally available till their estimated life.

- ii. Due to CP System's variation the service are put in **TWO GROUPS**. The bidder(s) are required to opt to participate in any or both groups. They shall have to clearly mention the group for which they intend to participate. In either case the financial bid shall be submitted separately for both groups.

3.1 Periodical Visits.

The bidder(s) of each group shall be required to arrange periodical visits of their certified CP professionals for monitoring, inspection, audit, minor repairs, maintenance etc of already installed CP Systems at OGDCL fields mentioned against each group. This segment of services shall include minimum but not limited to following, therefore the successful bidder shall have to fulfill these requirements during each visit;

- i. As mandatory requirement the bidder has to physically check and monitor each and every CP System including all it's components, hardware etc at active wells, pipeline, storage tanks and processing plant under-ground piping networks etc. In case any CP System is installed at shut-in well or inactive pipeline or out-of-service tank it will be excluded from scope of contractor's periodical visit responsibility till the asset becomes active and needs CP protection.
- ii. To examine all components by taking readings to ensure effective performance of Transformer-Rectifier Units, Solar Systems, Thermo Electric Generators, current control boxes, anode junction boxes for each anode output etc (whatever the case may be).
- iii. To check functioning of and ensure that all components / hardware of CP systems are working properly.
- iv. The over-all system is effectively providing required potential as per requirement.
- v. Periodical, preventive & Routine repair & maintenance including following:
 - a. Cleaning of all components and hardware equipments,
 - b. Removing rust from components if any,
 - c. Check/change/replacement of TEG Filters,
 - d. Check & Change battery water, T/R Unit's oil, solar cards,
 - e. Change shunts, rheostats from already installed AJB / CCB.
 - f. All type of cable connections.
 - g. Dust removing from solar panels (*whatever the case may be*).
- vi. All above activities shall be carried out under supervision of NACE CP Level-III (CP Technologist) certified professional having 5 years' experience

and report shall be endorsed by NACE Corrosion technologist with minimum of 15 Years CP and Corrosion related experience.

3.2 Installing New CP Systems

- i. The contractor of each group shall be required to install new CP System(s) at any OGDCL field / plant falling under their group for underground pipelines, well casings, above-ground storage tanks etc as per company requirement.
- ii. The design parameters, material specifications, BOQ requirement shall be proposed and discussed on basis of available data and already designed CP Systems for that area before installation.
- iii. Since Qadir Pur Field falls under group – B, therefore the successful bidder of Group-B will be required to install additional CP Systems at ERW wells of Qadir Pur Field to mitigate minimum external corrosion protection to all well casings at ERW platform along with it's allied structure in light of recommendations of audit report already carried out. In this regard to re-validate recommendations the successful bidder shall carry out detailed audit & inspection of existing installed CP Systems at Qadir Pur Field's ERW platform wells, provide consultancy services for installation & commissioning of additional systems.
- iv. The installation shall be carried out under direct supervision of NACE CP Level-III Certified professional having minimum 5 years proved experience.
- v. For installing new CP System(s) major components (such as power source, anodes, cable, AJBs, CCBs, test posts, shunts, rheostats, splice kits, cad weld of the system) shall be provided by OGDCL. The other consumable items shall be contractor's responsibility.
- vi. All civil works such as preparing anode ground beds (shallow, horizontal / vertical, or deep ground bed) trenching, digging, back-filling, welding, cable connections, proper concrete foundations for power source, AJBs and CCBs etc shall be contractor's responsibility.

3.3 Partial Installation of individual CP System's Components.

The successful bidder of each group shall be required to provide services for fields mentioned against each group as part of major repair, maintenance, rehabilitation and up-gradation of already installed CP Systems on as and when required basis at any of the fields:

- i. Installation of individual Anode Junction Box(es), Anode Ground Bed(s), Current Control Box(es), Bond Box(es), Test Post(s) etc as per field's specific requirement.
- ii. Replacement of battery bank(s).

- iii. Installation of additional anodes. This will include digging & making connections with AJB or CCB.
- iv. Replacement of T/R Unit or Solar Unit or TEG Unit on already installed CP System.
- v. Replacement of damaged cables will be included digging and connections.
- vi. For above-mentioned jobs / activities all civil works such as properly concrete foundation(s) for AJBs, CCBs, Bond Boxes, Test Posts etc, digging / trenching, back-filling, welding etc shall be contractor's responsibility and will be included in above activities.

3.4 Call Out Services on day rate basis:

- i. Contractor of each group may also be required to provide experienced & NACE Certified professional(s) at any field on call out basis for some specific jobs such as to attend major repair, replacement of component, specific inspection on day rate basis.
- ii. The successful bidders of each group shall also have to provide technical & operational expert opinion & consultancy services on any problem / issue regarding CP Systems with no additional cost.

3.5 Dismantling of installed CP System.

- i. The successful bidder of each group may be required to provide services for dismantling of installed CP Systems where those are no more required or need to shift from one location to other location.
- ii. It will be bidder's responsibility to dismantle the system very carefully to get maximum material recovery for re-use.
- iii. All major components such as power source, AJBs, CCBs, shunts, rheostats, cables etc to be checked for re-usability.
- iv. After dismantling, all material shall be transported to store / designated place by field engineer for proper stacking. The transport for material shifting from well / site to store shall be provided by OGDCL.

4. Operational / Service Zones

As described above the services shall be hired in two groups consisting of following fields.

4.1 Group – A

This group will consist of following fields:

- i. Tando Alam Oil Complex including all its satellite sub-fields such as Lashari Center, Sono, Pasakhi, Thora, Main Facility, Daru, Dhachra Pur, Noorai Jagir and storage tanks etc.
- ii. Noor – Bagla field
- iii. Uch – I, Uch – II wells & Processing Plant, sale gas line and delivery station at Uch Power Plant and all storage tanks.
- iv. Nashpa Field, Processing Plant, feeding wells and storage tanks including Togh & Dhok Hussain sub-fields.
- v. Chanda/Mela Field, Processing Plant, feeding wells, transport line from Mela to Nashpa and storage tanks.
- vi. Dakhni Field & Processing Plant.

(Note: Total number of CP Systems installed at each location / field with source of DC power is given at Annexure – A)

4.2 Group – B

This group / zone consists of following fields:

- i. Qadir Pur Field's gathering facility, Processing Plant, storage tanks and its satellite wells Thal-East, Thal-West, Bhambhra and other up-coming well.
- ii. Sinjhero Field's Processing plant, feeding wells, storage tanks. Also Jakhro, Baloch and other feeding wells of Sinjhero plant.
- iii. Kunnar / KPD-TAY Processing Facility with feeding wells, storage Tanks and all feeding wells of KPD Plant.
- iv. Bobo Oil Field wells, gathering facility, Processing Plant and storage tanks.
- v. Maru-Reti field's wells.

(Note: Total number of CP Systems installed at each location / field with source of DC power is given at Annexure – A)

5. Contractor's General Responsibilities

- i. The contractor shall be responsible to provide all services as described above at fields / processing plants on as and when required basis depending upon specific field requirements.
- ii. For periodic field visit minimum three professionals including NACE CP Level-III professional and 2 technicians with minimum 5 years CP experience shall be deputed. In case any labour is required for civil works, it will be service contractor's responsibility to hire from local market at his own cost.

- iii. It shall be a mandatory requirement for bidder of GROUP – B to have professionals with proven track record and experience of Thermo Electric Generator’s installation, operations, maintenance, repair and troubleshooting. The bidder of Group – B has to provide verifiable evidence of such experience along with training & certificates of their professionals.
- iv. To provide proper PPEs, complete tool kit necessary equipped for monitoring, repair, maintenance etc. to meet above-mentioned requirement. Also to arrange transport for professionals for in-field movement & mob-demob purpose shall be contractor’s responsibility.
- v. The contractor’s professionals shall ensure that all systems are properly attended and minor repairs, maintenance as described above have been made and systems are working properly.
- vi. The contractor shall be required to follow field instructions regarding safety and security.
- vii. After every visit or job activity the contractor’s professionals shall share collected data with concerned field manager. However the final report duly endorsed by Corrosion Technologist with his expert opinion mentioning all readings, flaws (if any), repairs / maintenance work done, suggestions / recommendations for improvement etc shall be submitted to head office within 15 days after demobilization from the field.
- viii. During visit the contractor’s rep shall also check available CP Material and suggest spares for future need and same shall be mentioned in visit report.
- ix. After every job, the contractor’s rep shall obtain Job Ticket / Work Completion Certificate duly signed by concerned field incharge to be presented with invoice for that particular job without which the invoice shall not be processed for payment.

6. Miscellaneous Requirements

- i. OGDCL will provide boarding, lodging and messing facilities for professionals of the contractor at field facilities / camp.
- ii. Provision of transportation for mob-Demob of professionals to & from field and inside the field for CP jobs as per requirement shall be sole responsibility of contractor. However transportation of material for new installation, dismantling shall be company’s responsibility.
- iii. Contractor shall be responsible for providing all type of tools, equipment’s and consumables required as per job requirement.

- v. Regarding HSEQ, Safety & Security the contractor shall be required to strictly follow following. In case of any breach the field HSEQ officer may ask the contractor to halt the job and leave the site.
 - a. To follow Company's HSEQ & safety, security Policies.
 - b. All time coordinate field management's instructions / guidelines.
 - c. No professional of the contractor shall leave field / well or plant site without prior information to field management / coordinator.
 - d. All employees must wear proper PPEs with their company's logo.
 - e. Obtain proper work permits for specific jobs.
 - f. To follow timing for field mobilizations – after sunset mobilization is generally not allowed at most fields.

7. Schedule Of Payment / Invoicing Terms And Conditions.

- i. Further to Clause 6 (BID PRICE) and Clause 7 (PAYMENT) of Master Set of Tender Documents, followings terms shall also apply:
- ii. The contractor shall be liable to submit invoice and shall be considered for processing for payment after following has been done;
 - a. The assigned work or segment of the work or any individual activity as per para 3 is completed.
 - b. Proper work completion certificate or job ticket duly signed and stamped by Field Manager or his nominee has been obtained and provided with invoice in original.
 - c. The invoice may be for individual job for each field in specific Group or different jobs / activities carried out at one field during invoicing month (as the case may be) on basis of unit rate given in financial bid / contract.
 - d. No LC shall be opened. Payment shall be made against cross checks against actual work done based on unit cost in equivalent Pak rupees on official exchange rate on day of payment.
 - e. Proof of submission of provincial sale tax as per requirement.
 - f. Copy of contract showing unit costs.
 - g. All invoices shall be sent to Chief Accountant (Imports) at 4th Floor – OGDCL House – Islamabad).
 - h. Incomplete invoices shall not be entertained and be returned unpaid.

8. DURATION OF CONTRACT

The services shall be required on rate-running contract basis initially for a period of ONE year (to be extendable for one more year with mutual consent on same rates, terms and conditions) at all field locations where OGDCL carries its field operations.

9. BID BOND:

9.1 For each Group, following amount of Bid Bond/Bid Security is required to be attached/provided **with technical bid**.

Group-A: USD 3,000/- (US Dollars Three Thousand Only)

Group-B: USD 5,000/- (US Dollars Five Thousand Only)

9.2 Please see Master Set of Tender Document for further details.

10. MODE OF PROCUREMENT:

Bids against this tender are invited on “**Single Stage Two Envelope Bidding Procedure**” through press tendering, therefore, the bidders shall submit one original and financial bid. Soft copy of technical bids also to be submitted. Unpriced financial bid will be the part of technical bid.

Note: The Master Set of Tender Documents for Services uploaded on OGDCL’s website (www.ogdcl.com) is the integral part of this TOR.

SUMMARY OF CP SYSTEMS INSTALLED AT DIFFERENT FIELDS

Sr.#	Field Name	No. of CPS	DC Power Source	Remarks
Group – A				
1.	Uch Gas Field	31	Solar Power	Well Casing
		5	T/R Units (Oil-Cooled)	Flow Lines & Storage Tanks
2.	Tando Alam Oil Complex	2	Solar Power	Flow Lines
		5	T/R Units (Oil-Cooled)	Flow lines & Storage Tanks
3.	Nashpa Oil Field including Togh & Dhok Hussain	4	Solar power	Well casing
		5	T/R Units (Oil-Cooled)	Flow lines & storage tanks
		1	Sacrificial anodes	Under-ground Plant piping
4.	Chanda / Mela Field	6	Solar power	Flow lines
		8	T/R Units (Oil-Cooled)	Flow lines & storage tanks
5.	Dakhni Field	6	Solar Power	For well casings
		4	T/R Units	For flow lines
6.	Noor – Bagla	1	T/R Unit	For flow lines

Group – B				
1.	Qadir Pur Gas Field	58	Thermoelectric Generators (TEGs)	For well Casings
		14	T/R Units (Oil-Cooled)	Flow Lines, Plant Piping and Storage Tanks
2.	Sinjhoru Gas / Condensate Field	15	Thermoelectric Generators (TEGs)	Well casing
		6	T/R Units (Oil-Cooled)	Flow Lines, Plant Piping and Storage Tanks
		1	5 Sacrificial anodes	Plant piping
3.	Kunnar KPD-TAY	38	Thermoelectric Generators (TEGs)	Well casing
		12	T/R Units (Oil-Cooled)	Flow Lines, Plant Piping and Storage Tanks
4.	Bobi Field	04	TEG	For well casing
		04	T/R Units	For sale gas line & Storage Tanks
		01	Solar System	For water disposal well
5.	Maru - Reti	01	TEG Unit	For well casing
		01	T/R Unit	For flow lines

Technical Evaluation & Responsiveness Criteria

Following are **minimum mandatory requirements** for being technically responsive and to be considered further for financial bid evaluation.

SNo.	Description of Requirements	OGDCL's requirement	Bidder to Provide
1.	Registration of the company with SECP, FBR and related authorities as CP Services provider company.	Evidence of registration(s). (Foreign companies shall be exempted).	To be attached in technical bid
2.	Registered Office in Pakistan. Foreign companies must have office in Pakistan or Joint-venture with local Company.	Full Address with all contact details	To be attached in technical bid
3.	ISO Certified in CP Services & other related jobs	Evidence of ISO certification	To be attached in technical bid
4.	CP Level-III certified professional(s) with minimum 5 years proven CP related experience regarding audit, inspection, monitoring, maintenance, trouble shooting and installation as it's employee / on payroll supported by 3-4 technicians for assistance.	Name(s), evidence of degree certificate(s), valid NACE Level-II certificate, proof of experience. Names of technicians.	To be provided in technical bid
5.	NACE Certified Corrosion Technologist with minimum 15 years corrosion & CP related experience.	Name(s), evidence of degree certificate(s), valid NACE certificate, proof of experience.	To be provided in technical bid
6.	Proven track record of CP System's installation, monitoring, maintenance, audit and inspection services.	Minimum 15 jobs completed comprising mixture of CP audit, inspection, installation during last two years.	Proof in shape of contract, Work completion certificates etc to be provided.
7.	For Group – B Mandatory requirement of having technical expertise & experience for TEG's installation, operation, maintenance & trouble-shooting	Minimum 5 years proven track record of installing CP Systems with TEGs and their operation, monitoring, maintenance & trouble shooting.	Verifiable evidence to be provided

Financial Bid Format

The bidders are required to submit their financial bids in following format only as no other format shall be acceptable, no hidden charges shall also be considered. The technical and commercial bids shall be evaluated and **contract be issued on Grand Total of Each Group Basis**. Therefore the bidder is required to submit technical & commercial bid each group separately in which he intends to participate.

SNo.	Description	Unit Cost	Est'd Qty	Total Cost
GROUP – A				
1.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Tando Alam Oil Complex	Lump Sum per visit	04 visits	
2.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Uch – I & II	Lump Sum per visit	04 visits	
3.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Nashpa oil field.	Lump Sum per visit	04 visits	
4.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Chanda & Mela fields.	Lump Sum per visit	04 visits	
5.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Dakhni Field	Lump Sum per visit	04 visits	
6.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Noor - Bagla	Lump Sum per visit	04 visits	
7.	Installation of complete new CP System	Lump Sum / System	06 Systems	
8.	Installation of Vertical / Deep Anode ground bed (AGB)	Per AGB	08 AGBs	
9.	Installation of Shallow / Horizontal Anode ground bed (AGB)	Per AGB	04 AGBs	
10.	Installation of AJB, CCB or Bond Box	Lump Sum per unit	08 units	
11.	Installation of test posts	Per unit	14 units	
12.	Dismantling of installed systems	Per unit	05 units	
13.	Replacement of underground cable <i>(including CP Technician + Trenching+ Splicing+re-filling)</i>	Per Meter	1000 Mtrs	
14.	NACE CP-III certified Engineer's call out services	Per Day	24 Days	
15.	CP Technician's services	Per Day	24 Days	
	Grand Total for Group-A			

GROUP – B				
1.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Qadir Pur field	Lump Sum per visit	04 visits	
2.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Sinjhero field	Lump Sum per visit	04 visits	
3.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Kunnar, KPD-TAY field	Lump Sum per visit	04 visits	
4.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Bobli field	Lump Sum per visit	04 visits	
5.	Periodical Monitoring, minor repair, maintenance & Audit of installed CP Systems for Maru- Reti field	Lump Sum per visit	04 visits	
6.	Installation of complete new CP System	Lump Sum / System	06 Systems	
7.	Installation of Vertical / Deep Anode ground bed (AGB)	Per AGB	06 AGBs	
8.	Installation of Shallow / Horizontal Anode ground bed (AGB)	Per AGB	04 AGBs	
9.	Installation of AJB, CCB or Bond Box	Lump Sum per unit	06 units	
10.	Installation of test posts	Per unit	14 units	
11.	Dismantling of installed systems	Per unit	05 units	
12.	Replacement of underground cable <i>(including CP Technician + Trenching+ Splicing + re-filling)</i>	Per Meter	600 Mtrs	
13.	NACE CP-III certified Engineer's call out services	Per Day	24 Days	
14.	CP Technician's services	Per Day	24 Days	
	Grand Total for Group-B			