



"WE DO IT WITH PRECISION"

INTRODUCTION

CORMAT Group is an **Engineering, Procurement, Construction, Installation, Commissioning and Materials Supply Company** in oil and gas and petrochemical sector. Company is multi-regional offices in London (UK) and Lahore (Pakistan).

QUALITY AND SAFETY POLICY

COMPANY takes necessary steps to ensure the safety of its employees, safe working environment and availability of safety equipment for day to day project activities. Through a well-established and comprehensive Quality Management System and SOPs, it is ensured that each employee, contractors and suppliers shall fulfil the safety and quality requirements. At all stages of a project the integrity, safety and quality shall remain intact and exceeds the expectation of the customers within the statutory and regulatory requirements.

We shall continually improve the effectiveness of our quality management system leading to improved level of services that we plan to deliver and offer to our valuable Clients.

VISION

To provide best technically viable and cost effective solutions without compromising on integrity and quality; attain absolute satisfaction of our valuable Clients.

MISSION

Pursuing our vision, effectively deliver services and solutions with integrity and reliability and become a cost effective and reliable service provider in the region.

SERVICES OFFERED

Our experts are qualified, certified and experienced in their respective fields. They have extensive industry experience and worked with prominent oil and gas Clients like BP, ADNOC, Saudi Aramco, Total, Sonatrach, PDO, QP, KOC, KNPC, Lukoil, CPECC, OGDCL, CPECC, PPL, SABIC, SHELL, PARCO, OGRA and NIOC.

Following services are offered by CORMAT:

-  **Corrosion & Materials Services**
-  **Cathodic Protection Services**
-  **Welding & NDT Services**
-  **Mechanical Rotating Equipment Services**
-  **Inspection Services**
-  **Health, Safety and Environment (HSE) Services**
-  **Environmental Consultancy**

CORROSION & MATERIALS SERVICES

Whether an upstream oil and gas facility or downstream refinery units, onshore structures or offshore topsides/pipelines including all kinds of utilities units, we can take care of all corrosion related issues associated with piping, tubing, pipelines, pressure vessels, storage tanks, pumps, compressors and other packaged equipment. Our experts are certified from NACE and have experience of handling FEED, EPC and operational projects.

Our range of services includes but not limited to:

For New Facilities

- Corrosion and Risk Assessment at Concept, FEED (Front End Engineering Design) and EPC (Engineering Procurement, Construction) stages with the help of specialized engineering softwares (ECE, Predict, Norsok) and previous plant experience and lessons learnt
- Materials selection study and evaluation of candidate materials
- Developing engineering documents for materials selection and corrosion control



Internal Pitting corrosion in a 26 inch dia. CS Pipeline at 6 'O clock position

For Existing Facilities

- Corrosion and Risk Assessment studies
- Corrosion monitoring testing and evaluation
- Development and updating Corrosion Management Manual
- Development of as build documentation related to corrosion and materials discipline.
- Corrosion mitigation activities (coating/painting, cathodic protection, fire proofing, corrosion inhibitor, etc.)
- Pipeline pigging
- Metallurgical failure studies
- Corrosion inspection including all NDT techniques
- Witnessing Materials testing and verifying MTCs (Material Test Certificates)
- Performing FAT (Factory Acceptance Test)
- To provide training services for Engineers and Technicians related to Corrosion and Materials



A typical MIC failure observed in a SS316L pipe in water service



Corrosion Monitoring – Corrosion Coupons

Supply of Materials

- Corrosion monitoring equipment (coupons, probes, access fittings, retrieval kits, service valves and related accessories)
- Chemical injection quills
- Corrosion inhibitors and biocides
- Carbon steel and CRA (Corrosion resistant alloys)
- Non-metallic piping and tanks
- Coating materials for corrosion protection
- ILI (In Line Inspection) and cleaning tools
- NDT (Non Destructive Testing) Equipment



Corrosion Monitoring – Service valve and retrieval kit

CATHODIC PROTECTION SERVICES

Our NACE certified experts are able to provide project management services for Engineering, Procurement, Construction, Commissioning and Troubleshoot of Cathodic Protection systems. We can provide best and cost effective solution to protect assets such as cross-country pipelines, buried plant piping, storage tanks and pressure vessels from costly corrosion damages by designing suitable CP system (ICCP and SACP). Services include but not limited to:

For New Facilities

- Detail design of Cathodic Protection System (Impressed Current Cathodic Protection and Sacrificial Cathodic Protection)
- Engineering, Procurement, construction, installation and commissioning of Cathodic protection system
- Feasibility Study
- CURRENT Drain Survey
- Current requirement Survey,
- Stray Current Interference Survey
- Soil Resistivity Survey
- Design calculations for recommended type, current requirement, power source, types and quantity of anodes, type of anode bed etc.
- Developing of design Philosophy and Specification
- Procurement assistance - Technical Bid Evaluations, data sheets and vendor proposals review and evaluations
- Preparation of operational maintenance manuals



Anode and Cathode Junction Boxes-
ICCP System

For Existing Facilities

- Up-gradation of existing Cathodic Protection System, (addition of structures, malfunctioning or relocation of existing structure)
- Update of design documentation based on upgrade of existing CP installations
- Audit of existing cathodic protection system including:
 - Structure to Electrolyte Survey
 - DCVG (Direct Current Voltage Gradient) Survey
 - CIPS (Closed Interval Potential Survey)
 - Remote monitoring inspection
 - Electrical isolation Survey & Flange Insulation Testing
 - Anode bed resistance calculation
 - Transformer Rectifier inspection
 - Solar power unit inspection
 - Test Posts testing/troubleshooting
 - AC (Alternating Current) interference testing
 - Foreign pipeline interference testing & Cased crossings testing
- Trainings on Cathodic Protection System for plant operators and engineers



Supply of Materials

- Anodes (All Kinds); Zinc, Aluminum, Magnesium, HSI (High Silicon Iron and MMO (Mixed Metal Oxide etc.))
- Power Sources (Transformer Rectifier, Thermo Electric Generators, Specific Solar panel units for CP System)
- Cathodic Protection related surveys equipment

- 🔧 Test post and related material

WELDING & NDT SERVICES

Our design team can provide solution in terms of preparing and reviewing key documents like welding and NDE specifications, CRA clad specification and WPS. Our TWI certified inspectors can take care of inspections during all stages of fabrication. We also provide witnessing of procedure qualification and preparation of PQRs.

Our services include but not limited to:

For New Facilities

- 🔧 Development of Welding and NDE(Non Destructive Examination) specification for all structures(Piping, pipeline, tanks, pressure vessels and structural equipment)
- 🔧 Development of Corrosion Resistant Alloys (CRA) Cladding specification for piping and pressure vessels
- 🔧 Development and review of PQR (Procedure Qualification Record) and WPS (Welding procedure Specification)
- 🔧 Qualifying and witnessing WQT (welder Qualification Test)
- 🔧 Qualifying and approving welding procedures
- 🔧 Witnessing and performing welding activities



For Existing Facilities

- 🔧 Welding repairs and modifications
- 🔧 Non-destructive Testing (UT, MPT, DPT, RT)
- 🔧 Inspection by certified welding inspectors before, during and after welding operation



Supply of Materials

- 🔧 Welding consumables
- 🔧 NDT Equipment

MECHANICAL ROTATING EQUIPMENT SERVICES

We provide following services for the Rotating Equipment & auxiliaries including Pumps, Compressors, Fans & Blowers, Electric Motors, Diesel/Gas Engines, Combustion gas Turbines, sealing & lube oil systems etc.:

- 🔧 Concept optimization studies for best technology selection
- 🔧 Complete Front End Engineering Design (FEED) package including equipment selection & sizing, data sheets, PFD's & P&ID's etc.
- 🔧 Complete Detail Engineering package including detailed design deliverables, P.O placement, vendor prints check & approval, shop testing, shipment, site delivery and support in installation, pre-commissioning, commissioning and support in the initial operations.
- 🔧 Re-rating/Re-application & De-Bottlenecking studies.
- 🔧 Onsite performance evaluation studies.



- 🔧 Site troubleshooting and failure analysis.
- 🔧 Training lectures in Rotating Equipment Design and Selection.

INSPECTION SERVICES

Our inspection team can provide inspection services according to national and international standards. Our industrious inspectors are certified and well experienced in their respective fields.

Our inspection services include but not limited to:

QA/QC Inspection Services

CORMAT provides a comprehensive range of Quality Assurance and Quality Control Services including 3rd party inspection, from Vendor Inspection through to System Audits and Expediting.

Providing an integrated approach to QA/QC inspection, CORMAT draw on the expert knowledge and experience of our inspectors and management. We have significant experience and the capability to advise and protect our clients' interests with our service range supporting both the manufacturing process and supply chain management of our clients nationally and internationally.

Our services help ensure:

- 🔧 Quality
- 🔧 Cost Effectiveness
- 🔧 Adherence to Schedules
- 🔧 Reliability

Our aim is to always exceed client expectations. We tailor our services to individual clients and take a proactive approach, investing in our people and resources to go beyond expectations. CORMAT is committed to delivering the highest quality of services ensuring safety, integrity and certainty across all our activities and those of our clients.

Lifting Equipment Inspection Services

CORMAT International Services (Pvt) Limited carries out Lifting Equipment Inspection and testing services in accordance with industry standards and applicable legislation.

Our Inspection Engineers are LEEA (Lifting Equipment Engineers Association) qualified and competent to conduct full scale thorough examination of all types of lifting equipment. With over 5 years of hands-on involvement in carrying out inspection services combined with classroom/academic training our inspection engineers are able to accomplish any given task in a timely manner without prejudice to quality.

CORMAT covers following inspection scope in Lifting Equipment;

- 🔧 Visual Examination
- 🔧 Non Destructive Testing
- 🔧 Operational Testing Like Load Testing
- 🔧 Functional Testing

Our services include but not limited to:

For Lifting Appliances:

- 🔧 Mobile Cranes
- 🔧 Over Head Cranes
- 🔧 Fork Lifters
- 🔧 Chain Blocks
- 🔧 Jacks
- 🔧 Elevators

For Lifting Accessories:

- 🔧 Shackles
- 🔧 Eye Bolts/ Eye Nuts
- 🔧 Wire Rope Slings
- 🔧 Webbing Slings/ Textile slings



- 🔧 Safety Harness
- 🔧 Chain Slings
- 🔧 Safety Clamps
- 🔧 Hooks & Links
- 🔧 Wire Rope Grips
- 🔧 Turnbuckles

We follow strict codes of practice recommended by the association and in accordance with international standards and regional statutory requirements. We never compromise our Lifting Equipment Inspection Quality Standards.

Electrical Safety Assessment

CORMAT provides complete services for Electrical System design, safety Assessment and inspection services. A properly designed, planned and executed electrical safety assessment programme can bring out many hazards that could save life & property of your workplace.

Electrical Safety is a concern in almost every organizations. The risks related to electrical safety are often managed in an isolated way.

- 🔧 **Electrical Safety Audit** is an effective tool to identify potential electrical hazards, flaws in design system, maintenance system and to provide suitable remedial measures in order to control risks exists in your electrical system.
- 🔧 **Lightning and Surge Protection Audit** is an effective tool to identify and assess existing lightning protection system (if any) in the premises and suggesting suitable measures to bridge the gap. This can protect your workplace from the adverse effect lightning and surge.
- 🔧 **Electrical & Fire Safety audit** is an effective tool for assessing electrical & fire safety status in your workplace. This audit helps to identify the areas for improvement in electrical & fire safety measures in prevention, protection and mitigation system in case of electrical fire.
- 🔧 **Hazardous area** can also be classified as those locations where electrical equipment might be installed and which, by their nature, might present a condition which could become explosive. HAC will help you to ensure that the electrical equipment is properly selected, installed, operated and maintained to provide a safe system.
- 🔧 Independent Electrical Safety Audit is an effective way of managing the loss by identifying both good practices and areas for improvement within an organisation's electrical safety management system.
- 🔧 It is true that electrical hazards can be identified and assessed in general safety audit, but comprehensive electrical safety audits can provide a thorough review of electrical system which can also identify potential electrical hazards, flaws in design system, maintenance system etc in your workplace.
- 🔧 Electrical Safety Audit is carried out by way of physical examination, sample tests, review of records and discussion with various departments & plant personnel.

ENVIRONMENTAL CONSULTANCY

CORMAT is venturing its way in environmental management consultancy, providing a wide range of environmental services, including:

- 🔧 Environmental impact assessments and approvals
- 🔧 Baseline and impact assessment and monitoring (air, noise, groundwater and marine)
- 🔧 Environmental Management Plans
- 🔧 Flora and fauna surveys
- 🔧 Construction environmental management
- 🔧 Solid Waste Management Plans
- 🔧 Stakeholder engagement
- 🔧 Social assessment
- 🔧 Compliance reporting and audit
- 🔧 Resettlement Studies
- 🔧 Other environment related studies



Our experts have diverse experience in above mentioned categories. Transmission Lines, Hydropower, Renewable Energy, Construction of Roads/Buildings/ Flyovers etc. are some of the areas of study, our environmental experts have understanding in. We believe it is a privilege to work in the exciting and challenging field of environmental consulting. We are driven by a strong work ethic and offer a fresh perspective through a comprehensive, integrated approach to environmental management.

Health, Safety and Environment (HSE) Services

We believe that effective management of HSE and implementation of its core values is an essential ingredient for meeting organizational goals. Meeting HSE objectives and targets at all levels and functions of an organization can ensure a sustainable business growth while preventing and mitigating risks to life, property and environment due to business operations. We, at CORMAT, offer from development of HSE Management System (HSEMS) including Process Safety aspects to implementation from top to bottom tiers. Our Key services include but not limited to the following:


HSE Management

- Development and Implementation of HSE Management System in line with applicable OHSAS and ISO Standards. The right approach helps organizations in controlling risks, cut costs and gain a competitive edge. A systematic approach helps to comply with all obligations and avoid repeated errors. We offer to develop all HSEMS procedures that govern the HSE management and safe work practices as required by governing documents.
- HSE Audit as required by an applicable legislation/regulation or as part of continual growth, our competent engineers assist organizations in identification of gaps and areas of improvement in HSE management and advise remedial actions based on SMART approach.
- Fire Safety Management is an effective tool for prevention and protection against fire hazard present at almost every operational and administration area.
- Risk Assessments based on the internationally accepted and recognized approach based on Identify, Assess, Control, Recover principles shall ensure all hazards have been identified, risks assessed, controls in place and recovery actions have been planned. We also offer to develop graphical bowtie diagrams to effectively manage major hazards and avoid potential escalations.
- HSE Critical Equipment and System (HSECES) or Safety Critical Equipment (SCE) are equipment and systems that, if in place, stop accidental scenarios escalating to dangerous and uncontrollable stages. We offer to identify the SCE in your facilities and develop relevant performance requirements to effectively manage the maintenance and operation of SCE.




Process Safety Management

- Development and Implementation of Process Safety Management (PSM) system in line with applicable Occupational Safety and Health Administration (OSHA) and American Petroleum Institute (API) standards and Risk Based Process Safety (RBPS) guidelines for management of Highly Hazardous Chemicals (HHC).
- PSM Audit as required by top management and/ or process safety accident statistics, our engineers are available for identification of fatal flaws in PSM that could lead to major accidents involving life, property and environment.





-  Hazardous Area Classification shall ensure plant operational areas prone to, by their nature, a condition which could become flammable or explosive. It plays key role in identification, selection, installation, operation and maintenance of appropriate electrical equipment in order to avoid potential sources of ignition.

Health, Safety and Environment (HSE) Trainings

-  Hydrogen Sulphide (H2S) Awareness Safety Training: (Duration of course is one working day.)




The Instructor/Trainer is certified Trainer by National Safety Council (NSC)-USA as per ANSI/ASSE Z-390.1 2006 (R2010) having around 40 years diversified industrial experience of extreme Sour Oil & Gas production and processing facilities as well as of sweet oil and gas production and processing facilities, (Locally and Internationally). Instructor have been conducting this safety awareness training for the last 20 years to the Junior Engineers, Engineers, Senior Engineers, middle management and senior management cadre for Oil & Gas (E&P) companies. This certification is the mandatory and legal requirement especially for professionals plan to be exposed to H2S hazardous potential area or sour gas (Having H2S gas) containing oil and gas facilities. Drilling Rig related professionals are legally bound to first have the certified H2S awareness safety training than they are allowed to enter on the rig floor.

Other safety trainings by professional trainers of Rescue 1122 are as under:

-  Basic Fire Fighting
-  Basic First Aid Services
-  Hazardous Material handling
-  PPES Usage and awareness

Why CORMAT

CORMAT International Services has fully expert and industrious individuals in its team. CORMAT Team is well experienced and certified from NACE, API, ASNT, LEEA and ICorr.

-  CORMAT has NACE certified Senior Corrosion Technologist.
-  CORMAT has NACE Certified Cathodic Protection Technicians & Tester.
-  CORMAT has NACE Certified Internal Corrosion Specialist.
-  CORMAT has API Certified Inspectors.
-  CORMAT has TWI Certified Welding Inspectors.
-  CORMAT has ASNT level III certified Professional.
-  CORMAT has certified Professional HSE trainers.
-  CORMAT has LEEA Certified Inspector.