



**MISSION:  
MECHANICAL  
INTEGRITY  
MANAGEMENT.  
PROVIDING AND  
FACILITATING THE  
BEST AND TIMELY  
INFORMATION FOR  
MAKING BETTER  
INTEGRITY  
DECISIONS**

TechCorr's  
Engineering &  
Corrosion Services

Group helps clients minimize operational risks and optimize equipment availability by:

- Assuring future reliability through our unparalleled understanding of equipment deterioration, failure mode, and causes.
- Performing state-of-the-art engineering assessments of existing and planned equipment and recommending risk-based courses of action.

We recognize the financial pressures affecting our clients. The economic impact of unreliable or unavailable equipment can be devastating. By identifying potential trouble spots before they cause major problems, we can decrease overall expenses, prevent unscheduled outages and improve plant performance.

#### Mechanical Integrity Engineering

TechCorr's Engineering & Corrosion Services Group is an industry leader in providing Mechanical Integrity Engineering Services for more than fifteen years and has developed methodologies Based on Risk Analysis (RBA) for assessing Mechanical Integrity for Upstream (Wells, Gathering, Transmission Lines, Processing Plants and other Field Equipment) and Downstream (Refineries, Upgrades) Equipment. Risk Based Analysis (RBA)

technology empowers owner/users to manage risks associated with operating equipment, thus assuring maximum return on investment and optimal use of resources. Our methodologies include:

- Preliminary country specific regulatory audits
- Risk Based Analysis and Assessment
- External Corrosion Direct Assessment (ECDA)
- Internal Corrosion Direct Assessment (ICDA) Dry, Wet Gas, and Liquids
- In-Line Inspection (ILI) planning and management
- Mechanical Damage Assessments (ASME B31G, RSTRENG, etc.)
- Corrosion Control of Multiphase Flow Pipeline Systems
- Pipeline Flexibility Analysis, Stress Analysis, Fitness-for-Service
- Corrosion Control of Downhole and Surface Equipment
- Process and Flow Modeling for estimation of corrosion velocities and/or identification of critical areas and bottlenecks in oilfield equipment (downhole and surface), gas processing plants, and refineries.
- Structural Integrity - Modeling, Stress Analysis, Fitness-For-Service
- Assessment of Refractory Linings
- Metallurgical maps for Engineering Projects and Metallurgical assessment for Refineries.
- Estimation of Remnant Life and "Fitness-for-service" analysis
- Pipeline Mechanical cleaning (Scraping) and Pipeline Chemical Cleaning using Gels.

#### Cathodic Protection Engineering

TechCorr's Engineering & Corrosion Services Group provides the complete Cathodic Protection services, starting with design through installation and a range of indirect inspection services to meet any mechanical integrity requirement. Indirect inspection includes aboveground surveys used to define the severity of coating faults and the effectiveness of the CP System so that Data Analysis and Action Plans can be completed.



## Chemical Treatment and Flow Assurance Optimization

TechCorr's Engineering & Corrosion Services Group performs specialized assessment of chemical treatment in the upstream oil-field for flow assurance optimization: Wax and Asphaltene Control, Oil dehydration, Corrosion Inhibition, Scale Inhibition, Biocide Treatments, Water Treatment and Gas treatment.

- Assessment of Fluid Corrosion Severity
- Chemical Treatment Contractor Auditing
- Process Simulations and Engineering

## Specialized Services

TechCorr's Engineering & Corrosion Services Group provides specialized personnel for the continuous supervision of all In-the-field variables to assess internal and external corrosion as well as the Process Variable Monitoring, Selection and Optimization of Corrosion Monitoring Systems:

- Chemical Analysis: Fe<sup>2+</sup>, CO<sub>2</sub>, H<sub>2</sub>S, Physical Chemical Analysis
- Bacteria Analysis
- Corrosion Data Gathering from Monitoring Devices.
- Third-party witness of laboratory evaluations of Chemicals: Inhibitors, Demulsifiers, etc.
- Selection and Optimization of Corrosion Monitoring Devices: ER Probes, Coupons, LPR
- Metallurgical and Failure Analysis

## Codes & Standards

TechCorr's Engineering & Corrosion Services Group can evaluate whether appropriate Codes and Standards are being used in the specification for a project, and provides third-party verification of compliance to the specification requirements.

With TechCorr's Engineering & Corrosion Services Group Codes and Standards services, compliance with appropriate specifications and safe and economical designs can be assured.



## Prevention & Repair Strategies

TechCorr's Engineering & Corrosion Services Group devises repair strategies ranging from weld repairs to the application of organic coatings.

Our experts consider future operations and the impact of the operating environment on a repair and can supervise and provide quality assurance for the work. We save clients time and money by doing it right the first time.

## Failure Analysis & Prevention

TechCorr's Engineering & Corrosion Services Group can identify the critical elements of the failure quickly, accurately, and efficiently. Our goal is to get your equipment back into safe operation as soon as possible without introducing new, unexpected risks that come from hasty, unsupported conclusions. We are experienced with numerous process and manufacturing environments, and have a broad understanding of the operational implications of our recommendations.