

ALLIED

CORROSION INDUSTRIES INC.



INSTALLATION / CONSTRUCTION SERVICES

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Allied Corrosion Industries, Inc. (ACI) offers many corrosion related construction services to it's customers. Some of the more common installations are:

- Deepwell Cathodic Protection (CP) Systems**
- Remote Conventional CP Systems**
- Linear Distributed CP Systems**
- AC Mitigation Systems**
- Special Projects**

To accomplish this work, we employ a NACE certified construction manager, along with equipment operators, corrosion technicians, and laborers. All are "Operator Qualified" (OQ).

DEEPWELL CP SYSTEMS

The most common cathodic protection system we have installed to date is the Deepwell CP System. This system generally incorporates a drilled hole that measures eight (8) inches in diameter and is approximately 200 to 300 feet deep. Typical anode materials include:

- Mixed- Metal Oxide Tubular Anodes
- High Silicon-Iron Anodes
- Threaded Graphite Anodes
- Platinum Wire Anodes



DC power supply units include standard CP rectifiers, DC Solar Panel Units, Natural Gas DC Generators, and Thermo-Electric Generators. Our engineering staff welcomes all opportunities to assist our customers with their deepwell CP design. This would include written CP specifications, actual turnkey installation, and CP system initialization and maintenance.

REMOTE CONVENTIONAL CP SYSTEMS

When surface land is available, the remote conventional CP system may be a more economical alternative to the more expensive deepwell system. The typical installation will generally specify that the anodes be installed in a straight line and perpendicular to the pipeline. The first anode closest to the pipeline will typically be approximately 200 feet or more away from the pipeline. The anodes are then spaced approximately 20 feet apart and installed to a typical depth of 20 feet. Our engineering staff can assist with this type of installation when the physical conditions warrant it.



LINEAR DISTRIBUTED CP SYSTEMS

We have extensive experience in the design and installation of Linear Distributed CP Groundbeds. This type of system is a consideration candidate when one of the following conditions exists:

- Elevated (Extremely High) Soil Resistivity Areas
- Congested Buried Utility Areas
- Directional Boring Areas

The linear distributed anodes we generally use can be either a galvanic or an impressed current linear anode. Galvanic linear anodes include either zinc or magnesium ribbon anodes.

The impressed current linear anodes have standard ratings of 16, 100, and 200 mA/linear ft. All of these ratings are based on a life expectancy of 20 years in neutral soil conditions.

All impressed current linear distributed anodes are prepackaged in a fabric jacket with a tough protective braid, centered in a column of tightly packed petroleum coke breeze. This results in a long-life, flexible, cable like anode. Uniform distribution of CP current is therefore achieved where many conventional and/or deepwell anode groundbeds do not work.

AC MITIGATION SYSTEMS

We have assisted many pipeline owner/operators with their AC mitigation problems by finding low cost and long life solutions. Typically induced AC scenarios fall into two major categories. First is the "Step Potential" category. This exists when there is induced AC present on a pipeline appurtenance that can be touched by someone. When the induced AC exceeds 15 VAC, which is the safe "hand let-go" threshold for a normal size male, there is the danger of personal injury and/or death, and the problem should be mitigated.

The second category is associated with pipeline segments where AC current is discharged from the pipe's metal surface to the ground. The two most common types of AC current discharge are steady state and fault current discharge. AC corrosion/metal loss will begin to occur whenever the threshold current density of 20 A/M² is exceeded. The severity of metal loss for either type of discharge is directly related to the AC current density in the discharge area, and the discharge length of time. In some cases, actual pipe wall penetration/failure can result from just one massive ground fault event. We have been very successful in providing a variety of reasonable, well-engineered AC Mitigation Systems for the pipeline industry.



SPECIAL PROJECTS

We are routinely asked to provide corrosion engineering services to non-pipeline companies. These companies include:

- USS Alabama Battleship Park (Ship's hull and park steel bulkheads)
- Beau Rivage Casino (Submerged barges and steel bulkheads)
- Port of Pensacola (Dock facility steel bulkheads)
- Mobile River Terminal (Dock support beams)
- Tombigbee Waterway Locks (Submerged steel structures)

If you have any corrosion issue, our trained engineering staff of professionals is ready with a solution to protect your assets.



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