

AC MITIGATION

Solutions for detecting and mitigating AC interference in pipelines



How AC interference can impact your operations

When a steel pipeline is installed beneath a high-voltage power line, the pipeline may be subject to induced AC voltages. Shock hazards exist when induced voltages exceed 15 volts, making it dangerous and potentially life-threatening for your operations personnel or the public to touch the pipeline or related equipment.

Corrosion caused by AC interference is one of the most aggressive forms of corrosion and must be mitigated quickly to prevent severe damage and possible pipe failure. This not only affects aging lines as severe AC-induced corrosion has been found in pipelines that have been in service as little as four years. Depending on soil characteristics and other factors, corrosion can occur at voltages lower than those considered tolerable for safe human contact, presenting a potentially extremely expensive risk for clients.

High-voltage overhead power lines pose serious risks to the pipelines buried below them.

Buried metal pipelines and high-voltage overhead powerlines don't mix well. When located in close proximity to one another, pipelines are subjected to the electromagnetic field created by the alternating current in the power lines. This poses a severe corrosion threat to the pipelines, as well as to workers who may come in contact with them. No pipeline is immune—petroleum, natural gas, water and wastewater pipes are all at risk.

The frequency of AC induced problems is increasing due to the increased sharing of right-of-ways with power lines and pipelines without appropriate mitigation. As available land in urban and developed areas continues to decrease, more pipelines and power lines are being co-located in common utility corridors, raising the possibility of more problems ahead.

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AC mitigation is a long-term solution for protecting these pipelines and the people who work around them.

The solution: AC Mitigation by Aegion

Corrpro, an Aegion company, is a national leader in corrosion control with specialized expertise in AC interference detection and mitigation. With more than 15 engineers and technicians dedicated to solving AC interference problems, we protect thousands of miles of pipeline and ancillary facilities facing complex AC interference challenges each year. We offer the following project capabilities:

- Single lines in simple cross-country settings
- Multiple pipelines and power lines in congested urban corridors
- Projects ranging from a few miles to more than 600 miles long

A big-picture approach

Our registered professional electrical engineers and NACE International-certified corrosion specialists use state-of-the-art modeling tools to predict the AC effects on individual pipelines. We then design solutions to mitigate those effects, relying on a combination of off-the-shelf and proprietary components to decrease the induced voltage on at-risk pipelines.

To deliver the greatest return on investment, we can integrate your cathodic protection and other corrosion control needs into one solution. In some cases, we work directly with power companies to enhance power line design, minimizing AC interference at the source. According to a 2010 study, a coordinated design approach can provide up to a \$1 to \$2 million material and construction cost savings for a pipeline greater than 150 miles in length. This cost savings is realized during the mitigation and installation process as a full-service provider can handle all aspects of the pipeline integrity process including evaluation, design and installation of mitigation solutions, saving time and streamlining related activities.



Total solutions to your AC interference needs

When you trust AC mitigation to Corrpro, you can rest assured you are receiving a reliable solution that meets regulatory guidelines. We have played a leading role in developing industry standards and evaluation procedures for AC interference mitigation.

Safety

Corrpro offers unparalleled safety expertise. Obtaining zero incidents makes up the basis of our safety program, and our crews and locations consistently exceed industry safety averages. You can rest assured, that with Corrpro, your jobsite will experience the highest standard of safety available in the cathodic protection market. As a total solutions company, we offer a full range of AC interference-related services, including:

- Pre-design evaluations
- Computer modeling
- Mitigation design and materials
- On-site QA/QC
- Turnkey construction
- System start-up and baseline testing
- Training
- Operation and maintenance
- Detection and resolution of AC interference



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