Combine Progressive Threat Analysis with Practical Design

Get practical insights packaged simply when you work with our AC interference mitigation team. Our driving philosophy is that sophisticated AC research and computer models are only valuable if they produce solutions that can realistically shield your teams, pipelines and facilities from the effects of AC interference and lightning events.

Our services include:

- Pinpointing areas where AC interference poses a threat
- Collecting field data to validate risk model accuracy
- Developing a practical mitigation strategy that’s tailored to your needs
- Executing AC interference mitigation measures
- Evaluating your system for ongoing effectiveness

Our Process

Phase 1  Threat Assessment
Phase 2  Field Verification
Phase 3  System Design
Phase 4  Install and Commission
Phase 5  Ongoing Assessment
AC Interference Mitigation Services

Why Hire Us?

Get two expert perspectives
We draw on our extensive threat assessment experience and Bass Engineering's field design expertise to deliver systematic, practical services that safeguard all three areas threatened by AC: your team, your aboveground facilities, and your pipeline.

Stay current
AC-related standards and regulations are among the fastest-changing in the oil and gas industry. We stay on top of the latest updates to make sure your mitigation strategy incorporates current research while remaining within your budget and compliant with applicable regulations.

Know where to start
We use graphs, visualizations and maps to provide you with a prioritized, easy-to-understand list of the areas at the greatest risk of AC interference. Then we design a comprehensive mitigation system using both modeling and field design approaches.

Reuse your data
We provide you with a report, industry-standard GIS file and/or a RIPL risk model that your team can easily draw on when analyzing integrity risk or other areas.

Plan for change
AC fluctuations can override your mitigation system, but not if you're prepared. We make sure you’re aware of the options for monitoring your system and adjusting it as needed so that you’re always protected, even in the face of AC fluctuations.

Case Study: How AC Interference Mitigation Services Reduced AC Current Density by 90 Percent

Overview
The project. We performed full-scale AC Interference Mitigation services for a natural gas pipeline that was collocated with a high-voltage AC (HVAC) transmission line.

The pipeline. Located in the southeastern United States, the pipeline was 28.8 miles long, 12 inches in diameter, and 52,000 SMYS. It was coated with paint, fusion-bonded epoxy, and an abrasion-resistant overlay.

The HVAC line. We analyzed the latest available HVAC centerline data and found that the colocated single-circuit HVAC power line typically transmitted 500,000 volts at a normal operating current of 2,000 amps and a fault current of 22,000 amps.

Phases 1 & 2
Threat assessment and field verification. To start the project, AI experts generated a baseline AC interference risk assessment using data provided by the customer and RIPL risk modeling software. Then the Bass Engineering team visited the site to assess soil resistance, AC current density, separation distance, inflection points and associated lightning effects. When we updated the baseline model to reflect Bass’ site data, we found that many of the areas originally found to be medium or medium-high threats could be safely reclassified as low threats.

Phases 3 & 4
System design, installation and commissioning. Using our field-verified risk assessment, we worked with the customer to focus their budget and mitigation plan on the areas at the highest risk, which were those with consistently high AC current density and low soil resistance measurements. To prevent those areas from resulting in personnel safety hazards, damage to aboveground facilities, or damage to the pipeline itself, we installed two primary mitigation measures: a deep vertical point ground and a linear copper grounding system. Both measures met the requirements of the customer’s commissioning process.

Phases 5
Ongoing assessment. During our phase 5 assessment, we found that the installed measures had reduced overall AC current density on the pipeline by an average of 72 A/M² while remaining on schedule and within the customer’s budget. In the area where AC current density had been the highest pre-mitigation, we found that post-mitigation readings fell by 90 percent. We provided the customer with a report detailing these improvements, our methodology, how we addressed all applicable regulations, and our recommendations for conducting ongoing monitoring to maintain the improvements.

Learn more or request a quote at go.aiworldwide.com/ACMitigation
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