



Quality Focused, Service Driven.

AC INTERFERENCE ASSESSMENTS AND MITIGATION SOLUTIONS

MESA provides AC assessment and remediation services for underground pipelines collocated or in close proximity of existing high voltage power lines. The upgrade to the electrical transmission infrastructure to higher current loads and the mandate to utilize common right of way has resulted in greater AC interference to underground pipelines. AC interference may result in personnel and equipment safety hazard by raising step/touch voltages to dangerous levels or create risk to the underground structure by AC Corrosion.

MESA Pipeline Integrity Services can assess the AC corrosion threat, assist with installation and monitoring of corrosion coupons, provide AC design and modeling to define the remediation requirements, and install/commission the AC mitigation remediation.

Backed by NACE-certified corrosion professionals and a commitment to SAFETY, quality, and trouble-free execution, MESA is your turnkey provider of:

- ✓ Threat Assessment
- ✓ AC Modeling and Engineering Design
- ✓ AC Interference Remediation Planning
- ✓ Construction
- ✓ Commissioning
- ✓ Project Management

Assessing the threat of AC Corrosion

NACE SPO 177-2007 recommends mitigation to 15 volts AC to protect the public and operational personnel from the step/touch voltage potential hazards. AC corrosion density defines the susceptibility and risk for corrosion. While the actual corrosion mechanism remains an unknown, some general guidelines have been identified to measure the AC Corrosion risk.



Current Density	Likelihood of AC Corrosion
0 to 20A/m ²	Unlikely
20 to 100A/m ²	Unpredictable
100A/m ² (9.29A/ft ²)	Anticipated

While there is no clear standard or recommended practice at this time, each operator has a responsibility to assess the AC interference threat along with establishing the criterion for remediation of AC current density. This criterion for remediation represents the risk tolerance to the underground pipelines.

Corrosion coupon AC current density, AC modeling based upon the varying power company loads, and the geometry of the facility relationships, all contribute to the initial assessment for the likelihood of AC corrosion.

One of the first steps in the initial assessment is the mapping of the underground facilities and relationship to existing high voltage power lines. From this evaluation, key corrosion coupons with remote monitoring can be located to monitor the AC current density. For new facilities in which the power company is locating in the pipeline right of way, easement agreements with the power company should be negotiated that require the power company to pay for the study and remediation required to protect the underground facility.

AC Modeling and Engineering Design

- ✓ Field data collection: towers, heights, insulators, pipeline to centerline to tower relationship, soil resistivity profiles, photographs, and and power company data interface
- ✓ AC modeling history and report, prediction of high voltage line impacts, and graphical representations
- ✓ Recommend key corrosion coupon installation and monitoring needs

AC Interference Remediation Planning

- ✓ Remediation type and location
- ✓ Provide mapping to communicate the remediation needs
- ✓ Conduct field construction assessment to determine installation needs and construction techniques
- ✓ Provide cost estimate and proposals

Construction

- ✓ Construction of AC mitigation requirements
- ✓ Maintaining the intent of the design
- ✓ Quality control and documentation
- ✓ Process and procedure implementation

Commissioning

- ✓ Provide final commissioning for AC interference mitigation implementation
- ✓ Operating and maintenance manual support
- ✓ Training client personnel for conducting maintenance, testing and surveys
- ✓ Final data and system analysis

Project Management

- ✓ Qualified project management resources and planning to ensure client involvement and project oversight through all phases of project management; initiating, planning, execution, monitoring and control, and closing
- ✓ Weekly written status reports including financials
- ✓ Weekly project conference calls
- ✓ Management of scope, cost, schedule and quality

MESA is well positioned to handle all phases of the AC assessment package. MESA is one of the largest AC mitigation providers and performed over 500 miles of AC interference threat assessment, and remediated over 175 pipeline right of way miles in 2013.

Learn more about our capabilities at mesaproducts.com or call **1.888.800.MESA (6372)**.



References available on request.

mesaproducts.com

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