



AC INTERFERENCE & MITIGATION SERVICES

Pipelines installed in a Right-Of-Way (ROW) common with High Voltage AC (HVAC) transmission lines are at risk of inductive, conductive, and resistive interference leading to AC safety and AC corrosion issues. EN Consulting, a sector of ENTRUST Solutions Group, provides upfront analysis during route planning and design to identify potential AC interference, reduce safety concerns, and mitigate corrosion risk. Our NACE Institute-certified professionals have extensive pipeline design and operating experience to ensure the safety and integrity of existing and newly-installed pipelines and to address the dynamic changes associated with HVAC systems. With over 20 years of project experience, ENTRUST Solutions Group professionals have worked on several thousand miles of pipelines nationwide.

CONSIDERATIONS:

- Are you installing a new pipeline “greenfield” or do you have existing pipelines operating under or near HVAC systems?
- Have you observed or been made aware of power line system upgrades or modifications to HVAC powerlines and substations adjacent to or crossing your pipeline system?
- Are you experiencing increasing AC current densities on your pipeline?
- Are there AC voltage levels on your pipeline that are creating electrical safety hazards to operational personnel and the general public?
- Do you need an engineering assessment for your pipeline ROW for compliance?
- Do you need to locate, risk rank, and mitigate AC corrosion threat?
- Do you need to directly assess the possibility of exterior wall loss due to AC corrosion on your pipeline structure?

SOLUTIONS

- Reduce steady-state AC touch voltages
- Reduce steady-state AC current densities
- Address fault issues including power-arc, coating stress, touch and step potentials

SERVICES

- Threat or Risk Reviews
- Historical data review of records and previous studies
- Field Assessments:
 - » Soil resistivity measurements to pin spacings of 500 feet
 - » AC and DC current density measurements with temporary and permanent coupons
 - » Data logger recordings of AC and DC voltages and current densities
 - » Direct assessment of excavations
- Monitoring designs including coupons and RMUs
- Modeling services
 - » Performed in-house with SES ROW-Pro Suite
 - » CDEGS certified and P.E. licensed engineers
- Mitigation design:
 - » Copper, zinc, mixed systems, and station grounding
 - » Linear systems, anode banks, deep wells, grounding mats, and unique solutions
 - » Compatibility & consideration of existing mitigation, CP, and electrical grounding systems
- Oversight & Commissioning services
- Development of standards & procedures

GAS TRANSMISSION PIPELINE MEGARULE UPDATE

The latest issuance of the gas MegaRule, part 2 (RIN2), was published on August 24, 2022, and goes into effect on May 24, 2023. This rule changes the existing wording on PHMSA 49 CFR 192 for the following section §192.473 External corrosion control: Interference Currents

For all onshore gas transmission pipeline segments subject to stray current, an interference program must be developed. This includes performance of interference surveys to detect the presence and level of any electrical stray current. It also requires the analysis of those survey results to determine the cause of interference and whether the level could cause significant corrosion, impedes the safe operation of a pipeline, or causes a condition that would adversely impact the environment or public. PHMSA is considering any current densities greater than 100 A/m² for induced AC to be a significant corrosion threat.

If the survey results determine a threat condition exists, a remediation procedure to protect the pipeline must be developed no later than 6 months after survey completion. Any necessary permits to install or perform any work must also be submitted within this 6-month time frame. The operator must complete all remediation installations within 12 months or as soon as practicable after obtaining the necessary permits.

