Pipeline Integrity Management – Direct Assessment

EN Engineering's team of highly-qualified, experienced engineers and field technicians offer a wide variety of direct assessment services that support regulatory compliance, advance safety, and reduce future costs for clients. With decades of operational and project experience, our professionals assist clients with risk assessments, field surveys, data integration, dig support, anomaly investigation, and design of repair/replace work.

Direct Assessment Project Reviews

With the increased focus on traceable, verifiable, and complete documentation, EN Engineering performs documentation and survey data reviews of historical ECDA and ICDA projects to assess the completeness, and ensure the assessment has been performed per the intent of applicable pipeline regulations and operator-written plans and procedures.

During a typical review, EN Engineering evaluates items including:

Pre-assessment

- Required data collected and documented
- Region boundaries
- Rationale for ECDA/ICDA feasibility
- Use of more restrictive criteria for first-time assessments

Indirect inspection

- ECDA indirect inspections performed and documented per industry guidance and best practice (e.g. interrupted current sources, treatment of paved surfaces, spacing, IR drop readings)
- Data classified and prioritized per plan requirements

Direct examination

- Appropriate number of direct examinations performed
- Locations selected for direct examination warranted based on indication classification and prioritization (elevation profile for ICDA)
- Additional direct examinations performed as required based on initial direct examination results
- Confirm that direct examination locations identified on dig lists were the locations where direct examinations were actually performed
- Completeness of dig forms

Post-assessment

- Remaining life and reassessment interval calculations
- Assessment of ECDA effectiveness

Direct Assessment Plan Reviews

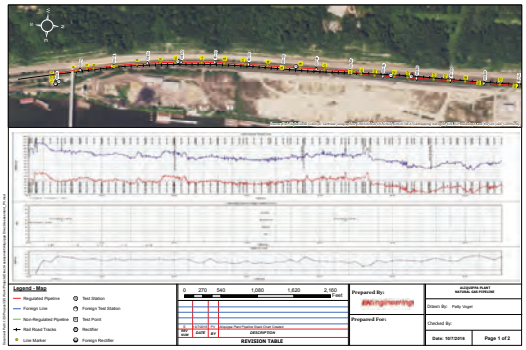
With recognized code compliance experts on staff, EN Engineering performs reviews of operator-written ECDA and ICDA procedures to assess alignment with all applicable code requirements, jurisdictional inspection protocols and industry guidance documents.

External and Internal Corrosion Direct Assessment (ECDA/ICDA)

Our direct assessment services are delivered by an expert team of professionals who focus on exceeding expectations and building long-term relationships with clients. We can perform all four phases of an ECDA/ICDA project or certain phases based on our clients' needs.

Pre-assessment

- GIS integrated data collection
- Feasibility assessments and region definitions
- Site visits and walk-downs
- Cathodic protection influence studies
- Foreign operator coordination
- Indirect Inspection work plans
- ROW condition reviews



Indirect inspection

- Close Interval Surveys (CIS)
- Dynamic Stray-Current Compensated Close Interval Surveys
- Direct Current Voltage Gradient (DCVG)
- Alternating Current Voltage Gradient (ACVG)
- Current Attenuation (CA) (aka PCM)
- Depth of cover
- Elevation profiles
- Soil resistivity surveys
- Data integration with prior assessments and surveys
- Customized data presentation/aerial integrated charting "Stack Chart"

Direct examination

- Client forms or company standard forms
- Photographs/GPS/soil resistivity (client and code required excavation documentation)
- Pipe conditions
- Corrosion and pitting assessments
- Repair recommendations
- Program summary reports
- GIS integrated data collection
- Remaining life
- Root cause

Post-assessment

- Reassessment intervals
- Historical data integration and future assessment intervals
- Integrated direct examination and post-assessment reports