

External Corrosion Direct Assessment (ECDA) is a structured process used to evaluate buried onshore ferrous pipeline integrity. The ECDA goal is to enhance safety by managing the risk of pipeline corrosion failures while minimizing the cost required for excavations and repairs. ECDA may also be used when more established methods, such as in-line inspection (ILI) and pressure testing, are not possible or not practical.

Corrosion Service (CSCL) offers complete ECDA services, including accurate estimation of the extent of coating defects and corrosion activity, using a fast and efficient CIPS and DCVG integrated approach with no need to interrupt the survey or return to defect locations afterwards.

Coating Damage Identified by ECDA Survey



Description

NACE Standard Recommended Practice on Pipeline External Corrosion Direct Assessment Methodology (RP0502-2002) describes the ECDA process as allowing "...the prediction of susceptible areas where 'corrosion activity has occurred, is occurring or may occur'."

This four step process consists of:

- **Pre-Assessment**, which involves the collection and evaluation of historical data and pipeline characteristics.
- **Indirect Inspection**, identifies areas of possible corrosion activity or coating defects using a combination of two or more above ground survey techniques.

ECDA Indirect Inspection



- **Direct Examination**, involves the selection of sites to be excavated and the physical identification of defects requiring repair or replacement.
- **Post Assessment**, evaluates the preceding steps of the ECDA process and establishes a future assessment schedule.

/...over

Reliable and Meaningful Results

Although ECDA field assessment techniques are well established, specialized field equipment and staff experienced in the collection, recording, and analysis of data are necessary to obtain reliable and meaningful results.

Corrosion Service quickly embraced the new ECDA techniques and both our field and professional staff are well versed in their application. We are equipped with state-of-the-art

equipment for surveys and the collection of data which is then analyzed by professional engineers with many years of pipeline corrosion prevention experience.

Higher Efficiency and Lower Survey Costs

Our early experience has led to the development of an integrated indirect inspection technique which allows simultaneous data acquisition of both CIPS and DCVG measurements, resulting in higher efficiency and lower survey costs.

CSCL Project Experience

Gas Pipelines:

- Brantford: 12" dia., 248 m length of line (2004-2005)
- Leamington: 8" dia., 17 km length of line (2004-2005)
- Panhandle: 16" dia., 4260 m length of line (2004-2005)
- 21 lines of varying dia. and lengths (In progress)

Pipe-Type Cables:

- H3L: 6" dia., 1300 m length of coated high voltage cable (2004)
- H1L: 8" dia., 1750 m length of coated high voltage cable (2004-2005)

Oil Pipelines:

- Sault Ste. Marie: 14" dia., 1200 m length of line (2004)

Technical Papers

(Coauthored by CSCL Personnel)

- *"Use of an Integrated CIPS/DCVG Survey in the ECDA Process"*, S.M. Segall, R.A. Gummow, and R.G. Reid, Paper #06193, to be presented at Corrosion 2006, NACE International, San Diego, California.
- *"Results from an ECDA Plan"*, R.G. Reid, S.M. Segall, and R.A. Gummow, Paper #05184, Corrosion 2005, NACE International, Houston, Texas.

For additional information please contact the office nearest you.

