

NACE Pipeline Integrity Standards Update

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Overview

- NACE RP0502-2002 (ECDA)
- NACE close-interval survey standard
- NACE coating evaluation surveys standard
- Ancillary ECDA standards
- Enbridge's ECDA technology needs



NACE RP0502-2002 Pipeline External Corrosion Direct Assessment Methodology (ECDA)



NACE RP0502-2002

- Committee TG 041 reformed in September 2004
- The committee is charged with reviewing the standard for reaffirmation, due in 2007
- The committee has met four times since, at Corrosion/2005 in Houston, CTW/2005 in Calgary, Corrosion/2006 in San Diego, and at CTW/2006 in Orlando
- Next meeting will be Corrosion/2007 in Nashville



NACE Close-Interval Potential Survey Standard



NACE TG 279

- Committee TG 279 formed at Corrosion/2002
- The committee has met at each conference since, next meeting will be Corrosion/2007 in Nashville
- The committee was asked to incorporate other types of surveys into the document, including hybrid surveys (e.g. CIS with laterals or side-drains) and surface potential gradient surveys (hot-spot surveys, side-drain surveys)
- Draft was submitted for ballot in September, 2004, commented, and successfully reballoted



NACE TG 279

- Document is presently being edited for publication
- An approved standard is expected in 2007
- The draft was assigned a number, NACE standard SP0207-2007
- The standard will outline minimum requirements for close-interval surveys
- End users will have to use the standard to develop their own specifications for surveys



Close-Interval Survey Standard

- The standard consists of:
 - Introduction
 - Definitions
 - Pre-Job Considerations
 - Instrumentation and Equipment
 - Minimizing IR Drop
 - Pipe Location and Marking Procedures
 - CIS Procedures
 - Hybrid CIS Procedures
 - Offshore CIS Procedures
 - Dynamic Stray Current Considerations
 - Data Validity and Post Job Analysis
 - Appendix A: Pipe IR Drop Calculation
 - Appendix B: DC Cell-to-Cell Surface Potential Gradient Surveys



NACE Coating Evaluation Surveys Standard



NACE TG 294

- Committee TG 294 formed at Corrosion/2002
- The standard will address aboveground survey techniques for the evaluation of underground pipeline coating condition, including AC Attenuation Survey (Electromagnetic), Alternating Current Voltage Gradient (ACVG), Direct Current Voltage Gradient (DCVG), and Pearson
- Draft was submitted for ballot in September, 2005, received several comments
- The draft was modified to address the comments received, and the committee is presently editing the draft for reballot



Ancillary Standards

- The TG 279 and TG 294 standards will be complementary to RP0502, and are intended to augment or replace *Appendix A-Indirect Inspection methods*
- Additional standards are being developed for indirect inspection of bare pipelines
 - Committee TG 369 *Aboveground Techniques for Evaluating the Corrosiveness of External Environments* has been formed and will meet in March 2007



Ancillary Standards

- NACE is developing a training and certification program for Pipeline Corrosion Integrity Management
- A committee has been formed to develop a standard *Pipeline Corrosion Management*; this standard will be a comprehensive document for managing corrosion on pipelines, and the committee will meet in March 2007



Enbridge's ECDA Technology Needs

- More indirect inspection tools for bare pipelines
- Tools and methods for assessing non-electrically continuous (mechanically coupled) pipelines
- Tools and methods for assessing difficult areas such as casings, offshore pipelines, directional drills and deep pipelines
- Approval for guided wave ultrasonic techniques and other assessment tools for difficult areas
- Confirmatory direct assessment standard



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