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| STEM-Corrosion™ | **CM-I-14: Monitoring – Internal Corrosion (1-Day Tutorial)** | Email: training@corrmagnet.com<br>Phone: 403-991-4036<br>Linked in: CorrMagnet<br>Facebook: Corrmagnet<br>Twitter: @corrmagnet<br>Skype: CorrMagnet |

This tutorial discusses techniques to monitor and to inspect internal corrosion in the field. It presents the characteristics, merits, and demerits of more than 40 techniques. It also presents an overview of standards describing these techniques.

**Ideal Participants**

- Oil and gas personnel tasked to evaluate and implement techniques to monitor internal corrosion

Maximum number of participants: 25

**Materials**

- "Corrosion Control in the Oil and Gas Industry" S. Papavinasam, Publisher: Gulf Professional Publishing (Imprint of Elsevier) ISBN: 978-0123-970-220, Oct. 15, 2013: Chapter 8 (This book will be available as reference material for the duration of the tutorial and may be bought at a reduced price by the participants).
- Handouts of the presentation

**Tutorial Organisation**

- The tutorial is typically offered over one full day in four sessions
- Each session is for 90 minutes duration

**Tutorial Contents**

- Introduction
- Monitoring techniques
  - Mass loss
  - Electrical resistance
  - Polarization resistance
  - Electrochemical noise
  - Electrochemical impedance spectroscopy
  - Potentiodynamic polarization
  - Galvanic couples
  - Multielectrodes
  - Ultrasonic
  - Magnetic flux leakage
  - Electromagnetic – eddy current
  - Electromagnetic – remote field technique
  - Radiography
  - Electrical field mapping
  - Hydrogen probe
  - Corrosion potential
  - Microbiologically influenced corrosion
- Inspection
  - Physical (visual)
  - Boroscopy
  - Fiberscopy
  - Liquid penetrant inspection
  - Magnetic particle inspection