Update on NACE TG 404
'Nuclear Buried Piping'

Gabriel Ogundele, *Chair (Kinectrics Inc., Canada)*

Pierre Roberge, *Vice-Chair (Royal Military College, Canada)*

Hank Kleinfelder, *Secretary (Mears Group Inc., U.S.A)*

Presentation at the NRC Public Meeting
March 30, 2011

History

- **Initiated during Corrosion 2009**
- **Workshop -Corrosion 2010**
- **Meeting -Corrosion Technology Week 2010**
- **Symposium -Corrosion 2011**
- **Meeting -Corrosion 2011**

Scope of TG 404

To produce a report on

"State--of--the--Art Report of External Corrosion, Assessment, and Control of Buried Metallic and Reinforced Metallic Piping Systems in Nuclear Power Plants"

Symposium Corrosion 2011 (March 13 – 17, 2011)

- **Paper # 11178: "Pipeline Condition Assessment – Locating, Diagnosing, and Mitigating Corrosion Damage",** *Ockert J. Van Der Schijff and Ron Latanision*

- **(Paper # 11179: "A Regulatory Analysis and Perspective Regarding Leaks from Buried and Underground Piping at Nuclear Power Plants",** *David Alley*

- **Paper # 11180: "Corrosion Control Considerations for Buried Pipe in Nuclear Generation Facilities",** *Kevin C. Garrity and Hank Kleinfelder*

- **Paper # 11181**: **"Methodology for Surveying Buried Plant Piping for Coating Condition and CP Effectiveness",** *Andy Smart, Andy Jensen, Steve Biagiotti, and Eric Elder*

Symposium Corrosion 2011 (March 13 – 17, 2011)

- **Paper # 11182: "Cathodic protection design considerations for buried nuclear piping",** *Steven F. Daily*
- **Paper # 11183: "Predicting Conditions in Coating Disbonded Regions on Buried Pipelines in Nuclear Plants",** *Fengmei Song*
- **Paper # 11184: "Copper Grounding and Cathodic Protection in Nuclear Facilities",** *Earl L. Kirkpatrick*
- **Paper # 11185: "Evaluation of Coatings for Buried Piping",** *Jon Cavallo*

Proposed Report

State--of--the--Art Report of External Corrosion, Assessment, and Control of Buried Metallic and Reinforced Metallic Piping Systems in Nuclear Power Plants

Contributors

Utilities
EPRI
Coating and Cathodic Protection Experts

Table of Contents

Recommendations and Gap Analysis

- **Standards**
- **Cathodic Protection**
- **Coatings**
- **Training and Certification**
- **New Installation**
- **Indirect Inspection**
- **Direct Inspection**
- **Repair and Replacement Options**

Recommendations and Gap Analysis (e.g., Education)

- **Recognize needs of System Owners and Service Providers**
  - •System owners need management knowledge
  - •Service providers need technical knowledge

- **System Owners have counterparts in other industries**
  - •Resides in Oil and Gas production, transmission, and distribution
  - •Resources with corrosion fundamentals may exist
  - •Owners need to understand corrosion fundamentals

- **Training/Certification to be cognizant of the issues**
  - •Relevant to construction types and environmental factors
  - •Documentation control and standards

Subsequent Work

- **Release of report "completes" the scope of TG 404**
- **New Task Groups (TGs) and Technology Exchange Groups (TEGs) will be needed to carry-forward the gaps itemized in the previous slide**
- **Team Leaders are required to actualize the requirements**

Future Meeting

- **Corrosion Technology Week 2011 is September 18-22, 2011,** (Discuss final report before (or after) balloting)
- **Corrosion 2012 is March 11-15, 2012**

QUESTIONS