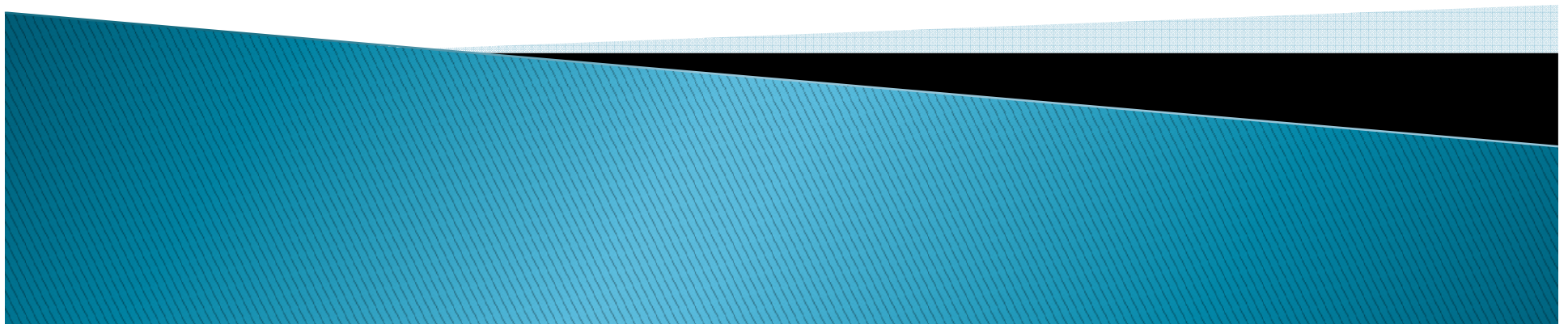


# EPRI's Buried Pipe Integrity Group (BPIG)

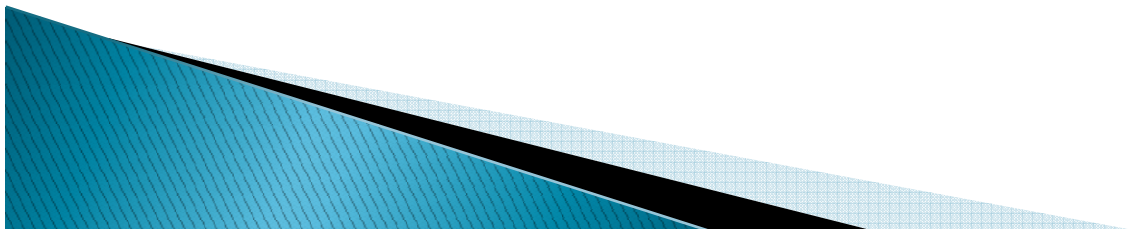
David Smith  
Duke Energy

Industry/NEI/NRC Meeting  
October 22, 2009  
White Flint, MD



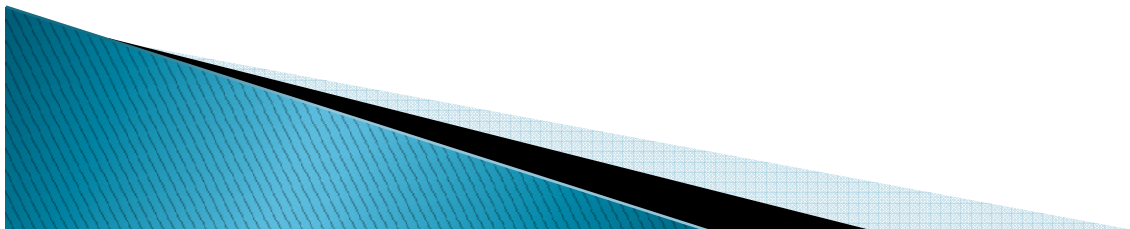
# Introduction

- ▶ In 2007, EPRI held two meetings with its membership to discuss industry needs with respect to balance-of-plant piping
- ▶ A strategic meeting was held in May 2007. Attended by highly experienced utility piping personnel, consultants and EPRI staff to identify areas that may need additional attention
  - The #1 identified issue was integrity of buried pipe
- ▶ A much larger follow-up meeting (utilities only) was held in October 2007 to exchange plant experiences and issues with buried pipe and to identify specific areas of future activity
  - There was unanimous agreement on the need to form a Buried Pipe Integrity Group



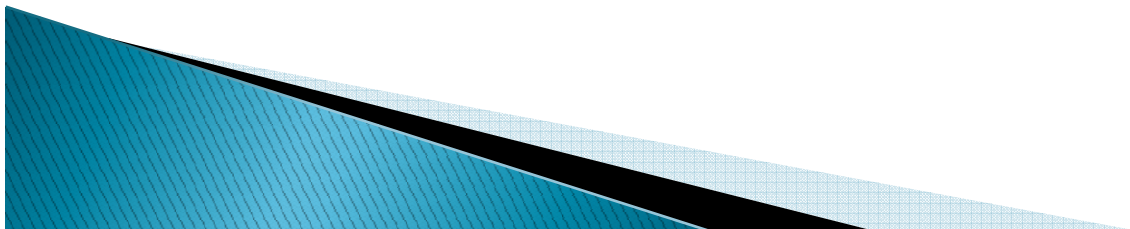
# Formation of BPIG

- ▶ BPIG was formed and funded by EPRI in early 2008
  - Membership is open to utilities only
  - Vendor participation in “Open Door” sessions
- ▶ A kick-off meeting was held in Feb 2008
  - Well attended
  - Experience sharing
  - Technical presentations
  - Identification of future activities
- ▶ A second well-attended meeting was held in July 2008
- ▶ BPIG became a supplementally funded group in 2009
  - 2009 membership includes 25 US utilities and represents ~125 nuclear plants in the US, Canada, and Europe
  - 2010 membership to include all US Nuclear Utilities



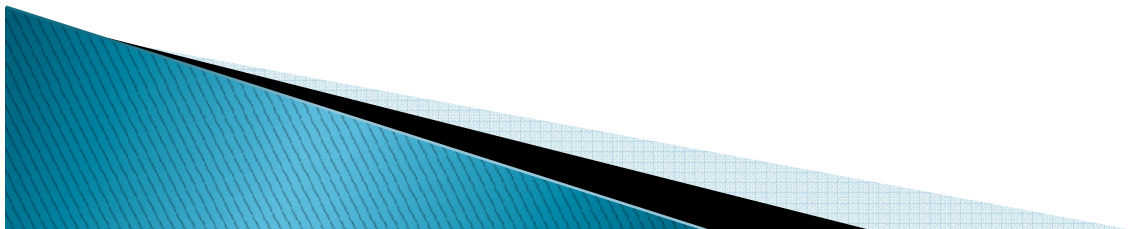
# Objectives of BPIG

- ▶ Provide a forum for plant owners to discuss buried pipe issues and exchange experiences
- ▶ Provide a forum to obtain a consensus on industry issues
- ▶ Sponsor related R&D
- ▶ Interface with Vendor Support
- ▶ Provide technical support on buried pipe issues, as well as support for related products
- ▶ Provide buried pipe related training



# 2009 BPIG Activities

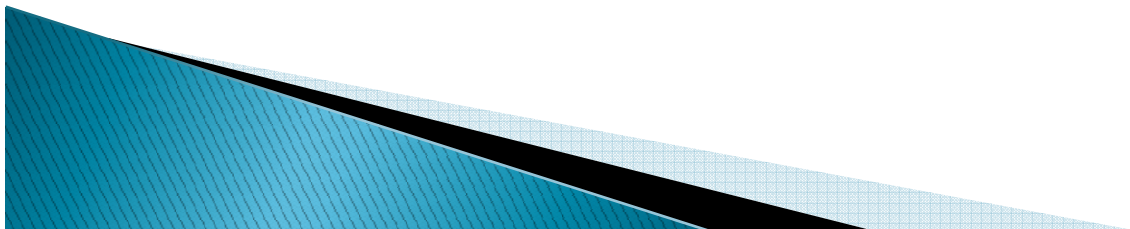
- ▶ **2 well-attended meetings to date in 2009**
  - 2 ½ days each
  - 1 day of an “Open Door” meeting with vendor technical presentations; typical topics
    - Cathodic protection
    - Direct assessments
    - Prestressed concrete cylinder pipe (PCCP)
    - Coatings
    - Wrap repairs
    - Risk ranking
    - Guided wave inspections
  - 1 ½ days of “Closed Door” utility only meetings
    - Experience sharing, R&D updates, administrative matters, etc



# 2009 BPIG Activities (cont'd)

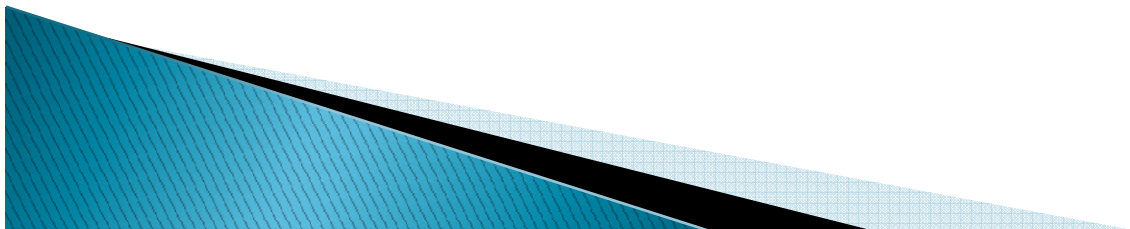
## ▶ Other services

- Web site
- Training
- Technical support
- Maintenance & updates of related products, including
  - Recommendations document
  - BPWORKS
- New projects of high-priority interest to members, including:
  - Lessons Learned from past utility experiences
  - Development of Intermediate Diameter Examination Tooling



# 2009 Training

- ▶ **Training for Buried Pipe Program Owners**
  - June 2–4, 2009 (20 attendees)
  - Sept 9–11, 2009, Chicago (21 attendees)
  - November 10–12, 2009, Dallas
- ▶ **BPWORKS: Risk Ranking of Buried Pipe**
  - February 9, 2009 (36 attendees)
  - June 1, 2009 (10 attendees)
  - Sept 8, 2009, Chicago (18 attendees)
  - November 9, 2009, Dallas
- ▶ **Cathodic Protection**
  - September 29–30, 2009, Rosebush, MI (6 attendees)
- ▶ **Guided Wave**
  - December 8–10, 2009, EPRI Charlotte, NC



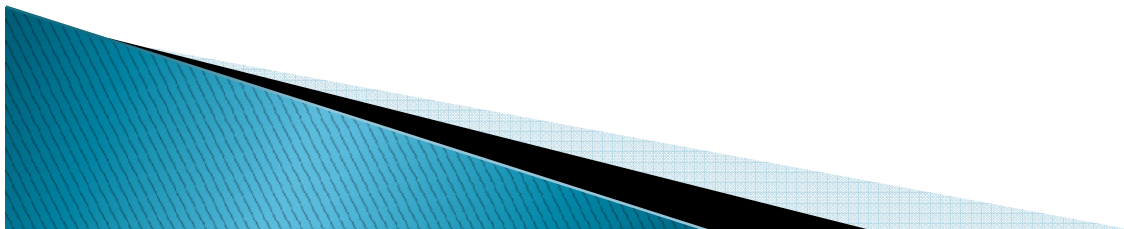
# BPIG Program Owner Training

## Module   Subject

1. Welcome & Objectives
2. Introduction
3. An Overview of Degradation in Buried Pipe
4. An Overview of the EPRI/BPIG Recommended Program
5. Responsibilities & Interfaces for the Program Owner
6. Procedures, Performance Indicators & Documentation
7. Pre-Outage, Outage and Post-Outage Tasks
8. Identifying & Locating Buried Pipe
9. Excluding Low Consequence Systems from the Program
10. Risk Ranking of High Consequence Systems
11. Soil Analysis
12. Leak Detection
13. Excavating & Shoring
14. Corrosion Control through Coatings & Cathodic Protection
15. CP Monitoring & Surveys

## Module   Subject

16. Coating Surveys
17. Selection of Inspection Locations
18. Selection of Inspection Methods
19. Cleaning
20. In-Line Inspections
21. An Overview of Guided Wave
22. OD Inspections
23. Inspection and Evaluation of Buried Pipe Coatings
24. CP System Maintenance & Enhancements
25. Fitness-for-Service
26. Repairs
27. Assessment & Repairs of PCCP
28. Coating Selection & Application
29. Use of Resistant Materials
30. System Operation
31. Backfill





# BPIG Future Plans

- ▶ 2010 Meetings
  - 2 planned meetings (February/July)
  
- ▶ 2010 Training
  - Buried Pipe Program Owners
  - BPWORKS
  - Cathodic Protection
  - Guided Wave
  
- ▶ Major Research or Projects
  - Revision of the program recommendations document
  - Development of a plant experiences database
  - Addition of Concrete Pipe information to the recommendation document, BPWORKS, and program manager training
  - BPWORKS Enhancements
    - Addition of APDM Open Database
    - Dynamic Segmentation Feature

