Inductive coordination of pipelines and power lines has always been a concern for both power and pipeline companies. In recent years, high density developments and increased public awareness on pipeline safety have led to more rigorous processes and study requirements to deal with the subject. The coordination of distribution lines and pipelines has also attracted attention. In response to this need, the University of Alberta conducted a research project on distribution line - pipeline coordination. The project was completed recently. Results of the project have been found to be of good educational and practical value.

In view of industry’s need for adequate knowledge on power line pipeline coordination, APIC will host a half-day educational workshop based on the materials collected and developed through the above APIC project. The workshop will explain many basic concepts such as the mechanism of inductive coupling, electrical response characteristics of pipelines, the effect of induced voltages on pipelines, and so on. It will also review various standards developed in the subject area. In addition, an inductive coordination expert from the pipeline industry will explain the practices of pipeline industry. Several people from pipeline companies will also attend the workshop, which will help to increase mutual understanding of the technical challenges faced by both industries.

The main objectives of this workshop are to increase attendees’ technical knowledge of the subject of inductive coordination between (both T&D) power lines and pipelines, solicit feedback on the approaches being recommended, and discuss paths forward for the utilities and industry in this area. It is hoped that the new knowledge will enable attendees to discuss inductive coordination issues with various parties on a well-informed basis, to scope a detailed coordination study project properly, to understand the type and accuracy of data needed for detailed studies, and to interpret or apply the results and recommendations of consultants or other parties with confidence.

Instructors & Speakers
• Gordon Cecil, Sr. Staff Electrical Engineer, Cenovus
• Thomas Hartman, Principal Engineer, ATCO Electric
• Daryle Warnke, Consultant
• Wilsun Xu, Professor, University of Alberta

Recommended Participants
• Electrical utility engineering and technical staff involved in interference effects assessment and mitigation, for either transmission or distribution lines
• Pipeline operating company engineering and technical staff involved in interference effects assessment and mitigation, as well as pipeline safety and integrity
• Engineering consultants invited by participating utility or pipeline companies

1. Overview of pipeline industry
• Alberta’s pipeline infrastructure
• Cases of proximity with power lines
• Procedures developed for interference studies and mitigations

2. Interference issues – pipeline company’s perspectives
• Problems caused by inductive coupling
• Techniques for interference mitigation
• Practices and trends in dealing with induction/interference

3. Power lines and mechanism of inductive coupling
• Transmission versus distribution lines
• Unique issues associated with distribution lines
• Mechanism and modeling of inductive coupling

4. Standards and methods of coordination assessment
• Electric model of power lines and pipelines
• Calculation of induced voltages
• Coordination standards

5. Key factors and mitigation methods
• Key factors under normal condition
• Key factors under fault condition
• Mitigation methods from power company perspective
• Screening charts and tools

6. The path forward: Open discussion of needs and directions
• Increasing awareness of the issues and utility/industry education
• Incorporation into electrical utility and pipeline industry policies and procedures, input and collaboration
• Adoption into existing regulations (eg: CSA Z662, AEUC, etc.)
• Interference study and mitigation process flowchart – collaborative approach with screening, modeling, mitigation, verification, and management of change steps
• Availability, effectiveness and application of APIC screening tools

Registration starts at 9:30am. Lunch is provided.

How to pre-register for the workshop
This workshop is by invitation only for APIC companies and pipeline companies operating in Alberta. Individuals interested in attending shall email to Prof. Wilsun Xu at wxu@ualberta.ca before the deadline of August 15, 2015. The workshop can only accommodate 30 people so registration is on first-come-first-served basis. Note: A registration fee of $100/attendee applies to pipeline companies.

About the Alberta Power Industry Consortium (APIC)
The Alberta Power Industry Consortium consists of six Alberta utility companies (AESO, AltaLink, ATCO, Epcor, Enmax and FortisAlberta) and the University of Alberta. Established in the fall of 2007, its goal is to bring Alberta power companies together, with the University of Alberta as the coordinating organization, to solve technical problems of common interest, to produce more power engineering graduates, to support the professional development of current employees, and to promote technical cooperation and exchange in Alberta’s power utility companies.