



# IEEE Canada

## Northern Canada Section



### IEEE-NCS, IAS/PES Presents

Tuesday, January 26<sup>th</sup>, 2016, 6:00 to 9:00pm, doors open at 5:30pm

## **Technical Seminar:** **“Hazardous Location Standards for Canada”**

### Technical Seminar Abstract:

The 2015 (23rd) Edition of the Canadian Electrical Code (CEC) has taken one step closer to the rest of the world and one step further away from the US National Electrical Code (NEC). For decades, both the CEC and NEC have used the term “Class” to identify the various types of hazardous materials. The 2015 CEC has removed the term “Class” from Section 18 and replaced it with the International Electrotechnical Commission (IEC) Zone system terms. Class I, which was changed in 1998 to include Zones, becomes simply Zones 0, 1 and 2. Class II and Class III were merged to become Zones 20, 21 and 22. Class II and III has been relocated to Annex J along with Class I for legacy facilities. Class/Division equipment can still be used, and Table J1.2 was updated to identify the types of equipment that can be used in both Zone and Division classified facilities.

All new installations must use the Zone system for area classification. In Alberta, the 2015 CEC comes into force January 2016, and the other western provinces in a similar timeframe.

The 2nd Edition of API RP505, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1 and Zone 2, is due for publication in early 2016. There are some significant changes from the 1st Edition, which will be discussed in this presentation.

There are a number of significant changes currently being discussed within the CEC Section 18 (Hazardous Locations) subcommittee for the 2018 CEC, and a preview of these will also be covered in this presentation.

Practical applications on area classification will be discussed, in particular, typical errors and over classifications that are made and the impact to those facilities. The role of combustible gas detection in area classification will also be included.

For more details for the event or registration questions or concerns please contact the event coordinators Alex Nassif (Alexandre.Nassif@atcoelectric.com) or Shagufta Tasneem (shagtas@gmail.com).



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**Tim Driscoll** F.IEEE received his Bachelor of Science, Electrical Engineering degree in 1976 from the University of Calgary, Calgary, Alberta, Canada. Since graduation he has been employed at Shell Canada in various positions including control engineering, project management and electrical engineering. Responsibilities included electrical engineering support for all Shell Canada's facilities in the areas of operations, maintenance, safety, energy and capital projects. Currently retired from Shell, he runs a small engineering firm in Calgary, OBIEC Consulting. He has co-authored several papers and presentations at the IEEE PCIC Conference, the IEEE PCIC Europe Conference, the IEEE Electrical Safety, Technical & Mega Projects Workshop and the IEEE Electrical Safety Workshop.

He is a member of the Association of Professional Engineers and Geoscientists of Alberta. He is also chair of the Canadian Electrical Code section 62 and the Technical Content Subcommittee on the CSA Objective Based Industrial Electrical Code, and participates on several other Alberta Codes, and CSA, API, IEEE and IEC standards. He is a Fellow of the IEEE, and received CSA's Award of Merit in 2015 for work on electrical codes and standards.



**Marty Cole** has worked for Hubbell Canada over 35 years and been involved with hazardous locations for much of that time. He is a graduate of Humber College with a diploma in Explosives Engineering Technology. He is a member of the Canadian Electrical Code (CEC) Part I - Section 18 Subcommittee and a member of the Board of Directors of the CEC Part 4 - Objective Based Industrial Electrical Code (OBIEC) Stakeholder Advisory Committee. He is Chair of CSA's Integrated Committee on Hazardous Locations (ICHL) which deal with all Canadian standards related to hazardous locations and is the Standards Council of Canada (SCC) committee to IEC TC 31, SC 31G, SC 31J and SC 31M. He is member of CSA's TC419 Technical Committee on the Performance of Lighting Products, Chairs CSA Standard C239, and is a member of several other CSA standards.

Marty is an IEEE Senior Member, an IAS and IEEE-PCIC Standards committee member, and Chairs the development of the P1673 standard. He is the Canadian Alternate to the IEC Conformity Assessment Board (CAB). He is Chair of the Hazardous Location Products sub-section of Electro Federation Canada's (EFC/EEMAC) Wiring Products Section. He is a member of IECEx and Convenor or IECEx ExMC WG1 (Rules Committee). He has authored and co-authored numerous papers and articles on the subject of hazardous locations for the IEEE-PCIC, IEEE-ESW, IEEE-ESTMP, PCIC-Europe, IEEE-GCC, IEEE-IAS Magazine and other industry publications. In 2014 he was awarded CSA's Award of Merit for his work in hazardous location standards.



**D. George Morlidge**, SM.IEEE, P. Eng. is the Chief Electrical Engineer for Fluor Canada Ltd. He has thirty years experience in operations and consulting engineering in heavy industry in the petroleum, chemical, cogeneration, pipelines, automotive, lumber, mining and food processing sectors in both Canadian and international projects. He is a section subcommittee member for sections 2 and 10 and chairman of section 18 of the Canadian Electrical Code and a member of the Canadian Standards Association Technical Committee for Industrial Products and the Technical Committee for the Objective Based Industrial Electrical Code. He is a member and past chairman of the Energy Industry Electrical Engineers Association. He is chairman of PCIC 2017 to be held in Calgary.



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### ***Women In Engineering (WIE)/Young Professional (YP) Presentation:***

To promote both IEEE's Affinity Groups Women in Engineering and Young Professionals (YP), we will have a 15-minute opening presentation from a Guest Speaker (member of both) on:

#### **Smart Grid & WAMS by Vaishali Rampurkar**

Electric power system is undergoing profound changes driven by different factors in order to address the challenges of the existing power grid. The new transformed grid i.e. "Smart Grid" will enhance the grid reliability and stability with smarter and faster control system, modern communications infrastructure, sensing and metering technologies and so on. One of the key elements of smart grid systems is the development of Wide Area Measurement Systems (WAMS) technology. Synchronized phasor measurement units (PMUs) are an integral part of WAMS and have become a mature technology and are being installed on power transmission networks of major power systems.

PMUs provide a big- picture overview of the grid by collecting widely dispersed high-quality data. With the major power grid blackouts faced in the various parts of the world, the importance of measurements provided by PMUs has been recognized. The various applications of synchronized PMU measurements for reliable, stable and secure operation of the system will be discussed in the presentation.

#### **Bio:**

Vaishali Rampurkar holds a Masters in Electrical Engineering and has recently submitted her PhD thesis in the area of Smart Grid technologies at Mumbai University in India. As a graduate researcher, her work was in collaboration with the Western Region Load Despatch Centre (WRLDC) a wholly owned subsidiary of Power Grid Corporation of India Ltd (PGCIL) and focused on developing applications using real time synchrophasor measurements for improved monitoring and visualization of the grid. Her research interests include Synchrophasor technology, renewable energy, micro-grids. She has been IEEE student member for 5 years, and she was also selected for the student support program by IEEE PES in 2013. She is a member of Working Group-1, Advanced Transmission and Distribution of India Smart Grid Forum (ISGF) and has helped organize workshops on Renewable Energy, Cyber Security in Smart Grids, Dynamical systems control etc. in India.



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### **Announcement:**

The 2016 ESTMP Workshop will be taking place in Edmonton.



Workshop Date: Sunday, March 13, 2016 (All day) to Wednesday, March 16, 2016 (All day).

Location: Edmonton, Alberta at the River Cree Casino.

The IEEE IAS ESTMP Workshop provides a forum for exchanging and advancing industry knowledge in the areas of electrical safety, engineering design, power system reliability and the implementation and execution of Mega Projects. The Workshop focus will be to share innovative concepts, successes as well as lessons learned in the areas of: 1) advancing state of the art knowledge and best practices; 2) stimulating innovation in creating the next generation of technology; and 3) design and implementation of Mega Projects.

Individuals that have participated in past ESTMP workshops continue to attest to the high quality of the presentations and tutorials. Anyone involved with electrical, safety, construction, or design would benefit from this workshop.

Watch [www.ieee.org/estmp](http://www.ieee.org/estmp) for more details and registration.



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### **Agenda:**

At the Door Registration, Social and refreshments/appetizers:	5:30 – 6:00pm
Announcements:	6:00 – 6:10pm
WIE/YP Speaker Presentation with Q&A:	6:10 – 6:30pm
PES/IAS Speaker Presentation with Q&A:	6:35 – 9:00pm

### **Online Registration (Open from January 6th – January 20th)**

<https://meetings.vtools.ieee.org/m/37749>

#### **Early bird online registration fee**

IEEE Members: \$25  
Non-IEEE members: \$30  
IEEE Student Members: Free  
Non-IEEE Student: \$10  
IEEE Life Members: Free

#### **At the Door Registration - (Payable by cash or cheque)**

IEEE Members: \$35  
Non-IEEE members: \$40  
IEEE Student Members: \$10  
Non-IEEE Student: \$15  
IEEE Life Members: Free

Please have your **IEEE membership card** ready to obtain the discount.



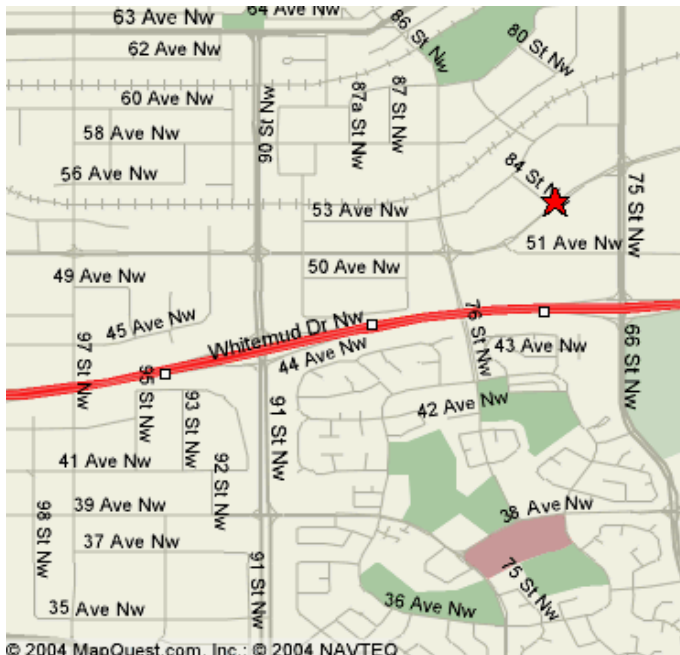
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### **Location:**

German Canadian Cultural Centre  
8310 Roper Road, Edmonton



### **Contacts:**

Alex Nassif (Alexandre.Nassif@atcoelectric.com)  
Shagufta Tasneem (shagtas@gmail.com).

### **Event Sponsor:**

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