

**You are invited to an IEEE Meeting on Thursday, February 18, 2010**

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Title: " **Online Partial-Discharge Testing of Rotating Machines: Standards and Advancements**"

Speaker: **G. Matthew Kennedy, PD Product Manager, Doble Engineering Co.**

Date: February 18, 2010

Time: No-host social at 5:30 pm; Presentation at 6:15pm; Dinner at 7:15 pm;  
Presentation continues at 8:00 pm; Adjourn by 9:00 pm.

Place: Marie Callender's Restaurant - The Garden Room; 2090 Diamond Blvd in Concord  
(near the Concord Hilton Hotel). Call 925-827-4930 if you need directions.

RSVP: Please make reservations by Feb. 17, by contacting Gregg Boltz at  
email: [gboltz@brwncald.com](mailto:gboltz@brwncald.com) or telephone: (925) 210-2571

Cost: The cost of dinner is \$20 for IEEE members; \$25 for non-members.

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**Summary:**

Over the past 30 years, great strides have been made in online monitoring of rotating machines, transformers and HV apparatus. Specifically, partial discharge (PD) monitoring offers an excellent method of assessing the condition of various HV components under actual in-service stress such as load and temperature. With these advances and a greater understanding of the mechanism of PD, a more informed decision can be made about the condition of their associated insulation systems. Rotating machines have been at the forefront of these advances due to their inherent PD generation and large cost of disruption. Supported by updated IEC, such as IEC 60270, and in-progress IEEE standards, these advances include better digital acquisition systems, noise rejection methods and sensors technology.

Key for an efficient use of manpower is to choose the most cost effective broad testing and monitoring technique. PD standards offer both options in periodic and permanent online testing. Choosing the most effective online method depends on balance of risk and cost. The goal is to provide enough warning to know if additional tests and associated outages are necessary. This is why online PD monitoring has become so popular and why great strides in improving the technology have become so important. Online PD monitoring has come a long way since it became popular in the 1980s. Most notably, there have been improvements in the measuring data acquisition systems, software & data management, sensor technologies, and noise rejection. This presentation will present several of these advancements and the reason they should be incorporated into an online PD test program for rotating machines

**About the Speaker:**

**G. Matthew Kennedy** has been employed with Doble Engineering since 1998 and currently holds the title of PD Product Manager. He is the assistant secretary of the Doble Insulating Materials Committee and SFRA User Group. He has worked in both client service and product development. Matthew has published and presented numerous papers on transformer, rotating machines, cable and diagnostic methods for the Doble Client Conference, Iris Conference, NETA, EE Times, Electricity Today and T&D World. He received his B.S. of Electrical Engineering in 1993 from the University of California, Santa Barbara and postgraduate Nuclear Plant Engineer Certification from the Department of Energy: Naval Reactors in 1997. He is a member of the IEEE Power Engineering Society and is an active author and participant in several committees including:

- IEEE 62 (C57.152)
- Task Force Frequency Response Analysis
- C57.12.00 IEEE Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
- C57.150 Transportation of Transformers Greater than 10 MVA
- WG C57.104 - IEEE Guide for the Interpretation of Gases Generated in Oil - Immersed Transformers

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