



Monday  
March 16



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.  
San Francisco Chapter Presents:

# Condition Monitoring of Power Transformers using Dissolved Gas Analysis (DGA)

## DATE & TIMES

*Monday, March 16, 2009  
12 p.m. – 1 p.m.*

## PLACE

*Pacific Gas & Electric Office  
77 Beale St.  
Room 305  
San Francisco*

*Check in with guard to verify  
your name on IEEE PES list*

## INFORMATION

*Closest BART Station is  
Embarcadero*

## RSVP REQUIRED

*RSVP by March 14, 2009 to:  
John Joven  
415-973-4873  
JRJJ@PGE.COM*

## LUNCH

*Free for IEEE members  
\$5 for non-members  
RSVP required*

Dissolved Gas Analysis (DGA) is a well-established method to monitor and predict the condition of devices with oil-cellulose insulation, especially power transformers. IEC 60599 defines characteristic gases for power transformers. However, the effect of migration of these gases between the liquid and solid insulation is often ignored. The migration phenomenon is temperature-dependent and when ignored, it can potentially lead to erroneous condition assessment by the DGA method. These errors can cause misinterpretation of a transformer condition based on the DGA data.

Dr. Ahmad Shahsiah will present an overview of the DGA method along with the effect of the migration of characteristic gases between the oil and cellulose due to temperature variations. The presentation will include the latest findings on the DGA errors that could potentially exist as a result of characteristic gas migration between the oil and cellulose in a power transformer.

Dr. Ahmad Shahsiah is a senior engineer at Exponent, Failure Analysis Associates in Menlo Park, CA and a registered professional engineer in the state of California. He received his BS degree in electrical engineering from Tehran Polytechnic in 1996, MS and Ph.D. degrees in electric power engineering from Rensselaer Polytechnic Institute in 2002 and 2006, respectively. Dr. Shahsiah is the recipient of the 2005 fellowship award from IEEE - Dielectrics and Electrical Insulation Society. He is the author of the book: "Mass Transfer in Electrical Insulation of Power Transformers".