

## San Francisco IEEE / IAS

# Short Circuit Coordination & Specification Writing Seminar

Friday, March 23, 2012 – Hilton Pleasanton

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Morning Session

### Specification Writing Refresher

We design electrical distribution equipment to perform increasingly complex tasks. While the fundamental purpose of electrical distribution equipment is to safely distribute electrical power, customers require all levels of distribution equipment to perform increasingly complex switching, data acquisition, and automation tasks. As a result, we combine specifications in order to meet project needs. Unfortunately, doing so often provides conflicts in the specifications – leading to exceptions and clarifications that may not meet the engineer's design intent. The presentation will focus on how to specify equipment that manufacturers can build, while adding the features that customers need.

We will review specifications for Medium Voltage switchgear and transformers, as well as low voltage switchgear & switchboards, LV transformers, and Panels. The purpose of this presentation is to provide the designer and engineer with an overview of how equipment interacts, how to specify features that the manufactures can actually provide, and understand how specifications can influence project cost and lead time. Suppliers are responsible for building safe, reliable equipment that applies to industry standards, while meeting the project requirements. Specifications should define required features, ratings, and performance needs, but since the equipment is manufactured per various Labels and Standards, many features are not available for modification. Specifications often attempt to define "how to build" a product, or add features that are in conflict with the standards under which the equipment is designed, manufactured, and tested. Additionally, specifications often combine proprietary features from multiple manufacturers. Finally specifications should not conflict with the drawings. Proposals often arrive with pages of clarifications that can cause significant issues for the project. Following this presentation, the attendee will understand how to write a clear, concise specification that will communicate project design needs, without adding requirements that lead to unnecessary clarifications, exceptions, added cost, and delays.

#### Speakers:

**Chris Lovin, Eaton:** Mr. Lovin holds a BSEE from the University of Illinois and is a registered PE in the state of Illinois. With over 23 years at Eaton, Cutler Hammer / (Westinghouse) he has held positions in sales marketing, operations as well as engineering.

**Gary Fox, General Electric:** Mr. Fox received his BSEE from California Polytechnic State University, San Luis Obispo in 1978. A 32 year veteran of GE, he is currently a Senior Specification Engineer, providing application and technical support for power distribution and control equipment..

**Jim Avery, IEM:** Mr. Avery received his BSME from University of Michigan. A sales engineer for 30 years, he has held a variety of positions with Westinghouse/Eaton, and currently is a Sales Engineer with IEM.

**Finn Schenck, Schneider Electric (Square D Company)** Finn received his BSME from SJSU, Finn has 23 years experience supporting Square D Distribution and Control equipment customers. Finn is currently the West Coast National Account Manager for the Schneider Electric Data Center Solutions Team.

## Afternoon Session

# SHORT CIRCUIT, COORDINATION AND ARC FLASH ANALYSIS

GLYN J. LEWIS, P.E. - APPLIED POWER

The production of short circuit and coordination studies is now more of a science than an art, as in years gone by. The new science is the plethora of computer programs now available at comparatively low cost. These programs are produced by people who have rigorously studied the multitude of standards and incorporated their methodology into their programs. However, the longstanding problem of interpretation still exists and requires further knowledge of the hardware devices and their application standards. This afternoon presentation provides some guidelines in the analysis of the computed and graphical results of the study's results. Emphasis will be placed upon selective tripping and implementation of arc flash safety programs.

### Speaker:

**GLYN J. LEWIS, P.E.** A graduate from the University of Wales Institute of Science and Technology in 1964, Mr Lewis worked for two switchgear suppliers in UK as a commissioning engineer. He joined GE in 1968 and worked in several positions until forming Applied Power in 1981. Glyn is a Member of IEEE, NFPA, NETA AND IAEI. Registered in the State of California, Mr. Lewis has performed over 500 analytical studies on electrical distribution systems in the areas of short circuit analysis, coordination, load flow and motor starting. Mr. Lewis is also responsible for the design of numerous generating and cogenerating plants. Mr. Lewis specializes in the design of high voltage systems and controls utilizing the latest technology devices. Mr. Lewis has been a principle instructor for many training seminars presented by General Electric Company in the fields of electrical safety, switchgear and protective relaying. He is a past IEEE San Francisco short course instructor on high voltage substation design, and has served various IEEE societies as an instructor for a variety of short courses and seminars since 1984.

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**BONUS**

**WHEN and WHERE**

Date: **Friday - March 23, 2012**

Time: 8:00 am Registration,  
Continental Breakfast  
8:30 am – 4:40 pm  
Conference and Lunch

Location: **Hilton Pleasanton**  
7050 Johnson Dr.  
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Cost: \$250.00 Total Cost  
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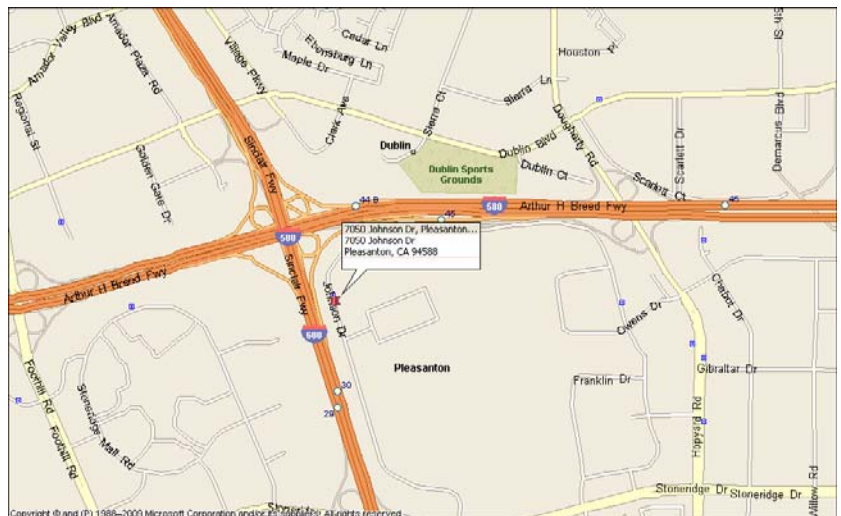
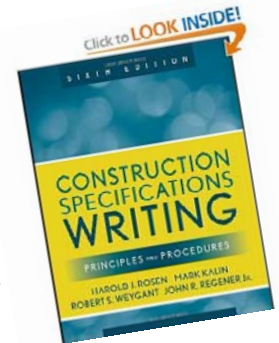
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- Construction Specifications Writing

As well as:

- Speakers' presentation notes and handouts.



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8:30 am – 4:40 pm Conference and Lunch

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7050 Johnson Dr.  
Pleasanton, CA 94588

Cost: \$250.00 Total Cost  
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