

TUTORIAL 1427 – ELECTRICAL CLEARANCES AND INSULATION LEVELS IN AIR-INSULATED ELECTRIC POWER SUBSTATIONS

Sunday 8:00 am – noon

Presented by Hamid Sharifnia

This tutorial covers IEEE 1427 with emphasis on the following topics:

- Electrical operating & safety clearances in air-insulated substation for three phase AC system, 1 kV to 800 kV
- Selection of Basic lightning impulse insulation level (BIL) and Basic switching impulse insulation level (BSL)
- Design procedures for insulation coordination related to clearances
- National Electric Safety Code requirements
- Reduce clearances for compact substation and voltage upgrading applications
- Criteria for insulation coordination, procedures and examples

TUTORIAL 998 – DIRECT LIGHTNING STROKE SHIELDING OF SUBSTATIONS

Sunday 1:30 pm – 5:30 pm

Presented by Robert S. Nowell

This tutorial will provide a review of the newly released 998 guide. Empirical and EGM shielding methods for direct lightning stroke interception (including the newly added Eriksson EGM) will be reviewed and examples presented in step-by-step detail. Alternative models for direct lightning stroke interception added to the guide will be discussed without detailed examples.

TUTORIAL 605 – DESIGN OF SUBSTATION BUS STRUCTURES

Sunday 8:00 am – 5:30 pm

Presented by Jean-Bernard Dastous

This tutorial will familiarize the substation engineer with the necessary steps used in the design of both flexible and rigid busbars, according to the IEEE-605-2008 std. The main sections of this guide will be presented, along with practical design examples. Electrical as well as mechanical aspects of bus design will be covered.

TUTORIAL 979 – SUBSTATION FIRE PROTECTION: NEW PERFORMANCE-BASED METHODOLOGIES

Sunday 8:00 am – 2:30 pm

Presented by Don Delcourt

Workshop on the content of the 979 guide and the application of the new performance based methodology. This workshop will cover worked examples of the engineering methods and the use of the guide in the analysis of major substation fires.