efti Electricity Forum Training Institute

POWER SYSTEM ANALYSIS, COORDINATION, MODELING AND CALCULATIONS

September 10-13, 2018 - San Francisco, CA

The Integrated Engineering Training Course Includes:

- 100+Page Digital Electrical Protection Handbook (Value $20)
- An Electricity Forum Coupon (Value $100) to be used against any future Electricity Forum event (restrictions apply)
- A FREE Magazine Subscription (Value $50)
- EFTI Course Completion Certificate
- Forum Presentations in Paper Format
- FREE Power System Analysis Software Demo

4-DAY COURSE $1599

GROUP DISCOUNTS AVAILABLE

COMPLETE COURSE DETAILS AT
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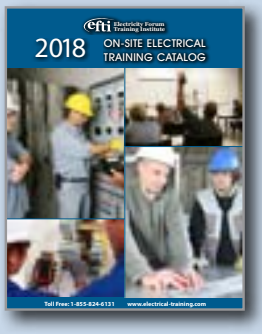

ON-SITE TRAINING BENEFITS:
– Affordable and Cost Effective
– Course Customization
– Flexibility of Schedule
– Convenience for Employees
– CEUs/PDHs

THE ELECTRICITY FORUM TRAINING INSTITUTE

www.electricityforum.com/catalog

DAY ONE
8:00am
1: POWER SYSTEM FUNDAMENTALS
- Three-Phase vs. Single-Phase Systems
- Balanced Three-Phase Loads
- Unbalanced Three-Phase Loads
- Effects of frequency, single and three-phase balanced loads and unbalanced power loads
- 3 Group Exercises

2: SYSTEM DESIGN CONSIDERATIONS
- Analytical approach of a Power System design
- Standards and Codes
- Major loads
- Spare capacity and calculations
- Static and Dynamic Loads, e.g. Electrical Motors
- Separating static and dynamic loads
- Major Equipment and Components
- Design requirements
- Design considerations
- Configuration options

3: POWER SYSTEM SUBSTATION CONFIGURATION
- Functions of a substation, design considerations, radial, loop, and selective systems, and one-line diagrams.

...and more

DAY TWO
1. LINE AND MOTOR STARTING VOLTAGE DROP CALCULATIONS
- Factors affecting voltage drop, voltage drop formulas and calculations procedures.
- Effects on plant equipment and methods of motor starting.
- EasyPower Software Demonstration and 6 Group Exercises

2. POWER FACTOR CORRECTION
- Power factor fundamentals, power factor correction sources, benefits of power factor correction, capacitor bank locations, and capacitor bank concerns.
- Capacitor ratings and power factor correction calculation procedures.
- EasyPower Software Demonstration and 2 Group Exercises

3. SHORT CIRCUIT STUDIES
- Terminology and Theory
- Types of Faults
- Symmetrical and Asymmetrical Currents
- Balanced Fault Calculations
- Purposes of fault calculations, effects of short circuits, fault current sources, machine reactance modeling, and fault current characteristics.
- Types of faults/magnitudes and fault calculation procedures.
- EasyPower Software Demonstration and 2 Group Exercises

...and more

DAY THREE
1. LOW VOLTAGE EQUIPMENT RATINGS AND SELECTION
- Introduction, low voltage fuses, and molded case circuit breakers.
- Busway and conductors.
- EasyPower Software Demonstration and 6 Group Exercises

2. SWITCHGEAR RATINGS AND SELECTION CRITERIA
- Introduction and low voltage power circuit breakers.
- Power fuses, load interrupters, and medium voltage power circuit breakers.
- EasyPower Software Demonstration and 3 Group Exercises

3. OVERCURRENT COORDINATION FUNDAMENTALS
- General procedures, data requirements.
- EasyPower Software Demonstration and 2 Group Exercises on Coordination Scaling Factors. (2)

4. CONDUCTOR AND BUS SELECTION & PROTECTION
- Low voltage and medium voltage conductor protection fundamentals.
- Cable Damage Criteria
- Low and Medium Voltage
- Tie Line Protection
- EasyPower Software Demonstration and 2 Group Exercises on Conductor Protection.
- EasyPower Software Demonstration and 1 Group Exercise on Tie Line Protection.

5. TRANSFORMER SELECTION & PROTECTION
- Transformer Protection
- Overload Protection
- Phase and Ground Fault Protection
- Primary Fuse Protection
- Primary Breaker Protection
- Transformer protection characteristics, transformer data, and basic transformer protection.
- Factors affecting transformer protection.
- EasyPower Software Demonstration and 2 Group Exercises on Transformer Protection

...and more

DAY FOUR
1. AC INDUCTION MOTOR SELECTION & PROTECTION
- NEC and ANSI/IEEE Standards
- Motor TCC Curves
- MCP Low Voltage Protection
- NEMA Class E2 Controllers
- Thermal Overload Protection
- Thermal Locked Rotor Protection
- Phase and Ground Fault Protection
- Miscellaneous Protection (Undervoltage, Single-Phasing, etc.)
- Industry motor standards, motor nameplates
- ANSI/IEEE device numbers and functions
- Motor TCC curves
- Medium voltage motor protection.
- EasyPower Software Demonstration and 2 Group Exercises on Motor Protection

2. ARC FLASH STUDIES AND SOFTWARE SIMULATION
- IEEE 1584 versus NFPA 70E
- Bolted fault versus arching fault
- Example of an ARC Flash calculation, with different scenarios
- Interpretation of the results of the ARC Flash Calculations
- Active and passive methods of determining ARC Flash mitigation

3: TOOLS FOR SELECTION AND CONFIGURATION
Available power system design software:
- Category, classification and level of trust
- Requirements of the software design tool
- Standards incorporated in software tool
- Data validation for modeling a power system
- Output Validation of a Simulation using Software Tools

...and more

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FEES AND DISCOUNTS

The registration fee to attend the 5-day Industrial Power System Analysis, Coordination and Calculations Training Course is $1,599. SAVE $100 - Register and prepay 14 days before forum date and receive an early bird registration fee of $1,499.00.

DISCOUNT PROMOTION: Register 3 delegates at the full price of $1,599 each, and get a 4th registration FREE!

The fee includes Workshop presentation materials, refreshments, Lunch Included. NOTE: This course includes a FREE Electrical Engineering Software Demo.

CANCELLATION AND REFUND POLICY

Registration fees are refundable only upon receipt of written notification 10 days prior to the conference date, less a 10 per cent service charge. Substitution of participants is permissible. The Electricity Forum Training Institute reserves the right to cancel any conference it deems necessary and will, in such event, make a full refund of the registration fees.

WHEN & WHERE

San Francisco, CA - September 10-13, 2018
Best Western Plus Grosvenor Hotel
380 S Airport Boulevard
South San Francisco, CA 94080
Tel: 650-873-3200

WAYS TO REGISTER

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REGISTER ONLINE:
www.electricityforum.com/electrical-training/usa/power-system-training