POWER SYSTEM PROTECTIVE RELAYING

TRAINIT ACADEMY

EPE134

Electrical & Power Engineering

COURSE TITLE

POWER SYSTEM PROTECTIVE RELAYING

COURSE DATE/ VENUE

12 – 16 October 2020

Tbilisi, Georgia

COURSE REFERENCE

EPE134

COURSE DURATION

05 Days

DISCIPLINE

Electrical & Power Engineering

COURSE INTRODUCTION

Protective Relaying of Electrical Equipment in power plants and other petro-chemical industries has always been a challenge to Electrical System Engineers. Reliability, Precision and speedy operation of Relays have the focus for minimizing the economic impact of isolation of faulty equipment.

Understanding the function of Relays and their settings will have an important reflections on the systems, plant and equipment stability which will add value to the whole activity.

Different application needs to employ the appropriate relays of specific type and functions for ensuring the reliability of system operation through pragmatic controls. Considerable attention must be given to the relay co-ordination which also exhibits the security of the systems and the processes.

Understanding the vital issues and problems associated with the relays is necessary and essential for the diagnosis, trouble shooting and achieving minimum maintenance needs for proper Protection Management of the entire Power System.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- ✓ Introduce the participants with protection philosophy for HT Motors, Generators, Feeders, Transformers, Bus bars & Switchyards
- ✓ Familiarize the participants with different types of relays their applications, testing and maintenance
- ✓ Upgrade the participants - understanding on the role of CT & PT in protective relaying
- ✓ Provide skills, knowledge and understanding of the principle and practice of commissioning, testing and management of microprocessor based Digital / Numerical relays.
- ✓ Learn the method of fault level calculations and setting of relays
- ✓ Learn the technology of Relay - Co - ordination
- ✓ Provide the exposure in modern trends in Design and Management of Advanced Power System Protections

COURSE AUDIENCE

Electrical Engineers and technicians with responsibility for the operation, testing and maintenance of Power Generation, Distribution and Utilization Systems will be benefit largely from the workshop. R&D personnel and Power System Design Engineers are also recommended to attend the course.

COURSE CONTENT

- Theory of Protections
- CT & PT for Protective Relaying
- Methods of Discrimination
- Fault Level Calculations

- Testing of Relays
- Setting of Relays
- Fuses
- HT Motor Protections
- Generator Protections
- Feeder Protection
- Transformer Protections
- Busbar Protections
- Switchyard Protections
- Performance of Relays
- Relay Co-Ordination
- Operation & Maintenance of Microprocessor Based Protections
- Operation & Management of Digital Relays
- Modern Trend In Design & Management of Power System Protections

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice

type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions