Paladin DesignBase 6.0
DB-103 Training Program

Description

This 3-day course covers the fundamental DesignBase programs needed for the safe design, operation and analysis of power systems. These main programs are: The Main User Interface, AC Short Circuit Program, AC Protective Device Coordination (PDC) Program and the Arc Flash Program. Participants, led by experienced instructors, will learn step-by-step how to create accurate models, analyze & discuss every aspect of the process and conduct meaningful studies using the latest tools available in the Paladin DesignBase platform.

Itemized Objectives

The Modelling Interface:
- Learn how to define projects in Paladin DesignBase.
- Learn how to build a single line diagram.
- Learn how to enter and edit system component data.
- Learn how to interconnect networks that span multiple pages.
- Learn how to use scenarios to analyze different network configurations.
- Learn how to check network for errors.

The AC Short Circuit Program:
- Basic review of the topology of a short circuit current.
- Review the objectives of a short circuit study.
- Learn how to model sources of short circuit current.
- Learn how to model interrupting and non-interrupting equipment.
- Learn how to run a short circuit analysis.
- Learn how to evaluate equipment adequacy.

The PDC Program:
- Learn how to add/edit equipment behavioral curves.
- Learn how to add/edit Protective Devices Curves (Phase & Ground Protection).
- Learn how to create Protective Device Coordination Studies.
- Learn how generate PDC output reports (Text & Graphic).

The Arc Flash Program:
- Review of the standards used by the DesignBase program
- Learn how to properly assign equipment categories.
- How to define Arc Flash relevant scenarios.
- How to analyze worst case scenarios.
- How to run the Arc Flash program using IEEE1584, NFPA-70E and CSA-Z462
- How to add Arc Flash equal energy line to a PDC study
- How to generate output reports, work permits and warning labels

Pre-Requisites

- Knowledge of Power Systems Analysis.
- Technical exposure to the subject matter covered in the training.
- PE or working as a consultant is a plus.
- Participants should have their own laptop computers with the latest version of Paladin DesignBase
Program Contents

1.0 The PALADIN DesignBase Modeling Interface – Day 1

- Defining a New Project File
- Building the Single Line Diagram
- Layer Management
- Multiple Page Networks
- Labelling Pages
- Connecting & Hyperlinking Pages
- Copying & Pasting Devices & Data
- Adding Operating Scenarios
- Importing/Exporting Data Using Excel
- Error Checking
- Data Navigation
- Packing & Shipping Projects

2.0 AC Short Circuit Analysis – Day 2

- Topology of an AC Short Circuit Current
- Objectives of a Short Circuit Analysis
- References and Standards
- Editing/Modelling Short Circuit Sources
- The Short Circuit Program Menu
- Three-Phase, Line-Ground, Line-Line, Line-Line-Ground Faults
- Running Short Circuit Analysis using Back Annotation and Report Outputs
- Global and Single Bus Fault Simulation
- The Options and ANSI Settings Interface

3.0 ANSI - AC Protective Device Evaluation & Reactor Sizing – Day 2

- Data requirements for Low Voltage Equipment
- Data requirements for Medium & High Voltage Equipment
- Data entry into the model
- Running the Protective Device Evaluation Analysis
- Creating Output Reports and Network Color/Text Annotation
- The Reactor Sizing Application
4.0 AC Protective Device Coordination – Day 2/3

- The AC PDC Program Menu.
- Classification of PDC Curves
- Adding Equipment Curves
- Adding Phase Protective Device Curves
- Adding Ground Fault Protective Device Curves
- Single Page and Multiple Page Spanning PDC Paths
- Creating Phase Coordination Studies
- Creating Ground Coordination Studies
- Output Reports Text & Graphical
- Protective Device Sequence of Operation Reports
- Injection of Fault Currents and Tripping Time Evaluation
- Creating Output Reports (Graphical and Text Based)
- Interlocking Protective Devices

5.0 AC Arc Flash Hazard Assessment – Day 3

- The AC Arc Flash Hazard Program Interface
- Equipment Topology & Categories
- Single and Multiple Bus Analysis
- Analyzing Suppressed Nodes
- Maximum Tripping Time Settings
- Worst Case Scenario Analysis
- Standards used in Paladin Designbase (NFPA-70E, CSA-Z462 and IEEE 1584)
- Single vs. Multiple Path Analysis (Definition of Controlling Branch)
- Inserting Arc Flash Equal Energy Lines to a PDC Study
- Graphical Outputs and Network Back Annotation
- Creation of Arc Flash Warning Labels
- Report Generation

Daily Program

8:00 - 10:00 DesignBase Training
10:00 - 10:15 Break
10:15 - 12:00 DesignBase Training
12:00 - 1:00 Lunch & Break
1:00 - 3:30 DesignBase Training
3:30 - 3:45 Break
3:45 - 4:45 DesignBase Training