

# ELECTRICAL WIRING DIAGRAM (REF:OTSEWD001)

## Course Introduction:

This electrical wiring diagram training course helps with understanding the operation, maintenance and appropriate trouble response to power system equipment begins with a detailed knowledge of and ability to read and interpret electrical prints. This course is designed to provide the knowledge of the various types of electrical diagrams used in the industry, and to develop the skills necessary to read, draw, and interpret these diagrams. With a basic grasp on understanding electrical diagrams, technicians and engineers are able to develop a logical pattern of troubleshooting that can aid in the successful analysis of systems, Using Motor, Electric Traction & Electrical Control Trainer simulator.

## Who Should Attend?

Electrical maintenance and operation staff, Field Engineers, Supervisors and others responsible for Electrical Maintenance

## Course Outline:

### DAY 1

#### PRINT READING BASICS

##### Legends

- What is the purpose of the legend, and what information can be found in the legend?

##### Electrical Symbols

- Review of standard symbols, and Symbol identification and meaning.
- Introduction to Electrical Diagrams

##### Basic layout

- Familiarization with the layout of different schematics and one line diagrams

##### Practical exercise using example prints

Participants will participate in practical exercises and skills demonstrations of symbol identification and meaning, basic information location and schematic diagram layout.

#### ELEMENTARY ELECTRICAL DIAGRAMS

- What are schematics used for and why are they necessary

##### DC voltage schematic

- Introduction, familiarization and review of series circuits, parallel circuits & Series/parallel circuits.

##### Single-Line Diagram

- Purpose of a single line,
- Equipment identification, and Hazardous energy control.

##### AC voltage schematic

- Equipment identification, and Trouble shooting and fault finding.
- Domestic Electrical Diagrams

##### Three-Line Diagram and Practical exercise using elementary diagrams

- Participants will participate in practical exercises and skills demonstrations on the identification of circuits, and the uses of single-line, AC schematic and three line diagrams.



## DAY 2

### DEVELOPING AND MAINTAINING A SINGLE LINE DIAGRAM

- Regulation compliance,
- Site familiarization,
- Equipment identification and inventory,
- Nomenclature verification,
- Preparing a block diagram,
- Interconnecting the equipment,
- Verification of accuracy, and
- Practical exercise

### TROUBLESHOOTING USING ELECTRICAL SCHEMATICS

#### Purpose

- Effective trouble shooting approach
- Evaluating and assessing the fault
- Task identification

#### Identifying the hazards

- Introduction to Job Hazard Analysis

#### Practical exercise using schematics

- DC circuits
- AC single phase circuits
- AC three phase circuits

