

Westinghouse AEH

This five-day course covers the operation of the Westinghouse AEH turbine control system. The main focus of this course is to present the principles of each part of the AEH system. The electronic system is covered down to the circuit card level. This approach provides participants with an understanding of the turbine control system, enhancing maintenance and troubleshooting.

I. Electro-Hydraulic Control System

- Electronic Controller
- Operator Panel
- Steam Valve Actuators
- High-Pressure Fluid Control System
- Lube Oil & Associated Emergency Trip System

II. Turbine Control Systems

- System Arrangement/Simplified Drawing
- EHC System Signal Paths
- E-H Fluid System Flow Paths
- E-H System Components

III. Instrumentation and Control

- Principles of Operation
- EHC System Operator Panels
- Turbine Pressure Instrumentation
- Megawatt Transducer
- Speed Channels
- Turbine Supervisory Instruments

IV. Trip Systems

- Overspeed Protection Controller (OPC)
- Partial Loss of Load (CIV)
- Load Drop Anticipator (LDA)
- Emergency Trip System

- Relay Logic
- Trip Cabinet
- Emergency Trip Test Panel

V. EHC Electronics and Common Circuits

- High Threshold Logic (HTL)
- Analog Switch (AS)
- Operational Amplifiers
- Open Loop Characteristics
- Closed Loop Characteristics

VI. Speed Control

- Flow Diagrams
- Manual Speed Control (GVMA, TM)
- Automatic Speed Control (GVAA, GV)
- Tracking (GI, GD)
- Reference Counter and D/A Converter (RDAC)
- Setter Counter and D/A Converter
- Servo-LVDT Valve Positioner
- Flow Diagrams and Detailed Schematics
- Troubleshooting and Maintenance

VII. Pseudo Manual

- J Flip Flop
- K Flip Flop
- CL Flip Flop

VIII. Load Control and Impulse Pressure Control

- Simplified Flow Diagram
- Impulse Pressure Control (IPI, IPO)
- Load Limit
- Initial Loading
- Detailed Schematics
- Troubleshooting and Maintenance

IX. Miscellaneous Circuits

- Power Supplies
- Turbine Control System
Connections with Other Systems
- Systems Required to Support the
Turbine Control System