

Center for Curriculum and Transfer Articulation



Mechanical Components for Maintenance Technicians

Course: **PPT224MM**

Lecture 1 Credit(s) 1 Period(s) 1 Load

First Term: **2013 Summer I**

Course Type: **Occupational**

Final Term: **Current**

Load Formula: **S- Standard**

Description: Mechanical component types and characteristics, common failure mechanisms, and operating principles of plant components.

Requisites: Prerequisites: PPT202 or PPT203.

MCCCD Official Course Competencies

1. Explain the prerequisite knowledge required for locating and inspecting Snubbers and Hangers. (I)
2. Explain the system design, construction and the operation of the Boiler. (II)
3. Discuss the safety considerations associated with operation of the Boiler. (III)
4. Discuss the system design, construction and the operation of the Auxiliary Steam System. (IV)

MCCCD Official Course Outline

- I. Snubbers and Hangers
 - A. Describe the method of locating snubbers and hangers
 - B. Use of a rule (scale)
 - C. Use of a Torque Wrench and Multipliers
 - D. Types of calibration labels
 - E. Responsibilities of the user of Measuring and Test Equipment
- II. Boiler Design
 - A. Functions and Locations
 1. Fuel and air subsystems
 2. Boiler drum
 3. Dearator
 4. Feedwater subsystem
 5. Chemical additional package Protective relaying
 - B. Operational Controls
 1. Standby Heating Coil
 2. Steam Drum Level Control
 3. Fuel Oil Flow Control
 4. Combustion Airflow Control
 5. Boiler Master Control
 6. Steam Pressure Controller

7. Burner Control

C. Boiler Evolutions

1. Blowdown of the water column and gauge glass on the auxiliary boiler.
2. Soot blows on the auxiliary boiler.
3. Placing a nitrogen blanket on the auxiliary boiler.
4. Placing the auxiliary boiler in layup.
5. Adding chemicals to the auxiliary boiler.
6. Start-up, Shut-down, Hot standby

III. Boiler Safety Considerations

- A. Limits of operation
- B. Normal checks and operations for an in-service boiler
- C. Emergency shutdowns
- D. Safety precautions

IV. Auxiliary Steam System

- A. Using auxiliary boiler to supply through the steam cross-tie.
 - B. Using another Unit to supply steam through the cross-tie.
 - C. Supplying aux. steam system from Main Steam reducing station
 - D. Method for removing the auxiliary steam system from service
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Last MCCCD Governing Board Approval Date: **March 26, 2013**

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