Learning Outcomes in Module Report

Module Code	SPC09
Module Name	Plant Auxiliary Systems

Learning Outcomes

Code	Name	Hours	Description
9.0	Plant Auxiliary Systems	6	After completion of ths module the participant should be able to understand and apply the following concepts in day-to-day operation: Typical arrangements of steam systems including main steam, reheat steam, extraction steam, and auxiliary steam. Procedure for warming and charging a steam line. Operation of steam line drains, and traps. Allowance for expansion in pipe routing and configuration. Applications of extraction steam. Routing of extraction steam line drains. Sources and applications of auxiliary steam. Pressure reducing stations and desuperheating stations. The function of the condensate and feedwater system. Addition of heat to condensate and feedwater. Pumping arrangements, i.e. condensate pump and boiler feedpump. Control of feedwater flow to boiler, i.e. variable speed drive or modulating feedwater control valve. Feedwater control valve arrangements. Feedwater pump recirculating line. Procedures for preparing a feedwater pump for stand-by service. Hotwell level control by make-up or overflow. Control of deaerator level. Function of the condensate fill pump (also known as boiler fill pump). Construction and operation of closed feedwater heaters. Venting arrangements from feedwater heaters. Routing and control of condensate drains from closed heaters. Protection against high level condensate in feedwater heaters. The function and operation of the deaerator. Venting of pipework and equipment before start-up. Typical arrangements and characteristics of: a) Closed circuit bearing cooling water system b) Circulating water (CW) systems c) Service water systems

Learning Outcomes in Module Report

Module Code	SPC09
Module Name	Plant Auxiliary Systems

Learning Outcomes

Code	Name	Hours	Description
			d) Fire protection systems. Auxiliary plant power supply bus arrangements. Sources of station service supply. Black start capability and capacity. Procedures for transfer of station service supply on unit trip. Typical arrangement for supply and application of DC power. UPS systems.

Count: 1