Learning Outcomes in Module Report

Module Code	SPC03
Module Name	Fuels & Combustion

Learning Outcomes

Code	Name	Hours	Description
3.0	Fuels & Combustion	6	On completion of this module and associated workbook, the participant should understand the following concepts and be able to apply them in day-to-day work activities. Combustible elements in fuel. Non-combustible elements in fuel. Typical analysis for coal, oil, natural gas and wood. Combustion reactions for carbon, hydrogen, and sulfur. Calculation for heat content of different fuels. Fuel requirements (quantity) to meet energy demand on boiler, Oxygen requirements for combustion of different fuels. Theoretical air requirements. Need for excess air. Flue gas analysis. Formation of carbon monoxide; effect of nitrogen. Monitoring oxygen (02) in flue gas. Losses due to moisture in fuel gas. Significance of lower calorific value (LCV) and higher calorific value (HCV). Conditions required for combustion in practice. Temperature, turbulence and time. Firing fuel oil and gas. Firing with pulverised coal. Bottom ash and fly ash removal. Solid-fuel firing on a grate. Firing low grade fuels. Fluidised bed combustion.

Count: 1