ALM-8

1. Identify the types of boiler troubles and Summarize the video.

Ans. 1. Carryovers : This involves water and impurities being carried with steam. It includes

Priming : occurs when steam is produced with water droplets due to hard water, resulting in wet steam. Causes include high water levels.

Foaming : Persistent foam forms on the water surface, usually due to oily impurities. Anti-foaming agents and coagulants can help prevent this issue.

2. Scale and Sludge Formation:

- Scale : A hard precipitate that forms on boiler walls from dissolved salts as water evaporates. It decreases heat transfer. increases fuel Consumption.

- Sludge: A loose, slimy precipitate that form in cooler area of the boiler. like Scale, sludge impedes performance requires more fuel, and can lead to chocked pipes

3. Caustic Embrittlement : Caused by Sodium Carbonate in water, which transforms into Sodium hydroxide and corrodes boiler material, leading to brittleness. preventative measures include using soft water.

Summary:

→ Boiler water Requirements : have a balanced pH, low hardness, and Controlled alkalinity to avoid boiler troubles.

→ effects of priming and foaming : These issues can lead to water level misjudgment, increases fuel use.

→ Scale and Sludge Hazards : Both reduces boiler efficiency increase operating costs and pose safety risks in high pressure.