Two-Day Coal Combustion Tune-Up and Performance Engineering Class

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Outline

Introduction

Coal Combustion

- Three T's of Combustion
- Coal verse Rock and Pyrite combustion

Combustion Tuning

- NOx
- Carbon
- Slag

Description and Issues

Air Flow

- Calculated
- Measured

Air to Fuel Ratios

Air Heater Leakage and Issues

Low NOx challenges

Fuel

Pulverizers

- Fineness
- Abrasion
- Rejects
- Capacity

PA Flow Importance and Impacts

Mill Testing

- Ports
- Probes and Sampling
- Clean Air
- Dirty Air
- Coal Balance

Boiler Efficiency

Heat Loss Method and losses

Combustion Calculations

Steam Temperatures and Spray Flows

Ash Deposits

- Slags
- Pyrite
- Quartz

Splat Factor

Ash Levels

- Slag Analyses or post mortem

Fouling

Sulfates

Sodium

Ash Viscosity

Water Wall Corrosion

SCR's and Air Heaters