Coal Combustion Inc.
Understanding the business of coal

Registration for Two-Day Coal Combustion for Power Plant Operators Class

Tampa, FL December 13-14, 2017

Class:	**Coal Combustion for Plant Operators**
Date:	December 13-14, 2017
Location:	Tampa, FL - Area Hotel
Class Time:	8:30am to 4:30pm
Registration Fee:	**$1,199.00**

Name: _____
Title: _____
Company: _____
Address:_____
Address: _____
City, ST ZIP: _____
Phone: _____
Email: _____

Check, Visa, MasterCard or American Express
Card Number: _____
Expiration Date: _____ Security Code:_____
Billing Address: _____
Zip Code_____
Signature: _____

Please forward form to Rod at:
rod_hatt@coalcombustion.com
or Fax: (859) 873-0252

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Class Outline

Coal Quality Introduction

· Coal
· Moisture, Ash, Volatiles, Sulfur, Btu/lb
· Sizing, Slagging

Now we follow coal though the plant and examine how coal quality interacts with equipment performance, maintenance, and cost.

Wet Coal

· Causes
· Measurements
· Solutions

Dusty and Spontaneous Combustion

· Minimizing and controlling dust
· Clean up procedures
· Spontaneous Combustion potential
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Combustion Process

· Coal Rank
· Air to fuel ratios
· Balancing furnaces
· Balancing burners
· NOx formation
· CO analysis

Pulverizers

· Basic operation
· Adjustments
· Coal Quality Impacts
·Low Btu
·High Ash
·Reject material
·High Moisture

·Concern for fires
·Impact of high air flow
·Impacts on flame, NOx and SLAG

Boiler Efficiency and Heat Rate Variables

· Boiler Efficiency vs. Excess Oxygen
· Moisture and Hydrogen Impacts
· Higher vs. Lower Heating Value
· Exit Gas Temperatures
· Steam Temperature Impacts on Heat Rate
· Carbon and CO Losses

Ash Deposits - Introduction

Types of Ash Deposits
· Wall Slag
· Superheater Slag
· Convection Pass Fouling
· Low Temperature Deposits

Causes of Ash Deposits

· Fuel Related
· Equipment Related
· Design Related

Coal Testing

· The ASTM Fusion Temperature Test.
· Ash Levels
· Slagging and Fouling Indices.
Elemental loading
· Pounds of iron per million Btu
· Pounds calcium, sodium, and other elements
· Slagging with Bituminous Type Ash - High Iron
· Ash Chemistry
· Base to acid ratio, Slagging Index = Dry sulfur x B/A
· Iron squared term

Soot Blowing

· Minimizing slags with combustion.
· Controlling slag with soot blowers
· Preventative blowers - IR
· Reactive blowers IK
· Other soot blowing, air heater, SCR

How Slags and other Ash Deposits Cause Tube Leaks

· Furnace Corrosion
· High Temperature Corrosion
· Erosion
· Erosion and particle size and velocity

Pollution Control

· Ammonia Slip and NOX SCR
· Air Heater Pluggage and Leakage
· Pollution control equipment basics
· Particulate
· SO2
· Mercury
· SO3

Summary and Exam