



# Real Time Coal Flow Measurement

Foster Wheeler's Electric Charge Transfer System



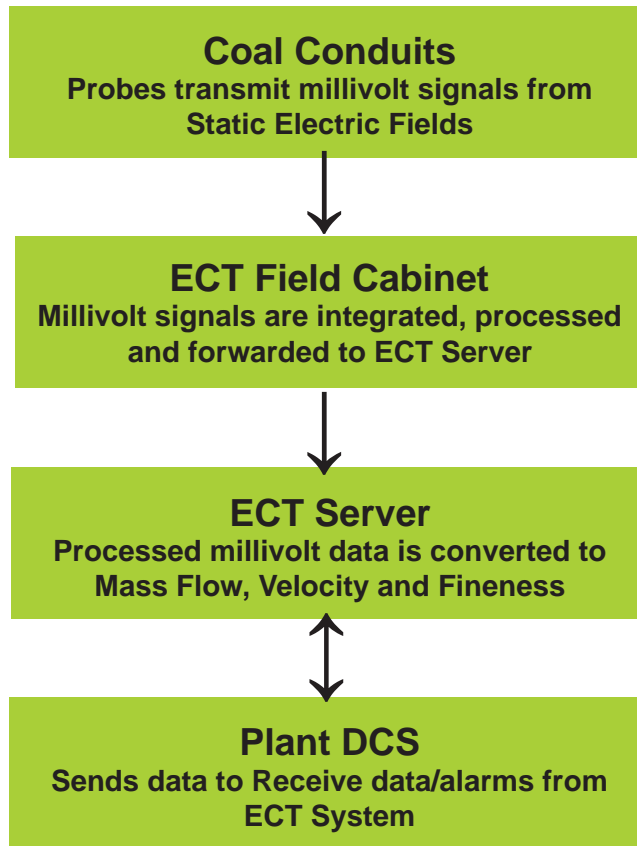
**NEW DATA MEANS NEW GAINS**

**NEW GAINS MEANS MORE MONEY**

**REAL TIME IN MILLISECONDS**

**RELIABLE AND SIMPLE**

# Principles of Operation



## REAL TIME IN MILLISECONDS

- Pulverized Coal creates a static charge in each pipe that is proportional to mass flow
- Isolated probes transfer detailed data on the nature of these charges
- Proprietary algorithms process this data every 0.75 milliseconds to accurately and repeatedly convert it to mass flow, velocity and fineness
- Custom software presents the results in graphical form for instant recognition of system status
- Anomalies are alarmed for quick response and improved operation

# Major Components



Probe Assembly



Conduit Connection Kit



Field Control Cabinet

## RELIABLE & SIMPLE

- Rugged long-life tungsten carbide probe assemblies are easy to install and inspect
- Connection kits contain all the hardware needed for installation and provide lasting endurance from the environment
- Compact, field installed control cabinets offer flexibility with high performance
- Connected by simple routing of standard THHN wire, ECT systems are ready for use in 2 to 3 days
- A single CAT 5 Ethernet operated wire provides all the connectivity needed for system communications

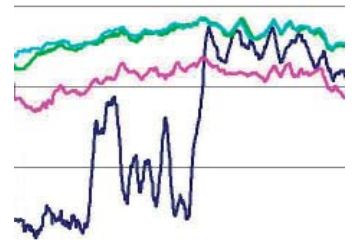
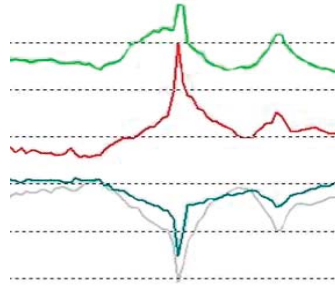
## NEW DATA MEAN NEW GAINS

- ECT systems provide a wealth of valuable data never before available
- Automatically detects coal slugging that can lead to fires and load reductions
- Pinpoints distribution problems that cause uneven temperature profiles, localized slagging and elevated unburned carbon
- Tracks degradation in fineness that leads to higher heat rate

## Operational Benefits

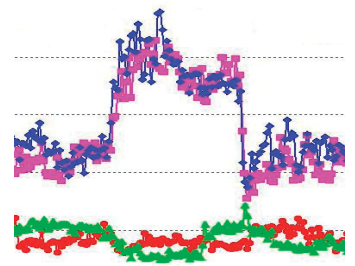
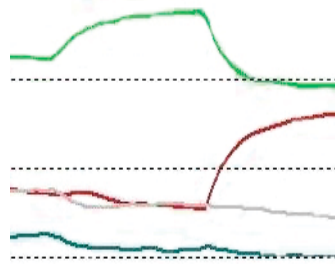
### Allows you too:

#### Unblock plugged pipes



#### Fix erratic flows

#### Correct distribution problems



#### Improve fineness

## NEW GAINS MEAN MORE MONEY

- Balanced distribution with improved fineness reduces thermal NOx, reducing the need to buy credits
- Early correction of milling system problems provides significant savings by eliminating load reductions and improving forced outage rates
- Correction of distribution leads to reductions in excess air without an increase in CO to minimize stack losses
- Even levels of NOx simplifies ammonia injection and reduces slip
- Maintain flyash sales

## Payback Considerations





We offer a full range of steam generator equipment, aftermarket products and services to the power, industrial, and waste-to-energy sectors. Our global manufacturing and engineering network can deliver cutting-edge products and expertise, quickly and cost competitively with best-in-class quality. Established in 1891, our experience comes from over a century of designing, servicing, and continually improving steam generating equipment.

#### Steam Generators

- Circulating Fluid Bed
- Pulverized Coal
- Oil & Gas
- Supercritical Steam
- Solar Power
- Package
- Grate & MSW
- Metallurgical Waste Heat
- Heat Recovery Steam Generators

#### Auxiliary Equipment

- Feedwater Heaters
- Condensers
- Biomass Gasifiers

#### Steam Generator Services

- SCR and SNCR Systems
- Low NOx Combustion Systems
- Replacement/Upgraded Parts
- Construction Services
- Modernizations, Condition Assessments
- Biomass Conversions

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