Fabric Filtration
Innovations & O&M

Advances in Emission Control and Monitoring Technology for Industrial Sources
Exton, PA
July 9-10, 2008
Driving Forces for Innovation

- Regulatory Requirements
- Energy Costs
- Process Modifications
- Life Extension
- Maintenance Costs
Cleaning Technology

- Pulse Jet – Standard Bags
- Pulse Jet – Pleated Elements
- Reverse Air
- Sonic & Sonic Assist
Fabric Modifications

- Heavier Fabrics
- Multi-denier Fibers
- Scrimless Fabrics
- Surface Treatments
Heavier Fabrics

- 18 and 22 oz/yd²
- Increases density of the fiber material which leads to lower permeability and higher base pressure drops.
- Cuts down on pore size and forms a more torturous path for the particles
Multi-Denier Fabric

- Smaller diameter fibers are included within the fabric to become more effective on finer particulate.
- The fibers can either be homogenized throughout the fabric or stratified to the dirty side of the fabric.
Surface Treatments

- e-Ptfe membrane laminate
- Intrinsic Coatings
- Fiber Texturizing
Environmental Technology Verification Program

- [www.epa.gov/etv/verifications/vcenters5-2.html](http://www.epa.gov/etv/verifications/vcenters5-2.html)
- Verification reports – Valid for 3 years
- Provides quantified data as to how a fabric performs under specified conditions
- Can be used for comparisons between fabrics
- Emissions based on PM 2.5
- Some states are providing incentives for using “verified” filter media.
Operations & Maintenance

- Control Schemes and Hardware
- Diagnostics
- Data Transmittal
- Preventive Maintenance Programs
Control Schemes & Hardware

- How the unit is cleaned
  - Off-line
  - Auditing
  - On-Demand
  - Timed
  - On-line
  - Continuous
- Local Control Panel
- Remote Panel
- Pressure Transmitters
- 4 – 20 milli-amp signal
Diagnostics

- Basic Alarms for high and low pressure drops
- Tie in broken bag detectors
- Air pressure
- Solenoid and Diaphragm Failures
- Zero Speed switches for material handling equipment
- Zero Speed switches for fan
- Damper Limit switches
Data Transmittal

- None – Local only readout
- Wired back to remote or main control panel
- Wireless signal to remote or main control panel
- Wireless to specified PC
Preventive Maintenance Program

- Periodic testing of bags
- Replacement of solenoids and diaphragms on a specified basis
- Spring replacement on reverse air units
- Gasket replacement
- Damper sealing and actuator condition
- Material handling system
- Air supply and quality of the air
For more information please feel free to contact:

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