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**February 9 & 10, 2009**  
**Renaissance Cleveland**  
**Hotel**  
**Cleveland, OH**

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POLLUTION CONTROL  
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**8th Annual**

# **NO<sub>x</sub> - Combustion Round Table & Expo**

***NO<sub>x</sub>, Mercury, Biomass, SO<sub>3</sub>,  
Greenhouse Gases, Combustion***

***Show Guide***

ad

*Welcome to*  
The 8th Annual  
***NOx-Combustion  
Round Table & Expo***

February 9-10, 2009  
Renaissance Cleveland Hotel, Cleveland OH

*Presented by*



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# Upcoming RE Round Tables and PCUG Meetings

## 2009 APC Round Table and Expo followed by the APC PCUG Meeting

*Hosted by Entergy*

July 12-17, 2009

The Woodlands Resort  
The Woodlands, TX

2009 APC Round Table includes 3 days of O&M panels and technical workshops given by coal-fired power generation, particulate control, and scrubber industry experts with an 80-booth exhibition. The 2009 APC PCUG Meeting is an O&M meeting open only to equipment users.

## 2010 NOx-Combustion Round Table and Expo followed by the NOx PCUG Meeting

*Hosted by Reinhold Environmental*

February 8-11, 2010

The Chattanooga Hotel  
Chattanooga, TN

2010 NOx-Combustion Round Table includes 2 days of O&M panels and technical workshops given by coal-fired power generation, NOx control, and combustion industry experts with a 37-booth exhibition. The 2010 NOx PCUG Meeting is an O&M meeting open only to equipment users.

## 2009 PCUG Steering Committee



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# Workshops and Panels

**Panel II: “SCR Year Round Operation - What is Needed to Prepare?”** Chairmen: Ken Fast, AEP, and Mark Thomas, Duke Energy Panelists: Larry Hicks, AEP; Mick Harpeneau, Duke Energy; Peter Struckmann, E.ON Engineering; Ed Campobenedetto, B&W; Jeremy Freeman, Cormetech; TBD, Southern Co. (Potomac Room) This panel will address operational issues that are raised by the requirement of operating SCRs continuously, as required after 2009. The major issues not only include winterization of the equipment, but also reliability required since many ammonia systems will never be taken out of service for systems that supply multiple units.

**Tuesday, February 5**

8:00–9:00 am

**Workshop IX: “CaBr Injection for Hg Control into PRB Furnace with SCR ”** by Mark Berry, Southern Company Services (Shenandoah Salon J) This workshop will discuss the latest test results available on the ability of bromine added to the front-end to oxidize mercury. Test results will be presented from pilot and full-scale demonstration programs that have been conducted. The workshop will also discuss different injection strategies and balance of plant impacts of using this technology.

**Workshop X: “Combustion and Sootblowing Optimization at OMU”** by Neel Parikh, NeuCo, Inc. (Shenandoah Salon H) This workshop will discuss the implementation and methodology of the combustion and sootblowing optimization systems at OMU’s Elmer Smith Station and the benefits it is providing. NeuCo’s SootOpt system was applied to control the individual sootblowers in closed-loop to improve a broad range of operating parameters. This was integrated with the CombustionOpt system that was previously installed at ESS so the systems could work together to optimize boiler performance.

**Workshop XI: “A New Approach for Hybrid SNCR/SCR for NO<sub>x</sub> Reduction”** by Tom Wright, Worley Parsons (Roanoke Room) This workshop will discuss a “full” Hybrid SNCR/SCR approach which includes a conventional SCR with fewer catalyst layers, where NH<sub>3</sub> slip can be better controlled and SO<sub>3</sub> reduced. The O&M benefits of lower NH<sub>3</sub> slip and SO<sub>3</sub> may off-set the higher capital costs of “full” Hybrid SNCR/SCR.

8:00–10:15 am

## **WPCA SCR Training (Potomac Room)**

- **“SCR System Design”** by Tony Licata, Babcock Power  
This workshop will review SCR system arrangements including critical design parameters and their effect on SCR performance and overall plant operation.
- **“Flow Modeling”** by Rob Mudry, Airflow Sciences  
This workshop will focus on flow modeling for optimal design of SCR Systems.
- **“SCR Catalyst Design”** by Ken Jeffers, Argillon  
This workshop will focus on design considerations—flue gas flow characteristics, influence of fuel types on deactivation, SCR performance criteria, and physical constraints—and their impact on catalyst selection and specification.
- **“Catalyst Management”** by Brandon Jamar, EVONIK Energy Services  
This workshop will address SCR management, which is based on a complimentary dualistic approach of both SCR equipment performance monitoring and optimization, as well as SCR catalyst management and minimization of catalyst deactivation.

9:15–10:15 am

**Workshop XII: “SNCR/SCR CASCADE Technology & Experience ”** by John Boyle, Fuel Tech (Shenandoah Salon J) This workshop will examine the benefits of combined SNCR/SCR technology based on recent operating experience, where SNCR performance in a hybrid configuration with SCR improved chemical utilization resulting in lower operating costs, increased level of NO<sub>x</sub> reduction performance, and reduced ammonia slip levels. Effect of combining CASCADE with other NO<sub>x</sub> reduction technologies will also be discussed.

**Workshop XIII: “Emissions Reduction Through Burner Balancing & Optimization”** by John Sale, Lehigh University (Shenandoah Salon H) This workshop will discuss reduction of NO<sub>x</sub> and CO emissions and how a more uniform O<sub>2</sub> profile can be obtained through primary air and coal flow balancing and optimizing burner stoichiometry. This is done while maintaining the same average economizer O<sub>2</sub>. It is then possible to further reduce the average economizer O<sub>2</sub>, which results in an even greater reduction in NO<sub>x</sub> emissions. Field tests performed by the Energy Research Center (ERC) have shown that primary air and coal flow balancing also reduces fly ash LOI. This indicates improved boiler efficiency and as a consequence, lowers CO<sub>2</sub> emissions.

**Workshop XIV: “NH<sub>3</sub> Slip Measurement ”** by Cal Lockert, Breen Energy (Roanoke Room) This workshop will discuss available methods for measurement of ammonia slip and ammonium bisulfate formation. Particular attention will be given to field experience with a sensor and control system for measurement of ammonium bisulfate concentration and concurrent control of ammonia/urea injection and air heater outlet temperatures for maximized NO<sub>x</sub> reduction and minimized/eliminated air heater condensate fouling.

# Workshops and Panels

Tuesday, February 5

11:00 am-12:30 pm

**Workshop XV: “Enhanced SCR/SNCR Performance via SO<sub>3</sub> Removal”** by Jim Jarvis, URS (Shenandoah Salon J) This workshop will examine two techniques for improving SCR/SNCR performance. One is the removal of SO<sub>3</sub> upstream of the SCR reactor to reduce the Minimum Operating Temperature (MOT) of the catalyst. The second is to employ SO<sub>3</sub> reduction together with modest increases in ammonia slip to improve SCR/SNCR NO<sub>x</sub> reduction efficiency or extend catalyst life. Results from recent testing will be presented.

**Panel III: “Firing Biomass - Plant Considerations”** Chairman: Kevin Davis, REI Panelists: David O’Connor, EPRI, and Matt McArdle, Mesa Reduction Engineering and Processing (Shenandoah Salon H) This workshop will discuss the use of biomass as a fuel, which has the potential to serve as a cost-effective, low emissions source of renewable power generation. However, there are a number of issues including fuel processing & handling, emissions, ash deposition/fouling/slagging, and interactions with downstream equipment that must be considered in evaluating the use of a particular fuel by a specific plant.

**Panel IV: “SCR Catalyst Testing Protocol”** Chairman: David Broske, EPRI Panelists: Larry Muzio, FerCo; Scott Hinton, WS Hinton and Associates; Hans Hartenstein, Evonik Energy Services; Noel Rosha, Ceram; Jared Cannon, Southern Co.; Ken Jeffers, Argillon; Thorsten Dux, E.ON Engineering (Potomac Room) This panel on SCR catalyst testing protocol will be comprised of a 30-minute presentation by Larry Muzio, FERCo and Scott Hinton (W.S. Hinton and Associates), followed by a 1-hour panel discussion, moderated by Dave Broske (EPRI). Larry and Scott will describe the SCR catalyst testing protocol published by EPRI. The panel, comprised of seven industry representatives, will discuss the protocol and key issues pertaining to laboratory testing of SCR catalyst samples.

2:00 pm-3:00 pm

**Workshop XVI: “Comparison of Micro and Bench Scale Testing Methods”** by Cindy Khalaf, Argillon, and Marilynn Martin, EVONIK Energy Services (Shenandoah Salon J) This workshop will cover catalyst activity and SO<sub>2</sub> conversion rate that can be determined by a micro or bench-scale reactor, each of which can yield different results for the same catalyst. These differences are a result of reactor size; number and size of the sample(s) each holds; turbulent or laminar flow through the catalyst sample; and the reactors’ ability to replicate actual plant operating conditions.

**Workshop XVII: “Waterwall Corrosion from LNBS”** by Tony Facchiano, EPRI (Shenandoah Salon H) This workshop will address the primary root causes responsible for accelerated fireside corrosion, along with potential mitigation methods. The role of staged operation for NO<sub>x</sub> control, fuel quality considerations, and boiler design and operation will be covered.

**Workshop XVIII: “Urea to Ammonia Technology”** by Bill Hankins, Wahlco (Roanoke Room) With the increasingly stringent permitting regulations, Urea to Ammonia technology has been installed at a number of plants in lieu of anhydrous or aqueous ammonia. This workshop will cover the safety issues of “Urea to Ammonia” U<sub>2</sub>A™ technology in lieu of traditional anhydrous ammonia or aqueous ammonia systems used for SCR’s. Properties of the urea feedstock and fundamentals of the urea to ammonia process are explained.

**Workshop XIX: “SO<sub>3</sub> Measurement Issues - How Low Can You Go?”** by Caleb Wiza, Clean Air Engineering (Potomac Room) This workshop will describe a laboratory study designed to measure the low-end accuracy and repeatability of Method 8, and estimate the lowest in-stack concentration that can be reliably measured with this method. The experimental approach included laboratory generation of simulated flue gases containing sulfuric acid at various low-level concentrations. These gases were measured using traditional Method 8 techniques, and statistical calculations of the minimum and practical levels of quantification were made. Effects on the low-end accuracy from matrix interference such as water vapor, sulfur dioxide and ammonia were also investigated.

4:00 pm-5:00 pm

**Workshop XX: “Graduated Straightening Grid Technology”** by Stewart Bible, FlowTack, LLC (Shenandoah Salon J) This workshop will present case studies of recent applications of the Graduated Straightening Grid (GSG), which has been shown to improve velocity distributions and flow angles in SCR’s. Use of the GSG technology has the potential to improve SCR removal, reduce catalyst erosion, reduce dust build-up on catalyst and pressure drop.

**Workshop XXI: “Zonal Combustion Monitoring System”** by Dean Draxton, GE Energy (Shenandoah Salon H) This workshop will discuss combustion optimization and tuning for coal fired power plants in order to reduce emissions and improve boiler efficiency. This is achieved by real-time monitoring using a combination of sensors, software, adjustable burners, and airflow and coal flow dampers. Topics will include the reduction of slag precursors like local peak gas temperatures and fuel-rich corrosive gases for minimized slag related outages and load drops.

**Workshop XXII: “New SCR Catalyst with Improved Mercury Oxidation Activity”** by Bill Gretta, Hitachi (Roanoke Room) This workshop will discuss the development of a new SCR catalyst which addresses all three major concerns: NO<sub>x</sub> reduction, minimizing the SO<sub>2</sub> to SO<sub>3</sub> conversion rate, and oxidation of mercury. Traditional catalyst is able to reduce NO<sub>x</sub> and minimize SO<sub>2</sub> conversion, but has minimal effect on mercury oxidation when halogens in the coal are low. In combination with downstream equipment such as FGD, significantly improved mercury reduction can be achieved using the new catalysts.

# Workshops and Panels

Monday, February 4

10:00-11:00 am

**Welcome:** Susan Reinhold, Reinhold Environmental, and George Valentine, Dominion

**Keynote Speech:** “Meeting the Carbon Challenge While Serving Our Customers” by David Heacock, President of Dominion Energy (Potomac Room) Mr. Heacock will address one of the most significant challenges facing our industry - meeting our customers' needs while responding to the challenge of climate change.

11:30-12:30 pm

**Workshop I: “LPA Removal Alternatives”** by Chao Lin, AEP (Shenandoah Salon J) This workshop will discuss the successful installation of LPA dropout hoppers in April, 2007 at Muskingum River Unit 5 to solve the large particle ash plugging the top catalyst layers in SCR reactors which caused high SCR differential pressure since the beginning of SCR operation. Unit 5 is a 600 MW pulverized coal unit which burns low to medium sulfur coal. The SCR was originally started in April, 2005.

**Workshop II: “SCR O&M Issues”** by Ron Richard, RE Consulting (Shenandoah Salon H) This workshop will discuss SCR O&M issues which develop after the units have been in service for several seasons. At that time, one needs to establish a comprehensive program of inspection and catalyst testing to determine the physical and chemical condition of each catalyst layer to determine when the catalyst will need to be cleaned, regenerated or replaced. One also needs to adjust the ammonia feed profile to match the flue gas flow profile.

**Panel I: “Carbon Capture”** Chairman: Alan Ferguson, Alstom Power Panelists: Chris Wedig, Shaw; John Novak, EPRI; Sharon Sjostrom, ADA-ES (Potomac Room) This panel will discuss the recent interest paid to CO<sub>2</sub> emissions and capture. This has had a huge effect on the U.S. utility industry. Some claim that the future of coal use in the U.S., especially by electric utilities, is tied to the technologies and techniques for CO<sub>2</sub> capture from utility boilers. What do the utilities feel is this potential impact? Can new coal fuel boilers be built? What CO<sub>2</sub> removal technology or techniques are considered “ready for prime time”? What type of demonstration will it take to make a technology or technique “ready for prime time”? How many demonstrations will it take to prove the technology? What are the requirements placed on the other pollution control equipment by the needs of the CO<sub>2</sub> removal system and are they achievable? Is there a parasitic power / energy use level that will be “acceptable”? What is the expected cost of CO<sub>2</sub> removal and will it price coal out of the picture for utilities? Will regulators, lobbyists, and environmentalists wait for demonstrations to be finished before drafting regulations? There are too many questions without answers. This panel will look at some of these questions.

2:00-3:00 pm

**Workshop III: “Mixed Catalyst Layer Catalyst Management Strategy”** by Wayne Whitaker, Duke Energy (Shenandoah Salon J) A successful mixed-catalyst layer Catalyst Management Strategy requires the consideration of several important factors. Factors such as fuel flexibility, LPA tolerance, pressure drop, low-temperature operation, etc., can vary between types of catalyst. We will explore the differences in catalysts, how these differences can affect the dynamics of the SCR reaction, the intervals between catalyst change-outs, and the flexibility of the Catalyst Management Plan. This workshop will discuss the criteria for a successful Catalyst Management Strategy as a guide for determining the potential risks and benefits of a mixed-catalyst layer strategy.

**Workshop IV: “Combustion and NOx 101 ”** by Alan Paschedag, Siemens (Shenandoah Salon H) This workshop will provide an introduction to the principles governing NOx production. Based on these principles, the methods of reducing NOx will be discussed. The focus will be on in-furnace combustion and NOx reduction.

**Workshop V: “Auxiliary Isolation Barriers for SCR Catalyst Maintenance”** by Gary Werth, Duct Balloon (Roanoke Room) This workshop will describe the use of inflatable duct balloons used as auxiliary isolation barriers in conjunction with man-safe dampers during SCR catalyst change outs. The duct balloons are constructed from a strong and light weight material rated to 485°F. They inflate and deflate quickly which can reduce outage times significantly.

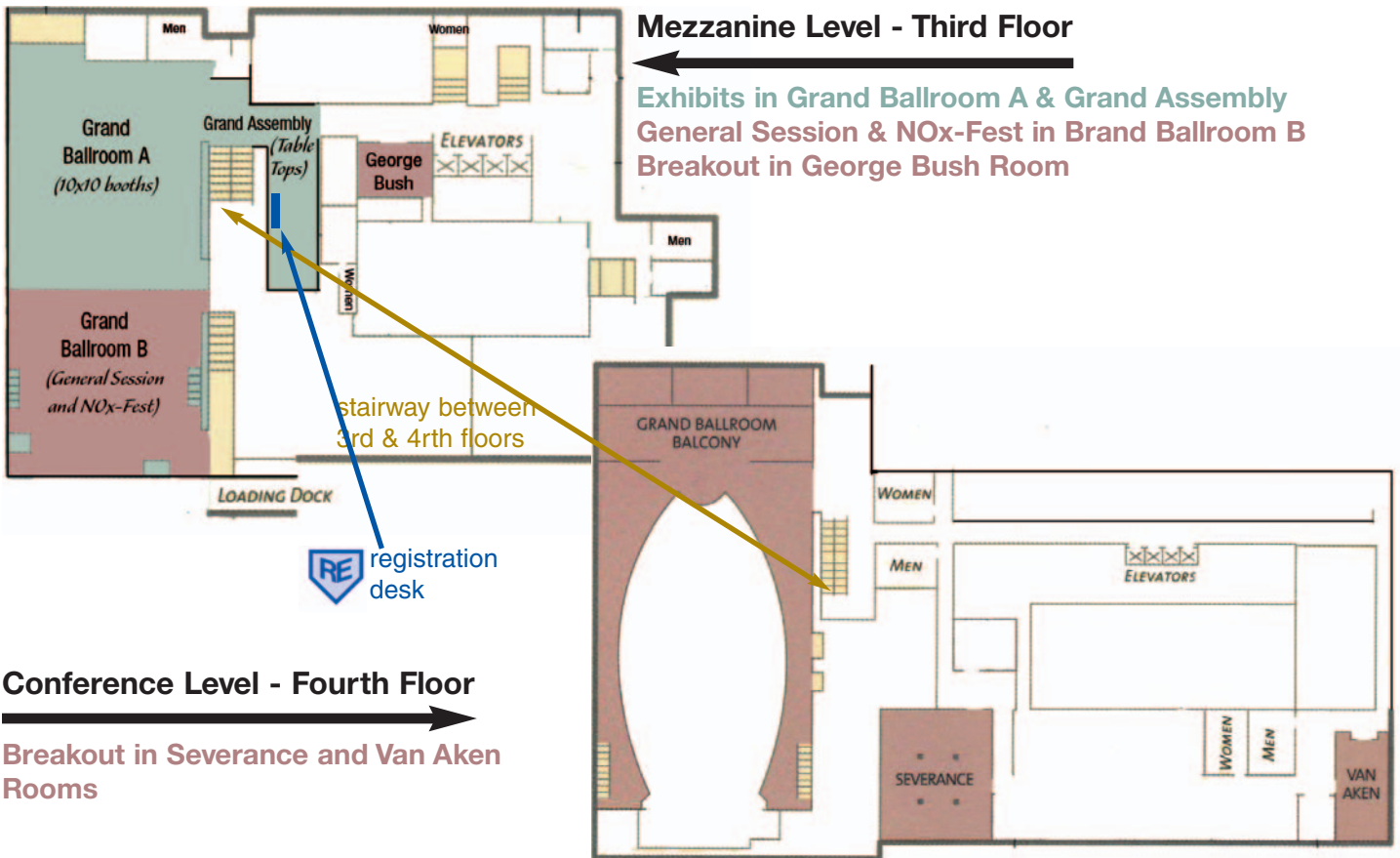
**Workshop VI: “Impact of Boiler Type & Fuel Quality on Hg Removal, NOx and Performance”** by Tony Facchiano, EPRI (Potomac Room) This workshop will address the impacts of fuel quality parameters, boiler design, and boiler operation on 3 important but oftentimes conflicting goals of NOx control, mercury control, and boiler performance.

4:00-5:30 pm

**Workshop VII: “Regeneration at Dallman”** by Greg Holscher, Ceram, and Mark Ehrnschwender, EVONIK Energy Services (Shenandoah Salon J) Considerable attention has shifted to the combustion of biomass derived fuels. The firing of biomass and biomass-blended fuels (including coal) has a wide range of influence on catalyst and catalyst management economics. This workshop will focus on deactivation mechanisms, catalyst management analysis, and regeneration results related to the firing of biomass.

**Workshop VIII: “Mechanisms for Running the Boiler More Efficiently”** by Don Ryan, The Babcock & Wilcox Co. (Shenandoah Salon H) SCR's must be operated within specific temperature ranges in order to maximize removal efficiency and avoid catalyst degeneration. Often these ranges have a detrimental impact on boiler efficiency, particularly at reduced loads. This workshop will review operating strategies and design considerations that mitigate this impact.

# 2009 NOx/PCUG Hotel Layout



## Exhibitor List with Booth Numbers

Airflow Sciences . . . . .	35	Duct Balloon . . . . .	18	M&C Products Analysis Technology . . . . .	36
AirTek . . . . .	16	E.ON Eng. . . . .	28	NeuCo . . . . .	32
Alstom Power . . . . .	26 & 27	Evonik Energy Services . . . . .	41 & 42	NoNox Components . . . . .	1 & 2
AVC Specialists or new name . . . . .	10	FerCo . . . . .	30	RE Consulting . . . . .	14 & 15
The Babcock & Wilcox Co. . . . .	21	Fluid Eng. . . . .	25	Reaction Engineering International. . . . .	8
Babcock Power . . . . .	13	Fuel Tech . . . . .	33 & 34	SAS Global . . . . .	5
Breen Energy Solutions . . . . .	3	GE Energy . . . . .	4	Terra Environmental Techonologies . . . . .	22
Cemtek . . . . .	43	Grace Consulting . . . . .	37	Testo . . . . .	19
Ceram Environmental. . . . .	24	Greenbank/CBP . . . . .	40	Thompson Industrial Services . . . . .	61
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Coalogix . . . . .	39	Hitachi Power Systems America . . . . .	23	URS . . . . .	31
Control Analytics . . . . .	12	Johnson Matthey Catalysts . . . . .	17	Wahlco . . . . .	20
Cormetech . . . . .	11	Kiewit . . . . .	38		

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*Rollanda Cothran – Conference Support*  
*Mel Cothran – Conference Support*  
*Ray Burge – Conference Support*

*Sandy Crynack – Registration Manager*  
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# Conference Agenda

# Treasure Map!

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**Look for the  
"Treasure Booths"**

Airflow Sciences .....	36
AirTek .....	16
Babcock & Wilcox .....	21
Fuel Tech .....	33 & 34
Grace Consulting .....	37
Greenbank-CBP .....	40
Haldor Topsoe .....	9
Hitachi Power .....	23
Johnson Matthey .....	17
Thompson Industrial .....	61

**X Marks the Spot!**

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- 1 \$500
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## 2009 NOx Exhibitors

### Airflow Sciences Corporation .....35

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Livonia, MI 48150  
Robert G. Mudry, P.E., VP, Engineering  
rmudry@airflowsciences.com  
Business: 734-525-0300 Fax: 734-525-0303  
www.airflowsciences.com



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### AirTek .....16

700 Hudson St.  
Troy, AL 36081  
John Roberts, President  
jr@airtek-troy.com  
Business: 334-566-7400 Fax: 334-566-7496  
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### Alstom Power Inc. ....26 & 27

2000 Day Hill Road  
Windsor, CT 06095  
Nick Macsata, Environmental Services Manager  
nick.s.macsata@power.alstom.com  
Business: 860-285-3078 Fax: 860-285-4055  
www.service.power.alstom.com



Alstom Power manufactures, erects, commissions and SERVICES pollution control systems for utility, IPP and process industry plants. This includes SCR systems for NOx control, FGD systems, ESPs, fabric filter systems and monitoring, and mercury control. Alstom's capabilities comprise new equipment, retrofit projects, replacement and upgrade components, inventory and rebuild programs, performance enhancement, technical and field service support, construction and commissioning.

### AMC Power, a division of Air Monitor Corp. ....29

1050 Hopper Avenue  
Santa Rosa, CA 95403  
Nick Ferri, Sales Manager  
amcsales@airmonitor.com  
Business: 919-363-4837 Fax: 919-363-6738  
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### A.V.C. Specialists, Inc. ....10

5146G Commerce Ave.  
Moorpark, CA 93021  
Tom Shideler, President  
sales@avcspecialists.com  
Business: 805-531-8900 Fax: 805-531-8903  
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### The Babcock & Wilcox Company .....21

20 S. Van Buren Avenue  
Barberton, OH 44203  
Amy C. Rossi, Sales Operations  
acrossi@babcock.com  
Business: 330-860-1004 Fax: 330-860-1868  
www.babcock.com



B&W is a leading, international provider of energy products and services. Capabilities include the design, manufacture and installation of low NOx burners, overfire air systems, SCR systems, wet and dry FGD systems, fabric filter baghouses, electrostatic precipitators and sorbent injection systems to control NOx, SO<sub>2</sub>, SO<sub>3</sub>, particulates and mercury emissions. B&W also provides environmental equipment improvement products and services.

### Babcock Power Inc. ....13

5 Neponset Street  
Worcester, MA 01606  
Tony Licata, Vice President Business Development  
tlicata@babcockpower.com  
Business: 508-854-3853 Fax: 508-854-3800  
www.babcockpower.com



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### Breen Energy Solutions .....3

104 Broadway Street  
Carnegie, PA 15106  
Chetan Chothani, Director,  
Business Development  
chetan.chothani@breenes.com  
Business: 412-431-4499 Fax: 412-431-4104  
www.BreenES.com



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### Cemtek .....43

Linden, NJ 07036  
Santa Ana, CA 92704  
Joanne Randall, CEMS Specialist  
joanne@cemteks.com  
Business: 888-400-0200 714-437-7100 Fax: 714-437-7177  
www.cemteks.com



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### Ceram Environmental, Inc. ....24

7304 W. 130th St., Suite 140  
Overland Park, KS 66213  
John Cochran, President  
info@ceram-usa.com  
Business: 913-239-9896 Fax: 913-239-9821  
www.frauenthal.net



Leading manufacturer of homogeneous honeycomb DeNOx catalyst since 1985. CERAM's experience includes over 350 DeNOx applications regarding nearly every fuel type: coal (bituminous, PRB, and brown coal), heavy fuel oil, orimulsion, natural gas, and various waste byproducts. CERAM provides SCR system/catalyst management services that include AIG tuning; catalyst testing and management; and SCR operations evaluation/troubleshooting.

## 2009 NOx Exhibitors

### CleanAir Engineering .....7

500 W. Wood St.  
Palatine, IL 60067  
Allen Kephart, Vice President  
akephart@cleanair.com  
Business: 412-787-9130 Fax: 412-787-9138  
www.cleanair.com



For over 35 years, CleanAir has been a global leader in stack testing, compliance planning, thermal and APC performance testing/optimization, sampling equipment & supplies, and instrument rental. Areas of expertise include flue gas analyses for Hg/SO<sub>2</sub>/SO<sub>3</sub>/NO<sub>x</sub>/NH<sub>3</sub>/HCl and particulates, Hg CEMS and ash resistivity analysis. Today, among other services, we are assisting our Utility customers in developing Appendix K mercury monitoring strategies, optimizing SCR systems, performing real-time particulate measurements for CAM planning, and more.

### Coalogix .....39

11701 Mt. Holly Rd.,  
Charlotte, NC 28214  
Lloyd Swaringer, Quality/Marketing Manager  
les@coalogix.com  
Business: 704-812-4068 Fax: 704-827-8935  
www.coalogix.com



Coalogix provides cutting edge services to coal fired generating facilities to reduce their environmental footprint through technology, optimization and efficiency improvements. Coalogix owns SCR Tech which is a leading provider of catalyst regeneration technologies and management services for selective catalytic reduction systems. Coalogix also provides its MetallFix™ technology which captures and remediates mercury emissions from coal fired plants.

### Control Analytics, Inc. ....12

1171 Garden Street  
Greensburg, PA 15601  
Greg Banchiere, President  
sales@controlanalytics.com  
Business: 800-240-8619 Fax: 724-837-3418  
www.controlanalytics.com



CONTROL ANALYTICS, INC. provides experienced sales, service, and systems integration expertise for analytical instruments and systems. Our capabilities include the integration, maintenance and troubleshooting of process gas, flue gas, ambient air, pure water and wastewater monitoring systems as well as Mercury CEMS applications. Calibration and contract service agreements are offered through our experienced service department.

### Cormetech, Inc. ....11

5000 International Drive  
Durham, NC 27712  
Nancy Stephenson, Director,  
Services & Contracts  
Stephensonnd@cormetech.com  
Business: 919-595-8706 Fax: 919-595-8701  
www.cormetech.com



CORMETECH is a world leading supplier of catalysts for SCR systems reducing nitrogen oxides (NO<sub>x</sub>) from stationary sources. Cormetech's diverse experience of >1000 installations range from boilers firing PRB and hi-sulfur coals to simple cycle gas turbines operating at temperatures as high as 1100°F. Cormetech's catalysts are integral to high performing SCR technology with NO<sub>x</sub> reduction capable of >90%.

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### E.ON Engineering .....28

4001 Bixby Road  
Groveport, OH 43125  
Dr. Peter D. Struckman, President  
peter.struckman@eon-engineering.us  
Business: 614-830-0817 Fax: 614-830-0816  
www.eon-engineering.com



E.ON Engineering Corp. provides services in the field of clean air technologies in fossil-fired power plants. Among our customers are AEP, Southern Company and E.ON U.S., with whom we have exclusive long-term contracts for fleet wide SCR catalyst management. Other services include field-testing, FGD and SCR performance / acceptance tests, AIG tuning and combustion optimization.

### Evonik Energy Services .....41 & 42

304 Linwood Road, P.O. Box 1727  
Kings Mountain, NC 28086  
Dorothee Seidel, Marketing Manager  
Dorothee.Seidel@evonik-energyservices.us  
Business: 704-734-0688 Fax: 704-734-1088  
www.evonik-energyservices.us



Evonik Energy Services, formerly Steag, has provided environmental engineering and consulting service to the North American power industry since 1992. Evonik provides SCR system design and review as well as SCR catalyst management services including catalyst testing and data interpretation; catalyst exchange strategies; catalyst cleaning and regeneration; large particle ash screens and AIG tuning; SCR and FGD O&M Services; and complete SCR Bench Scale Testing Services.

### Fluid Engineering .....25

1432 Walnut Street  
Erie, PA 16502  
Marc Steiner, Vice President of Sales  
marc\_steiner@fluideng.com  
Business: 814-453-5014 ext. 314 Fax: 814-455-1953  
www.fluideng.com



Fluid Engineering is a leading supplier of automatic self-cleaning strainers. These strainers are used in cooling towers, water treatment, wastewater, membrane filtration protection, spray nozzles, seawater, crude oil, intake water and numbers of other applications. FE's lines also include simplex and duplex strainers, single and multiple bag filters, tee strainers, "Y" strainers, sanitary strainers and temporary conical strainers.

### Fossil Energy Research Corporation. ....30

23342-C South Pointe  
Laguna Hills, CA 92653  
Richard Thompson, President  
rthompson@ferco.com  
Business: 949-859-4466 Fax: 949-859-7916  
www.ferco.com



FERCo is an engineering services and R&D company specializing in combustion and emissions control. Founded in 1984, the company's goal is to provide research, pilot-scale development, and full-scale evaluation services to industry and government in the area of applied energy and environmental systems. The staff has over 60 years of experience in the combustion, energy, and environmental fields.

### Fuel Tech, Inc. ....33 & 34

512 Kingsland Drive  
Batavia, IL 60510  
Kevin Dougherty,  
VP Business Development & Marketing  
kdougherty@fueltechnv.com  
Business: 630-845-4500 Fax: 630-845-4501  
www.fueltechnv.com



Fuel Tech, Inc. provides engineering, design, supply and installation of NO<sub>x</sub> reduction systems, along with chemical injection programs designed to improve boiler efficiency and availability. Technologies include NO<sub>x</sub>OUT® SNCR, NO<sub>x</sub>OUT Cascade® (Hybrid SNCR/SCR), NO<sub>x</sub>OUT Ultra® using urea to generate on-site ammonia, along with urea based SCR. Our Fuel Chem programs utilize Targeted in Furnace Injection (TIFI) of specialty chemicals to help reduce fireside slagging, boiler corrosion and SO<sub>3</sub> emissions. and help improve boiler availability as well as boiler efficiency.

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david.atzenweiler@ge.com  
Business: 800-821-2222 Fax: 816-353-1873  
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PO Box 58  
Wellington, OH 44090  
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Business: 281-228-5127 Fax: 281-228-5129  
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The TOPSOE GROUP is a market leader in the development and supply of heterogeneous catalyst and related technology. Topsoe's DNX catalyst and stationary SCR technology have proven over the last 20 years to provide the maximum NOx reductions with the lowest SO<sub>2</sub> oxidation rate while achieving a high tolerance to common catalyst poisons such as Arsenic. Topsoe offers SCR catalyst for all applications ranging from large coal-fired boilers to high temperature gen-sets.

## Hitachi Power Systems America, Ltd. ....23

645 Martinsville Road  
Basking Ridge, NJ 07920  
Anthony Favale, Director- SCR Products  
anthony.favale@hal.hitachi.com  
Business: 908-605-2758 Fax: 908-604-6211  
www.hitachi.us/hpsa



Hitachi, original co-developer of DeNOx catalyst, has supplied NOx removal catalyst for over 30 years to over 700 plants including over 350 SCR systems worldwide. Hitachi has the experience and knowledge to supply catalyst and services for Low SO<sub>2</sub> Oxidation; Full range of coals (Bituminous, PRB, Pet Coke, Lignite); Natural gas up to 1050°F; Catalyst Management; Testing, Regeneration, AIG Optimization and now introducing our new Triple Action Catalyst (TRAC™) with enhanced Hg Oxidation for PRB and Bituminous applications.

## Johnson Matthey Catalysts LLC .....17

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Alpharetta, GA 30005  
Randy Sadler  
Manager, Marketing & Sales - Powerplant Industries  
randy.sadler@argillon.com  
Business: 678-341-7535 Fax: 678-341-7509  
www.Argillon.com



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## Kiewit .....38

8455 Lenexa Drive  
Lenexa, KS 66214  
Lance Hendrix,  
President, Kiewit Power Engineers  
lance.hendrix@kiewit.com  
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## M&C Products Analysis Technology, Inc. ....36

1879 Portola Road, Suite G  
Ventura, CA 93003  
Cliff Gordon, President and CEO  
cgordon@mac-products.com  
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Jennifer Hutchings, V.P. of Marketing  
hutchings@neuco.net  
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## NoNOx Components, LLC .....1 & 2

2713 Oak Lake Blvd.  
Midlothian, VA 23112  
Michael Edwards, General Manager  
michael.edwards@nonox.biz  
Business: 804-639-2600, ext. 20 Fax: 804-639-2601  
www.nonox.biz



NoNOx Components is the leading supplier of warranted high temperature erosion resistant LPA/Popcorn Ash screen systems for plugging protection of catalyst. NoNOx supports utilities and OEM's in the design and manufacture of components for effective filtration over long service intervals while minimizing pressure drop. NoNOx patent pending screens are currently deployed in over 25 SCR's in the U.S.

# 2009 NOx Exhibitors

## Reaction Engineering International. . . . .8

77 West 200 South, Suite 210  
Salt Lake City, UT 84101  
Kevin Davis, Manager Business Development  
davis@reaction-eng.com  
Business: 801-364-6925 Fax: 801-364-6977  
www.reaction-eng.com



REACTION ENGINEERING INTERNATIONAL (REI) is a growing R&D consulting firm with internationally recognized expertise in combustion and environmental solutions. We offer Consulting Services and Products to clients in the energy and environmental sectors, including government agencies, utilities, industries and vendors. REI is particularly known for evaluating performance and impacts of in-furnace and post-combustion NOx control technologies using state-of-the-art CFD modeling.

## RE Consulting. . . . .14 & 15

3850 Bordeaux Drive  
Northbrook, IL 60062  
Robert Candelaria, General Manager  
robert.candelaria@reconsulting.info  
Business: 928-640-3132 Fax: 847-562-8894  
www.reconsulting.info



RE Consulting is a division of Reinhold Environmental Ltd., a corporation which has provided support and training services to the coal-burning utility industry since 1993. RE Consulting's current focus is to provide consulting and training via its state-of-the-art, on-line training manuals. Moreover, using its team of industry experts, RE Consulting provides customization support for specific plant configurations as well as on-site training and engineering studies.

## SAS Global Corporation. . . . .5

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Warren, MI 48089  
Fred Haumesser,  
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## Terra Environmental Technologies. . . . .22

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Barry W. Lonsdale, President  
blonsdale@terraindustries.com  
Business: 519-474-7446 Fax: 519-867-3128  
www.terraindustries.com



Terra Environmental Technologies manufactures and delivers on-demand reagent solutions to help reduce nitrogen oxides (NOx) and other emissions from power plants, large industrial applications and diesel engines. TET also provides a compliment of support services including Technical, Maintenance and Environmental Health and Safety.

## Testo Inc. . . . .19

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jwalker@thompsonind.com  
Business: 704-344-5769 Fax: 704-393-2991  
www.thompsonind.com



Thompson Industrial Services, LLC (TIS) offers comprehensive utility cleaning services including specialized high temperature on-line and as well as off-line cleaning of SCR screens, catalyst modules, rectifiers and bypass dampers. With 22 years of industrial cleaning experience and 12 service locations, Thompson welcomes challenging SCR-related cleaning projects on a "24/7" basis. Let Thompson put its safe, professional and efficient cleaning expertise to work for you. Please stop by our booth for additional information.

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John Gray,  
Manager of Sales Heavy Duty Fans  
sales@tltbabcock.com  
Business: 800-876-8582 Fax: 330-869-4819  
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## URS Corporation. . . . .31

1600 Perimeter Park Drive  
Morrisville, NC 27560  
Gunseli Shareef, PhD, Director, Power Sector Services  
gunseli\_shareef@urscorp.com  
Business: 919-461-1454 Fax: 919-461-1415  
www.urscorp.com



Having been involved in air pollution control business for over 35 years, URS has extensive experience in supporting the electric utility industry in meeting NOx, SO<sub>2</sub>, SO<sub>3</sub>, and mercury compliance requirement. Services offered range from permitting, design and engineering to installation of turnkey systems.

## Wahlco, Inc. . . . .20

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Barry Southam,  
Vice President of Sales & Marketing  
bsoutham@wahlco.com  
Business: 714-979-7300 Fax: 714-979-0603  
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