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# *23rd APC- Wastewater Round Table & Expo*

**ESP, Fabric Filter, SO<sub>3</sub> Mitigation,  
MATS, Scrubber, Mercury Control,  
ELG and CCR**

*Show Guide*  
**2016**

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# 2016 APC/PCUG Conference

The 23rd Annual APC-Wastewater/PCUG Conference is presented by Reinhold Environmental ([www.reinholdenvironmental.com](http://www.reinholdenvironmental.com))

Hosted by DTE Energy

*Special thanks to the Conference Sponsors and Utility Host*



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# 2016 APC-Wastewater Round Table

July 18-19, 2016 at Edward Village Michigan Hotel, Dearborn, MI

## July 18, 2016 - Monday - APC-Wastewater Round Table

Registration - Continental Breakfast & Breaks in expo from 7:00 to 8:30 (Great Lakes Center)

|             |   |   |  |  |
|-------------|---|---|--|--|
|             | <b>Training Class 1 (Regency A-B)</b>   | <b>Training Class 2 (Regency J-K)</b>   | <b>Training Class 3 (Regency G-H)</b>  | <b>Training Class 4 (Regency C-D)</b>  |
| 8:00-9:00   | <b>Review of Recent FF Power Plant Applications in the U.S.</b><br><i>by Robin Strobl, CLARCOR Industrial Air   BHA</i>   | <b>How Your APC Choices Affect Wastewater Treatment Options</b><br><i>by Connie Senior, ADA-ES</i>  | <b>Flexibility of RSCC Design to Accommodate Various Processes &amp; Waste Streams</b><br><i>by Bhavesh Dhanani, A-S-H</i> | <b>FGD Wastewater Solutions Overview</b><br><i>by Ray Gansley, GE Power</i>  |
| 9:15-10:15  | <b>Training Class 5 (Regency A-B)</b>   | <b>Training Class 6 (Regency J-K)</b>   | <b>Training Class 7 (Regency G-H)</b>  | <b>Training Class 8 (Regency C-D)</b>  |
|             | <b>A Review of Different Types of ESP Power Supplies</b><br><i>by Per Ranstad, GE Power</i>   | <b>Do Bromide &amp; DBP's Affect Your Future?</b><br><i>by Erica Gonzaga, Carbonxt</i>  | <b>Issues Related to Closing Ash Ponds</b><br><i>by Anita Perry, Southern Co.</i>  | <b>O&amp;M of Wet Scrubbers</b><br><i>by Joe Mitchell, B&amp;W</i>   |
| 10:15-11:00 | Break in Exhibition Hall (Great Lakes Center)   |   |  |  |
|             | <b>Training Class 9 (Regency A-B)</b>   | <b>Training Class 10 (Regency J-K)</b>  | <b>Training Class 11 (Regency G-H)</b>   | <b>Training Class 12 (Regency C-D)</b>   |
| 11:00-12:00 | <b>ESP Mechanical O&amp;M Tips and Tricks</b><br><i>by Dave Watt, Southern Co. &amp; Tim Mallory, Air Advantage</i>   | <b>MATS, CCR &amp; ELG Perspective for the Fate of Heavy Metals in Coal Plant Gas, Liquid and Solids Stream</b><br><i>by Chris Wedig, CB&amp;I</i>            | <b>Problems and Solutions Related to Going from Wet to Dry Ash</b><br><i>by Kevin McDonough, UCC</i>                       | <b>Scrubber Discussion Group on Mercury Re-emission moderated by Steve Wolsiffer, REC / Ron Laws, Duke Energy; Ron Richard, REC; Mary Eubanks, TVA; Greg Betenson, PacifiCorp; Darryl Wall, Southern Company</b> |
| 12:00-1:30  | Lunch in Exhibition Hall (Great Lakes Center)   |   |  |  |
| 1:30-2:45   | <b>General Session (Springwells/Dearborn Ballroom)</b>  |   |  |  |
|             | Welcome/Presentation of Round Table Award <i>by Susan Reinhold to Per Ranstad and Melanie McCoy</i><br>"Michigan Municipal Utility Perspective" <i>by Keynote Speaker: Patrick A. Bowland, General Mgr. &amp; CEO of Michigan Public Power Agency</i> |   |  |  |
| 3:00-4:00   | <b>Workshop 1 (Regency A-B)</b>   | <b>Workshop 2 (Regency J-K)</b>   | <b>Workshop 3 (Regency G-H)</b>  | <b>Workshop 4 (Regency C-D)</b>  |
|             | <b>ESP Absolute Fundamentals &amp; Coping with Instability of Load Cycling</b><br><i>by Paul Ford, Redkoh Industries</i>  | <b>Optimization and Troubleshooting of MATS Compliance</b><br><i>by Joe Wong, ADA Carbon Solutions</i>  | <b>Integrated Compliance Strategies for the New CCR Rule and ELGs</b><br><i>by Brianna Wallace, Geosyntec</i>              | <b>Effects of MATS Control and Variable Unit Load on ORP and Trace Metals in FGD Wastewater</b><br><i>by Mandi Richardson, AECOM</i>   |
| 4:00-4:30   | Break in Exhibition Hall (Great Lakes Center)   |   |  |  |
| 4:30-5:30   | <b>Workshop 5 (Regency A-B)</b>   | <b>Workshop 6 (Regency J-K)</b>   | <b>Workshop 7 (Regency G-H)</b>  | <b>Workshop 8 (Regency C-D)</b>  |
|             | <b>Bag House Optimization Tools - Filtration Test Rig Mercury Evaluations</b><br><i>by Florin Popovici, Evonik Fibres</i>   | <b>Optimization of APC Systems as Part of an Overall Compliance Strategy</b><br><i>by Rich Miller, Miller E&amp;E Services; Stephen Langham, Southern Co.</i> | <b>Volume Reduction Technologies for Coal Plant Wastewaters</b><br><i>by Tisha Scroggin, Burns &amp; McDonnell</i>         | <b>Evaporative Drying of WFGD Wastewater via Salt Drying - A Zero Liquid Discharge Technology</b><br><i>by Mike Klidas, B&amp;W</i>  |
| 5:30-6:30   | Reception in Exhibition Hall  |   |  |  |

## July 19, 2016 - Tuesday - APC-Wastewater Round Table

Registration - Continental Breakfast & Breaks in expo from 7:00 to 8:30 (Great Lakes Center)

|               |  |   |   |  |
|---------------|--|---|---|--|
| 8:00 - 9:00   | <b>Workshop 9 (Regency A-B)</b>  | <b>Workshop 10 (Regency J-K)</b>  | <b>Panel I (Regency C-D)</b>  |  |
|               | <b>ESP Power Supplies Discussion Group</b><br><i>by Paul Ford, Redkoh; David Johnston, B&amp;W; Jason Horn, Stock Equipment; Per Ranstad, GE Power; Terry Farmer, NWL; Russ Ridgeway, SHEL-B Env. Emissions Consulting</i> | <b>Sorbacal SPS - Changing Perceptions on Hydrated Lime for SO<sub>2</sub> Removal and ESP Impacts</b><br><i>by Greg Filippelli, LHOist</i> | <b>Panel I: Wastewater Management for CCR &amp; ELG Compliance</b><br><i>Chairman: Darryl Wall, Southern Company</i><br><i>Panelists: Tom Hart, AEP; Nelson Fonseca, GE Power; Bill Kennedy, Duke Energy; Kristen Jenkins, Southern Research; Michael Surface, Dominion</i> |  |
| 9:00 - 9:30   |  |   |   |  |
| 9:30 - 10:30  | Break in Exhibition Hall (Great Lakes Center)  |   |   |  |
| 10:30 - 11:30 | <b>Workshop 11 (Regency A-B)</b>   | <b>Workshop 12 (Regency J-K)</b>  | <b>Workshop 13 (Regency G-H)</b>  | <b>Workshop 14 (Regency C-D)</b>   |
|               | <b>Your FARS Is It Ready to Face the Future?</b><br><i>by Russ Ridgeway, SHEL-B Environmental Emissions Consulting</i>   | <b>Managing Operations for Holistic Environ. Compliance, Plant Reliability and Cost Controls</b><br><i>by Sharon Sjostrom, ADA-ES</i>       | <b>Fixed Sorbent System Installations and Lessons Learned</b><br><i>by Jeff Kolde, WL Gore</i>  | <b>Options and Opportunities for Eliminating Wastewater Discharges Through Solids Fixation</b><br><i>by Sue Longo, Golder Assoc.</i> |
| 11:30 - 1:00  | Lunch in Exhibition Hall (Great Lakes Center)  |   |   |  |
| 1:00-2:00     | <b>Workshop 15 (Regency A-B)</b>   | <b>Workshop 16 (Regency J-K)</b>  | <b>Workshop 17 (Regency G-H)</b>  | <b>Workshop 18 (Regency C-D)</b>   |
|               | <b>Detuning Upstream ESPs for MATS Baghouse Operation</b><br><i>by Gerry Klemm, Southern Company</i>   | <b>Downstream Mercury Behavior &amp; Effects on Emissions</b><br><i>by Scott Hinton, WS Hinton &amp; Assoc.</i>                             | <b>DSI and ACI System Retrofits for Improved Reliability and Performance</b><br><i>by Conner Cox, UCC</i>   | <b>O&amp;M Considerations for Treatment of Coal Plant Wastewaters</b><br><i>by John Van Gehuchten, HDR</i>                           |
| 2:15-3:15     | <b>Workshop 19 (Regency A-B)</b>   | <b>Workshop 20 (Regency J-K)</b>  | <b>Workshop 21 (Regency G-H)</b>  | <b>Workshop 22 (Regency C-D)</b>   |
|               | <b>Understanding your ESP. Why Does It Not Perform?</b><br><i>by John Knapik, B&amp;W</i>  | <b>Improving Fly Ash Quality in a MATS -CPP World</b><br><i>by Cal Lockert, Breen Energy</i>  | <b>Sorbent Injection for Low Load Operating Flexibility</b><br><i>by Chad Donner, Duke Energy</i>   | <b>WFGD Sulfite Control and Implications for Wastewater Treatment</b><br><i>by Ray Gansley, GE Power</i>                             |
| 3:15-4:15     | Break in Exhibition Hall (Great Lakes Center) - drawing Treasure Hunt Winners  |   |   |  |
| 4:15 - 5:30   | <b>Panel II (Regency C-D)</b>  |   |   |  |
|               | <b>Panel II: MATS Lessons Learned / Chairman: John Brotherton, Duke Energy / Panelists: Dave Bonner, Southern Company; Grant Hilbers, DTE; Scott Hiedeman, KCP&amp;L, Greg Betenson, PacifiCorp</b>                        |   |   |  |
| 6:00 - 10:00  | <b>Conference Event / Henry Ford Museum.....Dinner and open museum.....</b><br><b>free to all attendees and their families</b>   |   |   |  |

# Hotel Floor Plan



Registration Desk

Exhibition Hall

Round Table  
Technical Sessions

**Conference Event  
Buses**  
(Tuesday 6:00pm-9:45pm)

6:00 pm Buses start loading at  
Hotel Lobby entrance

Bus will cycle between hotel and  
Henry Ford Museum until 9:30pm

**Keynote Speaker  
and  
PCUG Meeting**

# MATS COMPLIANCE

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# Workshops and Panels

Monday, July 18, 2016

8:00 to 9:00 am

**Training Class 1: “Review of Recent FF Power Plant Applications in the U.S.”** by Robin Strobl, CLARCOR Industrial Air / BHA (Regency A-B)

This training class will focus on a few case studies of the newer systems that are long bag technology utility baghouses installed in the US. The focus is to present a few case studies regarding the start-up issues and the initial subsequent change outs that occur. This will be informational to the system owners of this type.

**Training Class 2: “How Your APC Choices Affect Wastewater Treatment Options”** by Connie Senior, ADA-ES (Regency J-K)

Complying with the MATS rule takes care of your air emissions, but how does your air pollution control strategy affect your wastewater and ash disposal? The substances you remove with your air pollution control devices have to go somewhere... In this training class, we'll take a holistic look at the fates of important elements such as Hg, Se, As and halogens in a coal-fired power plant and explore options for sequestration.

**Training Class 3: “Flexibility of RSCC Design to Accommodate Various Processes and Waste Streams”** by Bhavesh Dhanani, Allen-Sherman-Hoff (Regency G-H)

The introduction of new Effluent Limitation Guidelines and Standards (ELGs) by EPA in 2015 is forcing utilities to reevaluate plant-wide water balance. Ash ponds have traditionally provided flexibility in managing wastewater streams, but many are being forced to close due to Coal Combustion Residual (CCR) regulations, and ELGs. This training class will explore the use of a Remote Submerged Chain Conveyor to help manage other waste streams in addition to bottom ash transport water in an age without ash ponds.

**Training Class 4: “FGD Wastewater Solutions Overview”** by Ray Gansley, GE Power (Regency C-D)

Power plant owner/operators are faced with a risky, complex set of circumstances in dealing with environmental regulations such as EPA's newly announced Effluent Limitation Guidelines (ELG). Poor decisions regarding technology, partner selection, or timing can open the utility to economic and legal consequences that can threaten the viability of their generating facilities. This training class will discuss a broad range of both treat/discharge and zero discharge technology options including chemical precipitation, biological treatment, brine concentration, spray dry evaporation, solidification, and crystallization. In addition to providing a technology overview several other key ELG compliance considerations will be examined including:

1. The need for a “technology neutral” assessment of ELG compliance needs on a plant-by-plant basis.
2. The benefits of a holistic “cradle to grave” approach aimed at optimized ELG compliance solutions that address each facility's specific requirements from the FGD scrubber to the treated effluent discharge point or the treatment residuals landfill and all steps in between.
3. The challenge of achieving ELG compliance within a relatively short timeline that may stress the wastewater treatment industry's ability to supply engineering design, equipment, and fabrication shop support.
4. The need for comprehensive, gap-free process performance guarantees.

9:15 to 10:15 am

**Training Class 5: “A Review of Different Types of ESP Power Supplies”** by Per Ranstad, GE Power (Regency A-B)

This training class targets a review of the most common types of ESP power supplies used in industry. Focus is on electrical operation and interaction with ESP and power feeding.

**Training Class 6: “Do Bromide and DBP's Affect Your Future?”** by Erica Gonzaga, Carbonxt (Regency J-K)

With calcium and sodium bromide used as coal additives or in brominated sorbents for mercury control and the practice of recirculating WFGD water, over time bromide levels can build up in WFGD wastewater creating corrosion concerns. The potential formation of carcinogenic disinfection by-products (DBPs) from discharged wastewater also leads to concerns for downstream drinking water sources. While the EPA's 2015 rule on ELGs did not establish a limit for total dissolved solids (TDSs) such as bromide, some states have established their own limits. This training class discusses available technical material to assist utilities with deciding whether they may need to consider DBP limits in their future plans.

# Workshops and Panels

**Monday, July 18, 2016**

**9:15 to 10:15 am (cont.)**

**Training Class 7: “Issues Related to Closing Ash Ponds”** by Anita Perry, Southern Company (Regency G-H)

During this training class I will discuss how ash pond owners are working to understand how to safely work in and on ash ponds for the purpose of material removal or capping in place. I will describe some of the hazards that we are identifying and the ways in which we are mitigating the safety risks of these hazards.

**Training Class 8: “O&M of Wet Scrubbers”** by Joe Mitchell, Babcock & Wilcox (Regency C-D)

This training session will cover WFGD operating experiences and maintenance practices of the major components of the system. A review of system interactions will be included along with some possible WFGD optimization options.

**11:00 am to 12:00 noon**

**Training Class 9: “ESP Mechanical O&M Tips and Tricks”** by Tim Mallory, Air Advantage and David Watt, Southern Company (Regency A-B)

This class will begin with a primer on tips and tricks to make an inspection easier. Then we will cover a basic understanding of the mechanical workings of the precipitator and how to troubleshoot issues in the field. Attendees are encouraged to bring questions or descriptions of issues from their own equipment for class discussion.

**Training Class 10: “MATS, CCR & ELG Perspective for the Fate of Heavy Metals in Coal Plant Gas, Liquid and Solids Stream”** by Chris Wedig, CB&I (Regency J-K)

Coal fired power plants are impacted by a variety of regulations such as the Mercury Air Toxics Standards (MATS), Disposal of Coal Combustion Residuals from Electric Utilities (CCR), and Steam Electric Power Generating Effluent Guidelines (ELG). This training class will provide an overview of these regulations, the range of different plant technologies, design, and O&M practices employed, and describe the fate (distribution) of heavy metals and other elements in coal-fired power plant streams, including the inlet coal, air quality control system (AQCS) reagents and makeup water, AQCS inlet flue gas, byproducts removed by the AQCS and waste water treatment systems (WWTS), stack discharge flue gas, liquid discharge, coal combustion residuals landfill and surface impoundment streams (and regulatory requirements), solid by-products, and other associated streams.

**Training Class 11: “Problems and Solutions Related to Going from Wet to Dry Ash”** by Kevin McDonough, UCC (Regency G-H)

Dry ash conversions pose unique operational and maintenance considerations that are distinct from current plant ash system operations and water balance management. This training class will focus on the key considerations for wastewater management, water balance management, likely operational changes and new maintenance considerations that will potentially be required as a result of wet-to-dry ash system conversions. Considerations will take into account the various available technologies for dry ash conversions including dewatering systems, closed-loop recirculation systems and completely dry ash handling systems.

**Training Class 12: “Scrubber Discussion Group on Mercury Re-emission”** Moderator: Steve Wolsiffer, RE Consulting / Discussion Group: Ron Laws, Duke Energy; Ron Richard, RE Consulting; Mary Eubanks, TVA; Greg Betenson, PacifiCorp; Darryl Wall, Southern Company (Regency C-D)

This discussion group intends to be interactive with the attendees, and offer them the opportunity to solicit answers and comments from this panel of industry personnel. Agenda items of FGD experience capturing Mercury, along with other pertinent scrubber Operation/Maintenance issues will be directed by audience questions & participation.

**LUNCH in Exhibition Hall (12:00 to 1:30 pm)**

**1:30 to 2:45 pm**

**Presentation of Round Table Lifetime Achievement Awards** by Susan Reinhold, Reinhold Environmental (Springwells/Dearborn Ballroom)

The Round Table Awards will be given to Melanie McCoy, Sebewaing Light and Water and Per Ranstad, GE Power.

# Workshops and Panels

**Monday, July 18, 2016**

**1:30 to 2:45 pm(cont.)**

**Keynote Speech:** : “Michigan Municipal Utility Perspective” by *Patrick A. Bowland, General Manager & CEO of Michigan Public Power Agency* (Springwells/Dearborn Ballroom)

**3:00 to 4:00 pm**

**Workshop 1:** “ESP Absolute Fundamentals & Coping with Instability of Load Cycling” by *Paul Ford, Redkoh Industries* (Regency A-B)

During this workshop we will discuss how dust collection occurs and how do we keep hold of the dust. Also, what happens to a precipitator during load cycling and how do we keep it under control during these periods of instability?

**Workshop 2:** “Optimization and Troubleshooting of MATS Compliance” by *Joe Wong, ADA Carbon Solutions* (Regency J-K)

Best practices for mercury and acid gas control are presented and discussed, ranging from reagent management and reduction in usage to addressing balance-of-plant issues in today’s environment of cycling and/or intermittent operation. Supplier, consultant/ advisor and end user perspectives are provided.

**Workshop 3:** “Integrated Compliance Strategies for the New CCR Rule and ELGs” by *Brianna Wallace, Geosyntec* (Regency G-H)

This workshop will address trends and alternative evaluation considerations and present case studies related to integrated compliance strategies in light of the new CCR Rule, ELGs, and other electric power regulations. Strategies for transitioning to new or alternative CCR units; developing site-specific plans and timetables to account for varying and unpredictable market factors over spectrums of risk and cost; and approaching generation portfolio planning, the financial implications of compliance, and potential retirement obligations will be discussed. This will be a joint presentation by Brianna Wallace, P.E. and Neil Davies, C.Eng., MICE, P.E.

**Workshop 4:** “Effects of MATS Control and Variable Unit Load on ORP and Trace Metals in FGD Wastewater” by *Mandi Richardson, AECOM* (Regency C-D)

This workshop will focus on the effects of various MATS control technologies and variable unit load operation on the chemistries of wet FGD systems and of the chloride purge streams (wastewater) produced from these FGD systems. Impacts to the wastewater considered include changes to oxidation-reduction potential (ORP) mercury, selenium, and arsenic concentrations; selenium speciation; and phase partitioning of these trace elements between being dissolved in the liquid versus present in suspended solids.

**4:30 to 5:30 pm**

**Workshop 5:** “Bag House Optimization Tools – Filtration Test Rig Mercury Evaluations” by *Florin Popovici, Evonik Fibres* (Regency A-B)

This workshop describes the Filtration Test Rig developed by Evonik Fibres and used in cooperation with important Utilities around the world. Related test results, including Mercury removal from flue gas by specific filter materials, are presented and explained.

**Workshop 6:** “Optimization of APC Systems as Part of an Overall Compliance Strategy” by *Rich Miller, Miller Energy & Environmental Services and Stephen Langham, Southern Company* (Regency J-K)

This workshop will cover the compliance needs and options required and available in the optimization of both fabric filters (primarily “TOXECON” polishing type FF Systems), Dry Sorbent Injection systems (DSI and ACI) and ESP systems with the ultimate goal of achieving MATS compliance with the lowest O&M costs. These cost savings may include, sorbent costs (activated carbon and hydrated lime), Baghouse Pressure Drops, ESP operation and ultimately filter bag life. An overview of industry experiences as well as recent experience by Southern Company on their newly commissions fleet of TOXECON type pulse jet fabric filters and sorbent injection systems will be discussed.

# Workshops and Panels

**Monday, July 18, 2016**

**4:30 to 5:30 pm (cont.)**

**Workshop 7: “Volume Reduction Technologies for Coal Plant Wastewaters”** by *Tisha Scroggin, Burns & McDonnell* (Regency G-H)

Wastewater generated from coal fired power plants can be costly to treat and discharge. This workshop will review technologies that can be used to reduce or eliminate the volume of wastewater generated from these stations.

**Workshop 8: “Evaporative Drying of WFGD Wastewater via Salt Drying – A Zero Liquid Discharge Technology”** by *Mike Klidas, Babcock & Wilcox* (Regency C-D)

This workshop will discuss Salt Dryers for the evaporation of WFGD effluent. Included is information and operating data from plants using salt dryers to achieve zero liquid discharge. In addition, some of the Salt Dryer R&D testing that B&W has done is discussed.

**\*\*\*\*\*RECEPTION in Exhibit Hall (5:30 to 6:30 pm)\*\*\*\*\***

**Tuesday, July 19, 2016**

**8:00 to 9:30 am**

**Workshop 9: “ESP Power Supplies Discussion Group”** Moderated by *Russ Ridgeway, SHEL-B Environmental Emissions Consulting / Discussion Group: Paul Ford, Redkoh Industries; David Johnston, Babcock & Wilcox; Jason Horn, Stock Equipment; Per Ranstad, GE Power; Terry Farmer, NWL* (Regency A-B) With the advance of technology, precipitator power supply selection and application has become ever more difficult. The end user is confronted with a myriad of choices and conflicting claims in this important area. This session is a unique opportunity for the conference attendee to participate in a power supply discussion with industry experts. A panel of technical experts from each of the five major power supply and control manufacturers including (in alphabetical order) B&W, GE Power, NWL, Redkoh Industries and Stock Equipment have been assembled to answer questions posed by the audience or other panelists. In one session, get your important questions answered and hear the technical pros and cons of each technology including low ripple, high ripple, low frequency, mid frequency and high frequency from the industry recognized experts.

**Workshop 10: “Sorbacal SPS – Changing Perceptions on Hydrated Lime for SO<sub>2</sub> Removal and ESP Impacts”** by *Greg Filippelli, LHoist* (Regency J-K)

Sorbacal SPS is an enhanced hydrated lime product that is engineered to have twice the surface area and three times the pore volume as standard hydrated lime products. Given the chemical and physical properties of Sorbacal SPS it has proven to provide high SO<sub>2</sub> removal efficiencies and minimize ESP operational impacts in conjunction with DSI technology, both of which were previously perceived as unattainable with hydrated lime. This workshop will describe the results from multiple DSI trials on Pulverized River Basin coal fired boilers with cold-side ESPs that injected Sorbacal SPS for SO<sub>2</sub> control.

**Panel I: “Wastewater Management for CCR & ELG Compliance”** Panel Chairman: *Darryl Wall, Southern Company / Panelists: Tom Hart, AEP; Nelson Fonseca, GE Power ; Bill Kennedy, Duke Energy; Kristen Jenkins, Southern Research; Michael Surface, Dominion* (Regency C-D)

Industry leaders, operators and OEMS, will provide their perspectives regarding wastewater management to comply with CCR and ELG regulations.

**10:30 to 11:30 am**

**Workshop 11: “Your FARS – Is it Ready to Face the Future?”** by *Russ Ridgeway, SHEL-B Environmental Emissions Consulting* (Regency A-B) Is your Fly Ash Removal System (FARS) ignored at your plant? Most systems are forgotten until another problem surfaces which is the result of not giving the FARS the attention it deserves. With increased burdens on the ESP, the FARS can quickly become your “Achilles’ Heel”.

# Workshops and Panels

Tuesday, July 19, 2016

10:30 to 11:30 am (cont.)

**Workshop 12: “Managing Operations for Holistic Environmental Compliance, Plant Reliability and Cost Controls”** by Sharon Sjostrom, ADA-ES (Regency J-K)

Increasingly stringent environmental regulations require operators, environmental managers, and fuel buyers to collaborate more closely, adopting a holistic approach that considers the interdependence of fuel characteristics, chemical and sorbent selection, and pollution control equipment to economically produce power while achieving environmental compliance. In this workshop, we’ll discuss some emerging trends from MATS implementation and considerations for the CCR and ELG rules.

**Workshop 13: “Fixed Sorbent System Installations and Lessons Learned”** by Jeff Klode, W.L. Gore (Regency G-H)

In order to meet local and federal mercury emissions regulations, several U.S. power plants have installed a fixed sorbent system inside of their wet flue gas desulfurizers. These sites represent some of the first commercial installations of this new approach to mercury control. The tail-pipe fixed sorbent system continuously removes and sequesters elemental and oxidized mercury that is not captured by the upstream equipment, and doesn’t require any adjustments or regeneration. The system design differs at each site based on the mercury removal requirements and scrubber design – this workshop will compare and contrast the installation approaches utilized at these sites. Operating results will be shared, as well as key lessons learned which are applicable to other plants considering installing this technology.

**Workshop 14: “Options and Opportunities for Eliminating Wastewater Discharges Through Solids Fixation”** by Sue Longo, Golder Associates (Regency C-D)

During this workshop we will discuss the concept of mixing wastewater discharges with CCR products; the benefits associated with this blended waste from a process, transport, deposition and closure perspective and a path forward – what are the next steps for a utility?

\*\*\*\*\*LUNCH in Exhibition Hall (11:30 to 1:00 pm)\*\*\*\*\*

1:00 to 2:00 pm

**Workshop 15: “Detuning Upstream ESPs for MATS Baghouse Operation”** by Gerry Klemm, Southern Company (Regency A-B)

As part of the compliance implementations for the Mercury and Air Toxics Strategy (MATS) at the Southern Company, four baghouse systems were installed. For normal operation, some flyash must be directed to the fabric filters from the precipitators. This workshop details the methods used to optimize the makeup of the baghouse byproducts.

**Workshop 16: “Downstream Mercury Behavior & Effects on Emissions”** by Scott Hinton, WS Hinton & Associates (Regency J-K)

SCR is typically a focus for units seeking to understand and maximize mercury oxidation. However, other downstream devices such as the air preheater and ESP will affect mercury behavior, and must be considered to fully understand the mercury speciation entering mercury control devices, such as wet scrubbers. The mercury behavior around these downstream devices will be discussed in relation to the effect on mercury control and emissions.

**Workshop 17: “DSI and ACI System Retrofits for Improved Reliability and Performance”** by Conner Cox, United Conveyor Corporation (Regency G-H)

Key metrics of DSI and ACI system performance are availability, maintenance requirements, and sorbent optimization. This workshop will discuss frequently occurring problems in DSI and ACI systems with corresponding solutions to maximize sorbent performance and system availability while minimizing manual maintenance.

**Workshop 18: “O&M Considerations for Treatment of Coal Plant Wastewaters”** by John Van Gehuchten, HDR (Regency C-D)

Minimizing capital and operating costs at power generating facilities is critical. Wastewater systems are critical to the operation of the plant and can cost a significant amount to operate. This workshop will review different techniques that can be applied that have improved system performance or reduced costs of Operations and Maintenance.

# Workshops and Panels

Tuesday, July 19, 2016

2:15 to 3:15 pm

**Workshop 19: “Understanding Your ESP – Why Does It Not Perform?”** by *John Knapik, Babcock & Wilcox* (Regency A-B)

This workshop will show the user how to evaluate an ESP to improve its performance including, ash resistivity analyzed thru a review of operating current densities, ESP performance in relationship to power (watt density), energization. Is the TR set the proper size? Would two TR sets work better than the one?. How do fuel characteristics (the role of iron, silica, alumina, sodium) SO<sub>3</sub>, gas temperature, sorbents and ACI impact an ESP.

**Workshop 20: “Improving Fly Ash Quality in a MATS-CPP World”** by *Cal Lockert, Breen Energy Solutions* (Regency J-K)

This workshop will explore the impact that current MATS, and anticipated Clean Power Plan, compliance has on wet and dry fly ash quality. As the industry moves aggressively away from wet fly ash disposal, these impacts can have a significant impact on expected plant viability. The discussion will also cover potential improvements that can be made to combustion and air quality processes to improve the commercial viability of the unit without compromising environmental compliance.

**Workshop 21: “Sorbent Injection for Low Load Operating Flexibility”** by *Chad Donner, Duke Energy* (Regency G-H)

With more wind, solar, and cheap gas playing into the power dispatch market it is increasingly more important for coal fired utilities to be more flexible with their operating range. When SCR’s were installed, they placed new minimum load constraints on coal fired utilities that are largely driven by the SO<sub>3</sub> concentration entering the SCR. By mitigating SO<sub>3</sub> prior to the SCR it can allow the utility to eliminate the SCR as a low load constraint and return to Pre-SCR minimum load setpoints and improve the operating range of the unit.

**Workshop 22: “WFGD Sulfite Control and Implications for Wastewater Treatment”** by *Ray Gansley, GE Power* (Regency C-D)

Sulfite control in a WFGD has shown significant benefits including: reducing oxidation air power consumption, significantly reducing dissolved mercury in the WFGD slurry, and reducing mercury air emissions. Testing has shown sulfite control results in very low dissolved mercury levels ( $\leq 1 \mu\text{g/l}$ ) in the slurry, approximately 80% reduction in mercury “re-emissions” to the air, and favorable selenium speciation in the WFGD purge is also expected. In one installation using WFGD sulfite control, a full WWTS including a bioreactor for control of selenium is included to treat the WFGD purge stream, and findings and implications for WWTS will be discussed with regards to addressing U.S. ELG requirements.

4:15 to 5:30 pm

**Panel II: “MATS Lessons Learned”** Panel Chairman: *John Brotherton, Duke Energy* / Panelists: *Dave Bonner, Southern Company; Grant Hilbers, DTE; Scott Hiedeman, KCP&L, Greg Betenson, PacifiCorp* (Regency C-D)

This panel will cover a variety of experiences with implementation of MATS compliance strategies and projects at a number of utilities. Discussion will include both successes and challenges. There will be significant audience and panel interaction to gain additional insight into topics of interest beyond items specifically covered in planned remarks from the panel.



Conference Event  
at  
Henry Ford Museum  
dinner and touring  
Tuesday: July 19,  
2016

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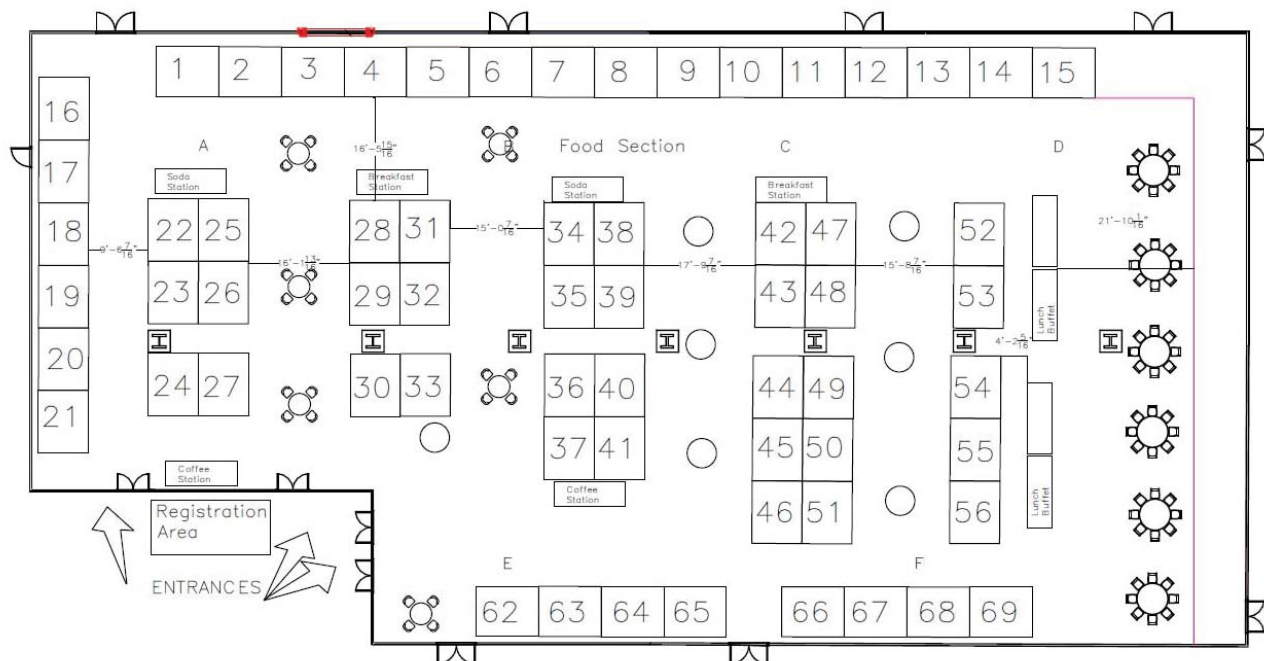
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# 2016 APC-Wastewater Round Table Exhibitors

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## ADA-ES, Inc.....17-18

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www.adaes.com



ADA-ES, Inc. ("ADA") is a wholly-owned subsidiary of Advanced Emissions Solutions, Inc. ("ADES") that provides emissions control solutions for coal-fired power generation and industrial boiler industries. With more than 25 years of experience developing advanced mercury control solutions, ADA delivers proprietary environmental technologies, equipment and specialty chemicals that enable coal-fueled boilers to meet emissions regulations. These solutions enhance existing air pollution control equipment, maximizing capacity and improving operating efficiencies. Our track record includes securing more than 30 US patents for emissions control technology and systems and selling the most activated carbon injection systems for power plant mercury control in North America. For more information on ADA, its products and services, visit [www.adaes.com](http://www.adaes.com) or the ADA Blog (<http://www.adaes.com/blog/>).

## ADA Carbon Solutions.....66

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Littleton, CO 80120  
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Business: 303-962-1985  
www.ada-cs.com



ADA Carbon Solutions, LLC is a leading manufacturer of powdered activated carbon (PAC) products that are optimized for mercury removal. Our flagship plant in Red River Louisiana is the largest, most automated and environmentally friendly manufacturing facility in North America focused on products for coal fired boiler mercury control. We aim to leverage our industry leading expertise in emission control and the reliability afforded by our assets to deliver superior emission control solutions. Our goal is to help our customers achieve compliance...reliably and cost effectively. Visit our Compliance Campus website, where we share best practices and informational resources and for any of your MATs needs, contact us! Expertise. Reliability. Compliance.

## AECOM.....33

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Austin, TX 78729  
Steven Kosler  
Process Technologies Bus. Dev. Manager  
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Business: 512-419-6026  
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A fully integrated infrastructure and support services firm, AECOM is a global leader in engineering, design, construction, and program management and provides a complete life cycle of services to clients in the power industry --- emissions control (NOx, SO<sub>2</sub>, SO<sub>3</sub>, CO<sub>2</sub>, mercury/toxics, PM), generation (fossil, nuclear, hydro, renewable, combined cycle), energy efficiency, and environmental (air, wastewater, coal combustion residuals).

## Airflow Sciences Corporation.....34-35

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



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## AirTek.....47

P.O. Box 388, 700 Hudson St.  
Troy, AL 36081 USA  
John Roberts, President  
jr@airtek-troy.com  
Business: 334-566-7400  
www.airtek-troy.com



Since 1988, AirTek has been a leading provider of precipitator services. These services include field service engineering, consulting services, construction management, maintenance, new construction, major rebuilds, and the supply of spare parts. AirTek offers this full range of services, in addition to our own line of ESPs, to all users of air pollution control equipment.

## Amec Foster Wheeler.....68

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CCR Program Manager  
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Amec Foster Wheeler designs, delivers and maintains strategic and complex assets for its customers across the global energy and related sectors. Employing around 40,000 people in more than 55 countries, we operate across the clean energy, power generation and transmission, oil and gas, mining, pharmaceutical, environment and infrastructure markets. Amec Foster Wheeler is a full-service provider to the energy sector from consulting to project delivery. In just the past year, we have successfully completed over 425 coal combustion residual (CCR) and effluent limitation guideline (ELG) related projects throughout the U.S. We deliver holistic solutions for CCR and ELG compliance with expertise in environmental permitting, geosciences, scrubbers, wastewater treatment, and solidification.

## A.V.C. Specialists, Inc.....26-27

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Mike Jakstis-General Manager  
Business: 805-531-8900  
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## Babcock & Wilcox .....62-63

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Barberton, OH 44203  
Daniel Lazic, VP, Sales & Business Dev.  
dlazic@babcock.com  
Business: 330-860-6278  
www.babcock.com



Since 1867, Babcock & Wilcox (B&W) has provided advanced energy and environmental solutions for utilities and industrial operations worldwide. We offer integrated technologies to control NOx, particulate, SOx, mercury and other hazardous air pollutants (HAPs). In addition to new installations, we provide quality parts, retrofits and upgrades for scrubbers, fabric filters, electrostatic precipitators, and dry sorbent injection systems. To optimize precipitator performance, we provide engineered upgrades and services, mechanical components such as collecting plates, discharge electrodes and rappers, electrical components, and integrated control systems and software. And, our latest innovations include zero liquid discharge solutions for wet FGD wastewater to address ELG regulations.

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## Babcock Power.....25

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Lyman, SC 29365



Jennifer Pasquariello, Director Marketing and Communications  
jpasquariello@babcockpower.com  
Business: 864-949-2917  
www.babcockpower.com

Boiler Tube Company of America (BTA), a Babcock Power Inc. company, has designed, fabricated, and installed specialty replacement parts and components for boilers of all sizes and designs since 1918. Throughout our long history, our products and systems have provided efficient, cost effective solutions to the electric utility, pulp and paper, waste-to-energy, petrochemical, petroleum plants, marine, sugar, and grain industries. BTA can supply like-kind replacement parts, as well as complete engineered solutions. As a company of Babcock Power Inc., BTA has access to the expertise of the boiler OEM Riley Power (RPI), and can extend the life and actually improve the performance of your boiler.

## Blome International.....19

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Business: 636-379-9119  
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## Breen Energy Solutions.....12

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Chetan Chothoni, COO  
CChothoni@BreenES.com  
Business: 412-431-4499 / www.BreenES.com



Breen Energy Solutions (BES) provides technologies and solutions to Optimize Dry Sorbent Injection Systems to minimize reagent use, plant BOP impacts and meet the strict condensable/filterable PM requirements for Utility-MACT. BES has an installed base of over 100 AbSensor-SO<sub>3</sub> monitors in the industry with a majority of those in closed loop control for SCR/SNCR performance, Heat Rate Improvement, Air heater protection, Blue Plume and Wet/Dry Sorbent injection controls. BES conducts Dry Sorbent Injection demonstrations that deliver a proven closed-loop optimized sorbent injection control system.

## BWF Envirotec USA.....64

1800 Worldwide Drive  
Hebron, KY 41048



Larry Brown  
Industry Manager – Power and Processing  
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## Carbonxt, Inc.....3

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Business: 352-378-4950  
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Carbonxt™, in partnership with United Conveyor Corporation, is a leading provider of oxidizing, non-halogenated Powdered Activated Carbons (PACs) for emissions control applications. Each Cxt PAC family has the flexibility to be enhanced with our proprietary oxidizing additive and/or an extremely low percentage of bromine for enhanced oxidation and optimal sorbent performance. With a primary focus on the continual development and manufacturing of advanced engineered sorbents, Carbonxt provides mercury removal solutions to meet stringent compliance requirements and individual plant needs. Together, Carbonxt and UCC combine to offer holistic engineered solutions to help reduce environmental compliance costs. For more information visit www.carbonxt.com.

## Carmeuse Lime & Stone.....67

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Deborah Henderson, President  
ccsi2004@ccsipower.com  
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CCSI (Certified Constructors' Services, Inc.) has made a reputation for completing major precipitator rebuilds and boiler outages on time without delaying plant schedules. The services provided include precipitator and boiler inspections, major rebuilds, new construction and plant maintenance. All services provided are carried out with SAFETY as our number 1 goal, using the highest quality supervision and craft persons.

## CleanAir Engineering.....56

110 Technology Drive  
Pittsburgh, PA 15275  
Allen Kephart, President  
akephart@cleanair.com  
Business: 412-787-9130 / www.cleanair.com



CleanAir is a global leader providing testing, consulting and equipment solutions for air emissions compliance. Areas of expertise include testing for Hg/SO<sub>2</sub>/SO<sub>3</sub>/NO<sub>x</sub>/NH<sub>3</sub>/HCl and particulate, mercury and HAPs monitoring systems, APC equipment optimization, cooling tower drift emissions, fly ash resistivity analysis and particle sizing, stack sampling equipment and instrument rental.

## Clyde Bergemann Power Group.....49

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Business: 770-557-3600 / www.cbpg.com



Clyde Bergemann Power Group (CBPG) is a globally active enterprise supplying systems and solutions for the energy services market. We provide and service new and existing ESPs, baghouses, ACI, and DSI systems to help customers comply with their emission control requirements. Our inspectors, technical advisors, and construction crews are strategically located throughout the US and North America to effectively meet the needs of our customers. CBPG is also a market leader in other critical areas including boiler efficiency, Effluent Limitation Guideline solutions, material handling, air-gas handling, and combustion optimization.

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## Duromar Inc.....50

706 Washington Street  
Pembroke, MA 02359  
Daniel Toft  
daniel.toft@duromar.com  
Business: 781-826-2525 / www.DUROMAR.com



Since 1968, Duromar Inc. has been a leading supplier of protective polymeric coatings and linings for process industries. Duromar manufactures a complete line of products for prevention, maintenance, and repair of FGD and AQCS equipment subjected to erosion and corrosion problems. Today, Duromar continues to pioneer the field of applied polymeric technology in its extensive background in 100% solids, Zero VOC coating and lining systems. While out-performing conventional materials, Duromar's products are both safe for the user, and non-toxic to the environment.

## ETS, Inc.....7

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Roanoke, VA 24012, USA  
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jmck@etsi-inc.com  
Business: 540-265-0004 ext. 293  
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Founded 1973, ETS, Inc. a testing/training firm specializing in particulate emission control, recognized as the world's leading baghouse consultant, has an independent bag/fabric testing laboratory which conducts filtration performance testing that complies with methods ASTM D6830-02 and VDI 3926. The firm has a reputation for successfully troubleshooting APC equipment, providing specification assistance, executing fabric/bag quality assurance programs as well as bag life monitoring & optimization programs, providing expert testimony, and conducting its Baghouse Seminar plus Pollution Control Training Programs.

## Evonik Fibres GmbH.....36

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Ken Spindola  
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Besides the production of P84 fibers, Evonik Fibres has added an additional fiber to its sales portfolio, Procon, a PPS fiber made by Toyobo in Japan. With this product range Evonik Fibres covers the upper end of the worldwide filtration market. P84 polyimide fibers is the main product being only produced in Austria. This fiber has several properties that are unmatched in the industry. First of all it is the irregular shaped cross section which provides almost double the surface area compared to conventional round or oval shaped fibers resulting in the best filtration efficiency of all fibers on the market. Besides excellent efficiency, high temperature resistance combined with a good chemical resistance over a wide pH range are additional features of P84 fibers. Except in Japan and Korea, Evonik Fibres is the exclusive representative for Procon worldwide and has successfully introduced this highly chemical resistant fiber in the world's biggest coal fired power stations in South Africa and Australia.

## FLSmith - AFT Operations.....10

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Evans, GA 30809  
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FLSmith Inc - AFT Operations (Advanced Filtration Technologies) is a major manufacturer and supplier of baghouse filter bags, APC replacement parts and baghouse services to the power generation, industrial boiler and waste to energy industries. AFT is highly regarded for the quality and performance of its products to many baghouse OEM's as well as countless individual production facilities. Our highly experienced engineering and technical service team provide complete bag installations, changeouts and dust collector rebuilds to ensure minimum downtime and long term, trouble free operation.

## Fuel Tech, Inc.....52

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Business: 630-845-4500 / www.ftek.com



Fuel Tech provides multi-pollutant emission control, plant optimization, and advanced engineering services. Technologies include: low NOx burners, over-fire air systems, ESP and FGC for particulate control, NOxOUT® and HERT™ SNCR systems, I-NOx™ Integrated NOx Control systems, ASCR™ Advanced SCR systems, ULTRA™ ammonia generation process, HClear™ programs for HCl emissions, and TIFI® Targeted in Furnace Injection™ programs to improve boiler efficiency.

## GE Power .....22-23

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GE is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE Power is a world leader in power generation with deep domain expertise to help customers deliver electricity from a wide spectrum of fuel sources in a sustainable manner. As a strategic business partner, GE Water & Process Technologies offers a comprehensive set of chemical and equipment solutions, as well as predictive analytics to enhance water, wastewater and process productivity. Environmental Control Solutions (ECS) from GE's Steam Power Systems portfolio, enable clients to meet stringent emission regulations for particulate and gaseous pollutants emitted from power plants, and assist with FGD wastewater reduction and evaporation. With the broad technology portfolio offered by GE we can provide clients with a technology-neutral, holistic assessment for ELG compliance.

## Geecom (PTY) Ltd.....43

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South Africa  
Gustl Mischkulnig, Managing Director  
Business: +27 11 794 3801 / www.geecom.co.za



GEECOM is a company dedicated to providing its customers with highly effective solutions for the prevention of air pollution, in the form of products, systems and services, based on specific know-how and experience since 1984, which in turn, contribute considerably to the achievement of environmentally responsible industries. The range of systems, products and services include dry and wet Electrostatic Precipitators as well as elements such as discharge electrodes of the G-Spring / G-Spike type, collector electrodes, side drives for all rapping. 80% in house manufacturing of electrical and mechanical components, Turn Key Projects, installation, commissioning and testing. Constant interaction with customers guarantee that every technical detail is fully considered and that integrated solutions achieve the maximum benefits possible.

## GrayWolf Industrial Services.....6

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Owensboro, KY 42301  
Brad Phelan, Dir. Of Business Development  
Brad.phelan@titancontracting.com  
Business: 270-683-6564  
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GrayWolf Industrial is the parent company of Titan Contracting, Titan Fabricators, Milco National Constructors, Inco Services and Midwest Consulting. GrayWolf is one of the leading full service providers of construction and fabrication services in the Power Industry. Services include new construction, existing plant modifications, repair and maintenance. Specialties include Power and Process Piping, Balance of Plant Disciplines, Turbine and HRSG Installations, ASME boiler and tube repair, Tank & Vessel Fabrication (Shop and Field Installations), Existing Plant Modifications/Upgrades, Environmental Equipment Installation/ Retrofits, Air Cooled Condenser Rebuild & Installation, AQCS installations and Maintenance.

# 2016 APC-Wastewater Round Table Exhibitors

## Hamon Research Cottrell.....4

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buzz.reynolds@hamonusa.com  
Business 908-333-2119 / www.hamonusa.com



Hamon Research-Cottrell is part of the worldwide Hamon Group and is a major provider of air pollution control technology and thermal solutions for power generation, pulp & paper, petrochemical, refineries, chemical, glass, cement, steel, food, pharmaceutical and other industries located in North America. The company traces its beginning back to 1907 when Dr. Frederick Cottrell developed the first ESP. Products include both dry and wet ESPs, fabric filters, dry and wet flue gas desulfurization systems, SNCR, Urea to Ammonia (U2A™), air-cooled condensers (ACC's) and ReACT™, a proven multi-pollutant control technology for NOx, SOx and PM control. A complete aftermarket parts, engineering and service capability exists to replace, upgrade or rebuild existing APC equipment.

## Hendrick Manufacturing.....48

One Seventh Avenue  
Carbondale, PA 18407  
Darran Zimmermann, National Sales Manager  
Darran.zimmermann@hendrickmfg.com  
Business: 570-947-9881  
www.hendrickmfg.com



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2960 East State Street Extension  
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Neville@HotfoilEHS.com  
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7600 Whitepine Rd.  
Richmond, VA 23237  
David Kahan, Sales Engineer  
David.Kahan@integratedglobal.com  
Business: 804-794-1646  
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445 Kautz Road  
St. Charles IL 60174  
Gabe Pacheco, Regional Sales Manager  
Gabepecheco@lechlerusa.com  
Business: 800-777-2926 / www.LechlerUSA.com

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## Kirk Key Interlock Co.....39

9048 Meridian Circle NW  
North Canton, OH 44720  
Sean McGuinness,  
Vice President of Business Development  
sean@kirkkey.com  
Business: 800-438-2442 / www.kirkkey.com



KIRK interlock safety systems have been providing safety across many industries and applications for over 80 years. Trapped key interlock systems drive a predetermined sequence of events in process safety applications. Implementing trapped key interlocks into a safety process will protect personnel from hazardous energy, prevent financial setbacks due to damage of equipment, and provide continuous manufacturing without interruptions due to mis-followed operations. KIRK offers a comprehensive line of products that aid in isolation of hazardous energy, permit safe access to potentially hazardous areas, transfer safety sequences, valve interlock applications, and enhanced lockout tagout. All KIRK safety systems are customized to the customer's specific application requirements.

## Lhoist North America, Inc.....29-30

3700 Hulen Street  
Fort Worth, Texas 76107  
Melissa Sewell  
Director, New Business Development FGT  
Melissa.sewell@lhoist.com  
Business: 817-235-6257 / www.lhoist.us / www.sorbacal.us



Lhoist North America, a subsidiary of the Lhoist Group, is a privately-owned mining company with facilities across the US and Canada. Lhoist supplies a number of high quality calcium based products, including Sorbacal® SP, an enhanced hydrate lime for flue gas treatment of acid gases into many industries including cement, glass, utility, paper, chemical, and waste to energy. Call our FGT Solutions team at 1-800-365-6724 or visit our websites www.lhoist.us / www.sorbacal.us for more information.

## Mississippi Lime.....8

3870 S. Lindbergh Blvd. Suite 200  
St. Louis, MO 63127  
Eric Van Rens, Vice President, Sales and Marketing  
ecvanrens@mississippilime.com  
Business: 314.543.6365  
www.mississippilime.com



Mississippi Lime hydrated lime is a proven high performing sorbent for acid gas mitigation in Dry Sorbent Injection Systems or Circulating Dry Scrubbers. Our quicklime is a high purity, high conversion feedstock for Spray Dry Absorber scrubbing systems. The Reagent Technology Services division of Mississippi Lime will work with you to supply high purity milled limestone for Wet FGD applications. Our production facilities are located in Ste. Genevieve MO, Vicksburg MS, Verona KY, Weirton WV, Chester SC, and Mobile AL, with additional terminals located throughout North America. Please stop by our booth to hear how Mississippi Lime's technical support and supply chain capabilities can help you achieve cost-effective control of acid gas emissions.

# 2016 APC-Wastewater Round Table Exhibitors

## Mitsubishi Hitachi Power Systems.....24

645 Martinsville Road  
Basking Ridge, NJ 07920  
Bob Nicolo  
robert.nicolo@mhpowersystems.com  
Business: 908-605-2848 / www.mhpowersystems.com



Mitsubishi Hitachi Power Systems Americas, Inc. is headquartered in Lake Mary, FL. MHPSA provides a wide variety of products and services for the electric power generation industry including gas, steam, and geothermal turbines, boiler, and environmental control systems including our Wastewater Spray Dryer to address ELG regulations. The company's parent is Mitsubishi Hitachi Power Systems, Ltd. (MHPS) in Japan. Learn more at www.mhpowersystems.com

## National Filter Media.....21

8895 Deerfield Drive  
Olive Branch, MS 38654  
Keith Ogilvie, Director  
kogilvie@nfm-filter.com  
Business: 540-336-7407 / www.nfm-filter.com



Established in 1906, National Filter Media has been serving industry with quality products and relationships. NFM is a leader in dry filtration products for fabric filter baghouses (filter bags, cages, accessories and services). NFM has products for all types of baghouses; reverse-air, shake-deflate, and high/medium/low pressure pulse jet units. NFM is the N. Am. distributor of Autel® pulse and solenoid valves, full immersion header tanks, piston-style low pressure pulse valves, as well as sequencing timers along with system cleaning software. Autel® are designed to be UL™, CE™ and ASMET™ certified to meet project needs. NFM also has diverse line of wet filtration products for WFGD applications. Horizontal belts, vacuum filters, dewatering filters and press leafs are our specialties. Regionally located throughout North America, NFM can serve our partners from ten (10) facilities with just-in-time and economical deliveries.

## Nickel Systems, Inc.....65

138 West 5th Street  
Lansdale, PA 19446  
Tom Redstreak, Sales Manager  
sales@nickel-systems.com  
Business: 215-855-5633  
www.nickel-systems.com



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## Nol-Tec Systems.....42

425 Apollo Drive  
Lino Lakes, MN 55014 USA  
Jerry VanDerWerff, Sales Manager,  
JerryVanDerWerff@nol-tec.com  
Business: 651-203-2646 / www.nol-tec.com



Nol-Tec Systems is a global, single-source supplier of custom engineered pollution control systems, bulk material handling, and integrated control systems. We offer solutions in dry sorbent and activated carbon injection systems and, through our Lodge Cottrell division, OEM pollution control systems, upgrades to existing systems, expert process consulting, aftermarket parts, and experienced field service. Nol-Tec provides technologies to mitigate and control SOx, NOx, acid gases, Hg, and dioxins/furans emissions, as well as particulates, metals, and other air toxins. We are dedicated to providing the best value in the form of high quality products and unparalleled customer service.

## Novinda Corporation.....38

999 18th St., Suite 1755 North Tower  
Denver, CO 80202  
Molly Hennessee, Office/Accounting Manager  
m.hennessee@novinda.com  
Business: 720-473-8340 / www.novinda.com



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jmanna@nwl.com /  
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paul@pcs-south.com  
Business: 850-466-3788 / www.pcsesp.com



PCS provides consultants for precipitators, baghouses, and scrubbers to coal fired power plants providing:

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- Performance prediction modeling
- Gas flow modeling (physical cold flow and CFD's)
- Onsite inspections services
- Technical advisors for outages
- Engineering services

## RE Consulting.....54-55

3850 Bordeaux Drive  
Northbrook, IL 60062  
Gary D. Reinhold, President  
gary.reinhold@reconsulting.info  
Business: 847-477-8540  
www.reconsulting.info



RE Consulting is a division of Reinhold Environmental Ltd., a corporation which continues to provide numerous O&M services to the coal-burning utility industry since 1993. Using its team of industry experts, RE Consulting's current focus is to provide engineering studies, on-site training, and O&M based troubleshooting and consulting. In addition, RE Consulting provides training via its state-of-the-art, on-line training manuals.

## Redkoh Industries.....44

300 Valley Road  
Hillsborough, NJ 08844  
Paul Ford, President  
paul.ford@redkoh.com  
Business: 908-369-1590  
www.redkoh.com



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# 2016 APC-Wastewater Round Table Exhibitors

## Southern Environmental, Inc.....31-32

6690 West Nine Mile Road  
Pensacola, FL 32526  
Michael R. Johnson, Director Sales & Marketing  
apcsales@sei-group.com  
Business: 850-944-4475  
www.southernenvironmental.com



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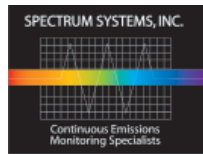
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P. O. Box 55305  
Birmingham, AL 35255-5305  
Laura Berry  
Manager, Business Development  
lberry@southernresearch.org  
Business: 205-914-9348  
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Southern Research is a leading non-profit research organization of scientists and engineers working to solve energy and environmental challenges. We partner with private sector clients and government agencies to assess and develop new-to-the-world technologies for clean energy, clean air, and clean water.

## Spectrum Systems, Inc.....13

3410 West Nine Mile Road  
Pensacola, FL 32526  
Richard Blanchard, Sales Manager  
ssi.cems@gmail.com  
Business: 850-944-3392  
www.spectrumsystems.com



Manufacturer of Continuous Emission Monitoring Systems, Continuous Opacity Monitoring Systems, Data Acquisition and Reporting Systems which comply with Federal, State, and Local regulations, as well as Process Monitoring Systems for SCR, FGD, and Boiler Control. Also provides preventive and emergency service, troubleshooting, training, consulting, repairs, spare parts, and Certification and Compliance testing.

## STEAG SCR-Tech.....37

304 Linwood Road, P.O. Box 1727  
Kings Mountain, NC 28086  
Dorothee Kulifay, Marketing Manager  
d.kulifay@steagscrtech.com  
Business: 704-734-0688 ext 259  
www.steagscrtech.com



STEAG SCR-Tech, Inc. is a worldwide leader in SCR catalyst regeneration, on-line and in-situ SCR catalyst cleaning technology and systems and SCR management including catalyst testing with data interpretation and catalyst exchange strategies services. Additional products and services include engineering, design and EPC supply services for SCRs, SNCRs, ammonia systems and LPA screens; SO<sub>2</sub>, SO<sub>3</sub> and mercury control/testing as well as FGD wastewater treatment systems. STEAG SCR-Tech, Inc. was recently created in a friendly merger of equals between SCR-Tech LLC and STEAG Energy Services LLC. SCR-Tech LLC is owned by Energy Capital Partners, a \$13 billion dollar private equity firm, focused on the power generating sector. STEAG Energy Services LLC is the North American subsidiary of STEAG Energy Services GmbH, which is a wholly owned subsidiary of STEAG GmbH.

## Stein Industries Inc.....45-46

19 Artisans Crescent  
London, Ontario, Canada N5V 5E9  
Bill Cooke - Contract Administrator  
info@steinindustriesinc.com  
Business: 519-659-3659  
www.steinindustriesinc.com



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## Stock Equipment.....16

16490 Chillicothe Rd.  
Chagrin Falls, OH 44023  
Mike Volker, Business Development Manager  
stock.sales@stockequipment.com  
Business: 440-543-6000  
www.stockequipment.com



Stock Equipment knows ESPs. Stock's ESP solutions manage, evaluate, maintain and enhance ESPs. Our ESP services encompass the areas of environmental compliance, maintenance, operation, monitoring and reporting. Stock manufactures ModuPower™ MPX switch mode power supply, automatic voltage controls, rapper controls, TR sets and FORRY™ Net DCU/MIU. FORRY™ Net Precipitator Supervisory Control System provides simple, one-click operation for the entire ESP control system.

## United Conveyor Corporation.....2

2100 Norman Drive W  
Waukegan, IL 60085  
Jon Norman  
jonnorman@unitedconveyor.com  
Business: 847-473-5900 / www.unitedconveyor.com



United Conveyor Corporation is a global leader in material handling and multi-pollutant emissions control systems for the power generation industry. Our in-depth knowledge of regulatory compliance and expertise in material behavior, product innovation and system development provides customers with comprehensive, cost-effective solutions specific to their individualized and complex plant needs.

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jknotts@wlgore.com  
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**2017 APC-Wastewater/PCUG Conference**  
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# Treasure Hunt!


Utility attendees - look for the treasure hunt card inside your name tag. Search the expo for the answers. Place your completed card in the box at the registration desk by 3:30 Tuesday afternoon. Drawing for prizes will be held in the expo hall at 3:45 pm.

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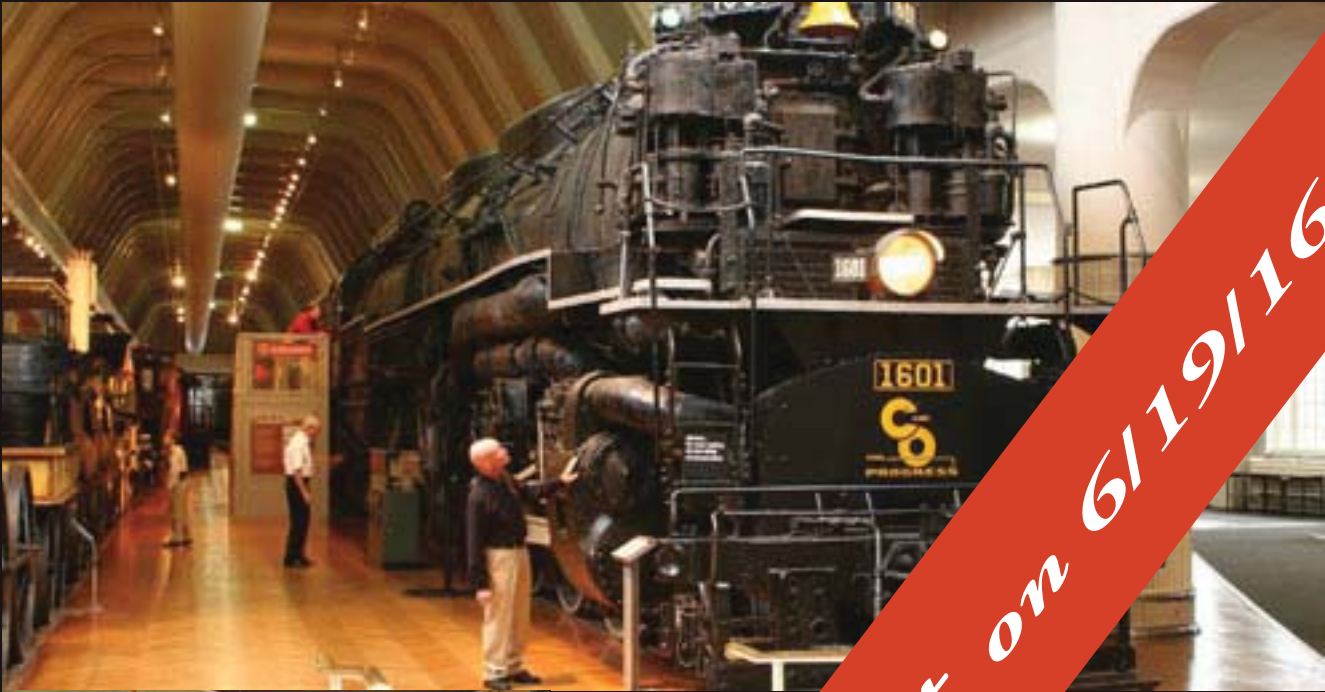


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