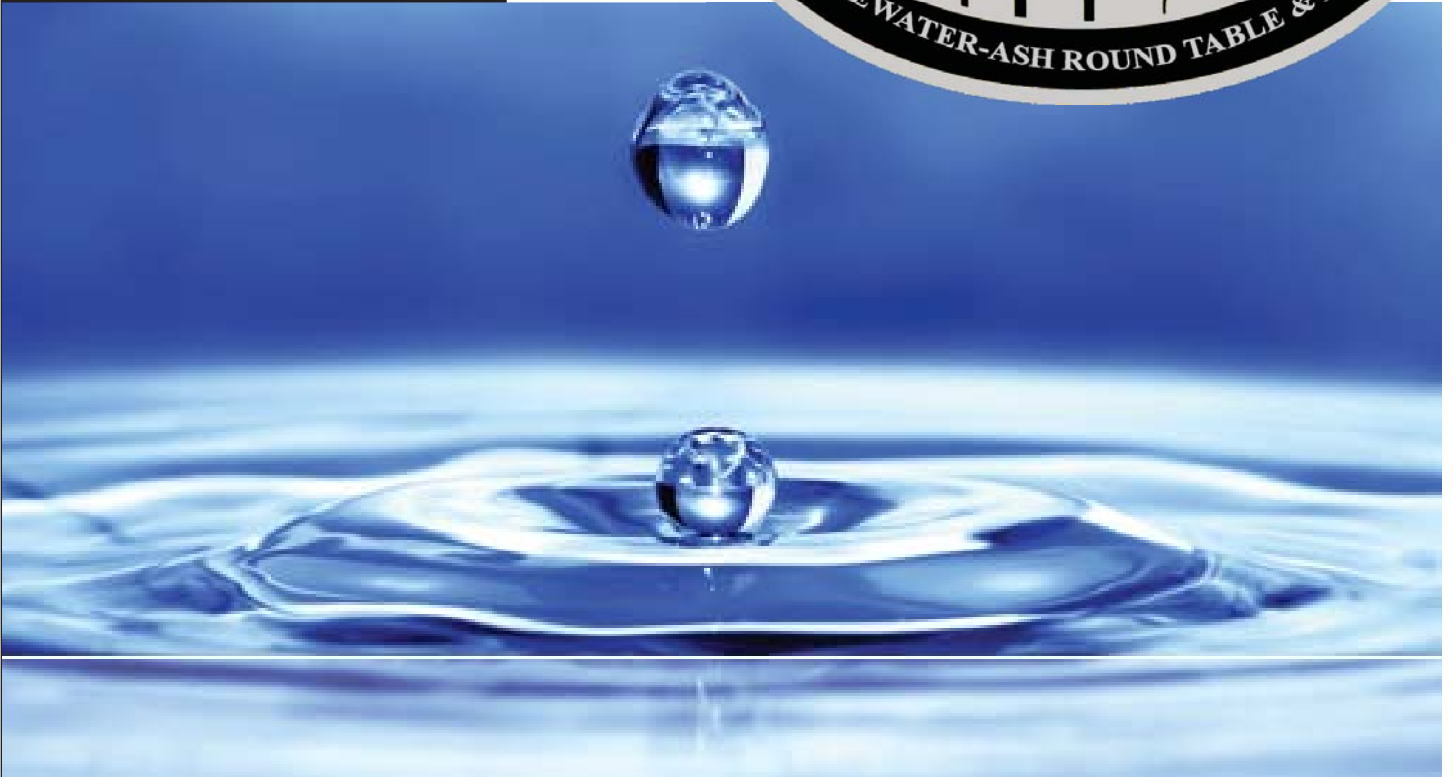


Presented by  
Reinhold Environmental



Hosted by  
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# *Wastewater-Ash Round Table & Expo*

*Show Guide*  
**2014**



# 2014 Wastewater-Ash/PCUG Conference

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

Hosted by Southern Company

*Special thanks to the Conference Exhibitors and Utility Host*



## 2014 PCUG Steering Committee



**American Electric Power**  
Ken Fast, Project Manager  
Doug Ritzenthaler, Lead Engineer  
Chao Lin, Senior Engineer

**FirstEnergy Corp**  
Doug Hartman, Mgr. Envir. Field Operations



**Ameren**  
Tom Callahan, Managing Supervisor  
Roger Ferguson, Env. Controls Specialist

**Gulf Power Company**  
Dwain Waters, Special Proj. & Envir. Assets



**Arizona Public Service**  
Bruce Salisbury, Engineering Supervisor

**Minnesota Power**  
Rick Fannin, Operations Supt.



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Dan Fahrner, Dir. - Environmental, Fossil  
Grant Hilbers, Principal Engineer

**Orlando Utilities Commission**  
Tony Engelmeyer, Project Engineer



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George Valentine, Technical Consultant  
Scott Lawton, Mgr - Fuels & Envir Excel.

**PacifiCorp**  
Greg Betenson, Principal Engineer  
Zac Phelps, Emissions Control Engineer



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John Walker, Senior Engineer  
Mike O'Connor, SCR SME  
Tom Weir, SCR Engineering  
Ron Laws, Consulting Engineer  
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Gerry Klemm, Tech Principal  
Mike Nelson, Mgr. Air & Gas Systems  
Darryl Wall, Process Engineering Manager  
April Freeman Sibley, Engineer  
Ryan Thomas, Water Strategy Manager



**East Kentucky Power**  
Brandon Bettinger, Engineer

**STEAG GmbH**  
Kai Brackler, Plant Manager



**Entergy**  
Joseph Hantz, Mgr. of Environmental

**TVA**  
Melissa Allen, FGD System Engineer



**ESKOM**  
Ebrahim Patel, Sr. Consultant APC

**WE Energies**  
John Nepscha, Principal Engineer



# Wastewater-Ash/PCUG Conference Agendas

Sponsored by Southern Company

September 22-23, 2014 / Ross Bridge Hotel

## Monday - September 22, 2014 - Round Table

7:30-8:00	<b>Registration and continental breakfast</b>	
8:00-8:15	<b>Welcome, Safety Note</b> by Southern Company / Reinhold Environmental	
8:15-9:00	<b>Update on Effluent Limitation Guidelines Rule (ELG)</b> by Colin Enssle, GE Power and Water	
9:00-9:45	<b>Update on Coal Combustion Residual Rule (CCR)</b> by Greg Nadeau, WorleyParsons	
9:45-10:15	<b>Break</b>	
10:15-11:00	<b>Water Energy Nexus</b> by Mark Berry, SRI	
11:00-11:30	<b>Selenium Removal Technologies</b> by Chuck Blumenschein, Veolia	
11:30-12:30	<b>Lunch for all attendees</b>	
	<b>Track I</b>	<b>Track II</b>
12:30-1:15	<b>Evolution of Geoenvironmental Challenges</b> by Rob Howell, Anchor QEA	<b>Reuse and Recovery Technologies</b> by Dean Ritts, WorleyParsons
1:15-2:00	<b>The CCR Rule: A Focus on Groundwater Monitoring &amp; Remediation</b> by Katie Bland, Burns & McDonnell Engineering	<b>Water Availability, Conservation and Management</b> by Robert Goldstein, EPRI
2:00-2:45	<b>Solidification and Stabilization</b> by Susan Longo, Golder	<b>FGD Chemistry Optimization</b> by Shannon Brown, B&W
2:45-3:15	<b>Break</b>	
3:15-4:00	<b>Closure – Remediation/Corrective Action</b> by Vito Schifano, Golder	<b>FGD Operations and Waste Water Impacts</b> by Dan Johnson, B&W
4:00-4:45	<b>Dewatering Options for Ash Basin Owners</b> by Dennis O'Brien, Veolia	<b>Zero Liquid Discharge Solutions for Power Plants</b> by Phil Rader, Alstom
4:45-5:30	<b>Options, Consideration and Implications of Bottom Ash Transport Conversions</b> by Kevin McDonough, UCC	<b>New Lower-cost and Simpler Technology for WWT and ZLD Treatment</b> by Gordon Maller, URS
5:30-6:30	<b>Reception in Expo for all attendees and families</b>	

## Tuesday - September 23, 2014 - PCUG Meeting (users only)

8:00-8:30	<b>Registration</b>
8:30-9:00	<b>Welcome / Guidelines for PCUG / Safety Message</b> by Ryan Thomas, Southern Company
9:00-10:00	<b>Land and Water Presentation</b> by Bill Kennedy, Duke Energy
10:00-10:30	<b>Break</b>
10:30-11:30	<b>Water Research Presentation</b> by Morgan French, Southern Company
11:30-12:30	<b>Lunch for all PCUG</b>
12:30-2:00	<b>Panel on CCR / Chaired by Greg Whetstone, Southern Company</b> Panelists: Bill Kennedy, Duke; Jim Pegues, Southern Company; Tommy Ryals, Alabama Power
2:00-2:30	<b>Break</b>
2:30-4:00	<b>Panel on ELG / chaired by Lindy Johnson, TVA</b>
4:00-5:00	<b>Discussion on Water &amp; Ash Management / moderated by Ryan Thomas, Southern Company</b>

# Workshops and Panels

Monday, September 22, 2014

**8:15 to 9:00 am**

**“Update on Effluent Limitation Guidelines Rule (ELG)”** by *Colin Enssle, GE Power and Water*

The U.S. EPA’s Steam-Electric Effluent Limit Guidelines (ELGs) have been looming over the industry for years, but look to be going final in September 2015. From a policy and technical perspective, this rule will have many ramifications. This presentation will discuss the policy around the ELGs and some of the projected impacts.

**9:00 – 9:45 am**

**“Update on Coal Combustion Residual Rule (CCR)”** by *Greg Nadeau, WorleyParsons*

This presentation covers the history and time line of the coal combustion residual rule. The rule is not finalized so the presentation will focus on potential impacts to the utility industry along with the interconnection between these regulations and other EPA proposed regulations.

**10:15 – 11:00 am**

**“Water Energy Nexus”** by *Mark Berry, Southern Research Institute*

This presentation will provide an overview of various organizational viewpoints (International, government, non-governmental agencies, state regulators, etc...) on the topic. Regulators are adopting the viewpoint that water and energy are deeply connected and sustainable management of either resource requires mutual consideration. A summary of the topic and the viewpoints of various stakeholders are vital to understanding the water-related regulatory direction in the power sector.

**11:00 – 11:30 am**

**“Selenium Removal Technologies”** by *Chuck Blumenschein, Veolia*

This presentation will review currently available biological and physical chemical Selenium removal technologies. It will also attempt to address the ability of these technologies to meet new effluent guideline limitations.

## LUNCH in Exhibition Hall

**12:30 am – 1:15 pm**

**Track I: “Evolution of Geoenvironmental Challenges”** by *Rob Howell, Anchor QEA*

The imminent Coal Ash Rule and Effluent Limitations Guidelines Rule will have a tremendous impact on wastewater and solid waste management at coal-fired power plants. Emerging geoenvironmental challenges associated with these rules will be discussed, such as groundwater monitoring; pond dewatering and closure; stacking ash on top of closed ponds; corrective action for contaminants associated with ash and gypsum; implementation of corrective action during and post-closure; contaminated sediment management; and deep well injection of wastewaters.

**Track II: “Reuse and Recovery Technologies”** by *Dean Ritts, WorleyParsons*

During this presentation on treatment systems and technologies used to reuse or recover power plant wastewaters, systems discussed will be as complex as a ZLD unit or as simple as Oil Water separators and pH adjustment systems. This talk will also explain the importance of having a holistic approach to the selection and implementation of re-use and recovery technologies.

**1:15 – 2:00 pm**

**Track I: “The CCR Rule: A Focus on Groundwater Monitoring & Remediation”** by *Katie Bland, Burns and McDonnell Eng.*

Whether the EPA elects to categorize CCRs under Subtitle C or Subtitle D, it is clear that either option will require groundwater monitoring at new CCR landfills and impoundments. This presentation will review the proposed rule and its potential implications for groundwater monitoring and potential groundwater remediation at coal-fired plants.

**Track II: “Water Availability, Conservation and Management”** by *Robert Goldstein, EPRI*

This presentation will draw on EPRI research to address the following topics:

- Assessment of freshwater withdrawal and consumption throughout the U.S.;
- Utilization of non-traditional water resources in lieu of freshwater;
- Trends in quantity and quality of U.S. freshwaters;
- Decision support systems for evaluating local long-term water resource management options, and
- Breakthrough cooling technologies for thermoelectric generation.

# Workshops and Panels

**2:00 – 2:45 pm**

**Track I: “Solidification/Stabilization”** by Sue Longo, Golder

This session will look at the technology options available to deal with existing operations and the potential transitions to dry ash disposal, rehabilitation of “legacy” ash slurry ponds and future reclamation and closure requirements. The focus will be on paste technology for in-situ treatment or removal and treatment for stabilization along with the testing, design and construction considerations for these technology options.

**Track II: “FGD Chemistry Optimization”** by Shannon Brown, Babcock & Wilcox

This presentation will discuss wet FGD chemistry, with focus on oxidation reduction potential (ORP) and its effects upon waste water composition. Overall system impacts and causes of high ORP conditions are reviewed. Absorber slurry sampling, analysis and additive use are discussed.

**3:15 – 4:00 pm**

**Track I: “Closure – Remediation/Corrective Action”** by Vito Schifano, Golder

The integration of pond closure plans and remedial corrective actions is a key factor for a successful closure to minimize long term liabilities at CCR sites. The session will focus on solidification / stabilization as an integrated approach to simultaneously address environmental issues related to migration of toxic constituents in soil and groundwater and geotechnical stability issues related to pond closure plans.

**Track II: “FGD Operations and Waste Water Impacts”** by Dan Johnson, Babcock & Wilcox

This presentation will discuss wet FGD operations and optimization. It will provide a system view and a holistic view of the AQCS train with strategies that may be taken to control wet FGD bleed composition. Use of a system optimizer for improved waste water chemistry and reduced O&M costs will be discussed.

**4:00 – 4:45 pm**

**Track I: “Dewatering Options for Ash Basin Owners”** by Dennis O’Brien, Veolia

This session will review a variety of dewatering options with an emphasis on mechanical dewatering.

**Track II: “Zero Liquid Discharge Solutions for Power Plants”** by Phil Rader, Alstom

Expected modifications to EPA liquid effluent discharge requirements along with economic incentives and environmental stewardship have increased the need for power plants to develop strategies and take actions to address liquid discharges from WFGD systems. This presentation will review overall strategies to address this need and will focus on the use of direct evaporation of WFGD waste water via spray drying. Two installations and operations of systems that reduce and eliminate WFGD waste water using proven dry FGD-type equipment at the 825 MW Cliffside 6 plant and at another major Eastern US power plant will be presented.

**4:45 – 5:30 pm**

**Track I: “Options, Consideration and Implications of Bottom Ash Transport Conversions”** by Kevin McDonough, UCC

With the forthcoming final issue of the proposed EPA Coal Combustion Residual (CCR) rules in December 2014 and the Steam Electric Power Effluent Limitations Guidelines (ELG) in September 2015, plant owners are now beginning to consider the technical alternatives and approximate costs to comply with the regulations. Each installation must consider a wide variety of technical and economic criteria to determine the optimal solution for a given plant, and “one size does not fit all.” Relative to the implications of potential changes to existing bottom ash handling systems, UCC will present and discuss a wide variety of technical wet-to-dry conversion solutions to help develop short and long range plans to achieve compliance in the most cost-effective manner.

**Track II: “New Lower-cost and Simpler Technology for WWT and ZLD Treatment”** by Gordon Maller, URS

As utilities struggle to comply with the proposed ELG rules, new treatment approaches and technologies are needed which are simpler and less expensive to operate, and require less capital to install. Some of these new technologies will result in pollutants being transferred from the wastewater to solid waste streams. The stability of the solid byproducts will pose additional challenges for utilities as they attempt to comply with the new regulations. This presentation will provide an overview of the new technologies that are being reported and will present data on the stability of the byproducts and the feasibility of the technologies.

**Reception in Exhibition Hall for all attendee and families**

# 2014 Wastewater-Ash Round Table Exhibitors

## Allen-Sherman-Hoff.....13

457 Creamery Way  
Exton, PA 19341  
Dave Hohl  
dahohl@a-s-h.com  
Business: 888-274-7278  
www.a-s-h.com



Allen-Sherman-Hoff provides a variety of ash and material handling solutions, from completely dry bottom ash handling to fly-ash and petroleum coke processing. A-S-H designs custom systems to meet nearly any ash handling need – from testing and research to startup and training.

## Burns & McDonnell.....2

9400 Ward Parkway  
Kansas City, MO 64114  
Joey Mashek, Business Development Manager  
Business: 816-823-7155  
www.burnsmcd.com



Founded in 1898, Burns & McDonnell is a full-service engineering, architecture, construction, environmental and consulting solutions firm. With the multidisciplinary expertise of more than 4,300 employee-owners in more than 30 offices, Burns & McDonnell plans, designs, permits, constructs and manages facilities worldwide with one mission in mind — to make our clients successful.

## Clyde Bergemann Power Group.....11

4015 Presidential Pkwy  
Atlanta, GA 30340  
Jim Connor, VP Sales  
info@us.cbpg.com  
Business: 770-557-3600 / www.cbpg.com



Clyde Bergemann Power Group is a globally active enterprise supplying systems and solutions for the energy services market. Clyde Bergemann is world market leading in several business fields and is mainly active in boiler efficiency; on-load boiler cleaning; material handling; air pollution control; air-gas handling; combustion optimization and emission control.

## Golder Associates.....10

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Manitia Moultrie, US Power Sector Leader  
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Business: 813-287-1717 / www.golder.com



As a global, employee-owned organization with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

## Industrial Services Group, Inc.....1

318 Neeley Street  
Sumter, SC 29150  
info@isginc.us  
Business: 803-773-6388  
www.isginc.us



ISG's Compositech fabricates, installs, & services FRP process piping, pipe supports, tanks, hoods, ductwork & vessels up to 50' diameter on site or in our facility. Our composite manufacturing capabilities in addition to FRP include: Furan Composites, Dual-laminates, Fluoropolymers and Thermoplastics. ISG's Universal Blastco delivers heavy industry's broadest experience in corrosion control specializing in protective lining systems delivering high performance corrosion and abrasion resistant resinous / laminate and ceramic tile lining & coating systems. ISG's Unimech provides specialty turnkey mechanical construction and maintenance services.

## RE Consulting.....6-7

3850 Bordeaux Drive  
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Gary D. Reinhold, President  
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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.

## Southern Research Institute.....12

Power Systems and Environmental Research  
P. O. Box 55305  
Birmingham, AL 35255-5305  
Mark Berry, Director  
berrym@southernresearch.org  
Business: 205-581-2102 / www.southernresearch.org



Established in 1941 as a private, not-for-profit (501-c-3) research institute in Birmingham, Alabama, Southern Research is experienced in managing research programs and comprehensive, multi-disciplinary teams. Southern Research is conducting cutting edge research for the management of high salt residuals (solids and concentrated brines) from the coal-fired power industry and the upstream oil and gas industry, focusing on the immobilization of contaminants from these high-salt wastes. Southern Research also performs leaching tests on solid wastes per the new leaching environmental assessment framework (LEAF) protocol.

## Regal Brown, A Rawson Company.....9

26374 Pollard Road, P O Box 1044  
Daphne, AL 36526  
rbmail@rawsonlp.com  
Business: 251-626-1929 / www.regal-brown.com



Regal Brown a Rawson Company has been a combined provider of Instrumentation, Process Control and Filtration Systems for over 35 years. As a manufacturer's representative, Regal Brown has established itself as an industry leader in the Southeast. Quality products from respected manufacturers and our attention to the needs and feedback of our clients set us apart from the rest. With offices located throughout the Southeast, you can always be sure that service and support is never far away.

## Veolia.....15

250 Airside Drive  
Moon Township, PA 15108  
Michael Reyes, Director – Business Development  
michael.reyes@veolia.com  
Business: 704-650-0881  
www.veoliawaterstna.com/markets/power  
www.veoliaes.com/en/about-us/features/dryash.html



Veolia is the global leader in environmental and water services, ranked Fortune 500's No. 376, posting \$32B 2013 revenue with approximately 200,000 people dedicated to Customer satisfaction. For the power market our leading technologies include Actiflo® Ballasted Clarification and our high rate 10 micron Hydrotech™ Disc Filtration when high performance, small footprint, quick startup, and the ability to handle varying inlet water/wastewater qualities are needed. Expertise and technologies are also available for trace metals removal, selenium treatment, and zero liquid discharge. For coal ash management, DryAsh™ provides a high rate ash solids dewatering service custom engineered using state of the art technology that removes the ash from the ash basin and produces a dry cake ready for transport. Integrated solutions are available for turn-key permanent installations or mobile rental including operations if desired.

# 2014 Wastewater-Ash Round Table Exhibitors

WorleyParsons.....8

2675 Morgantown Road  
Reading PA 19607  
Gary Tonnemacher

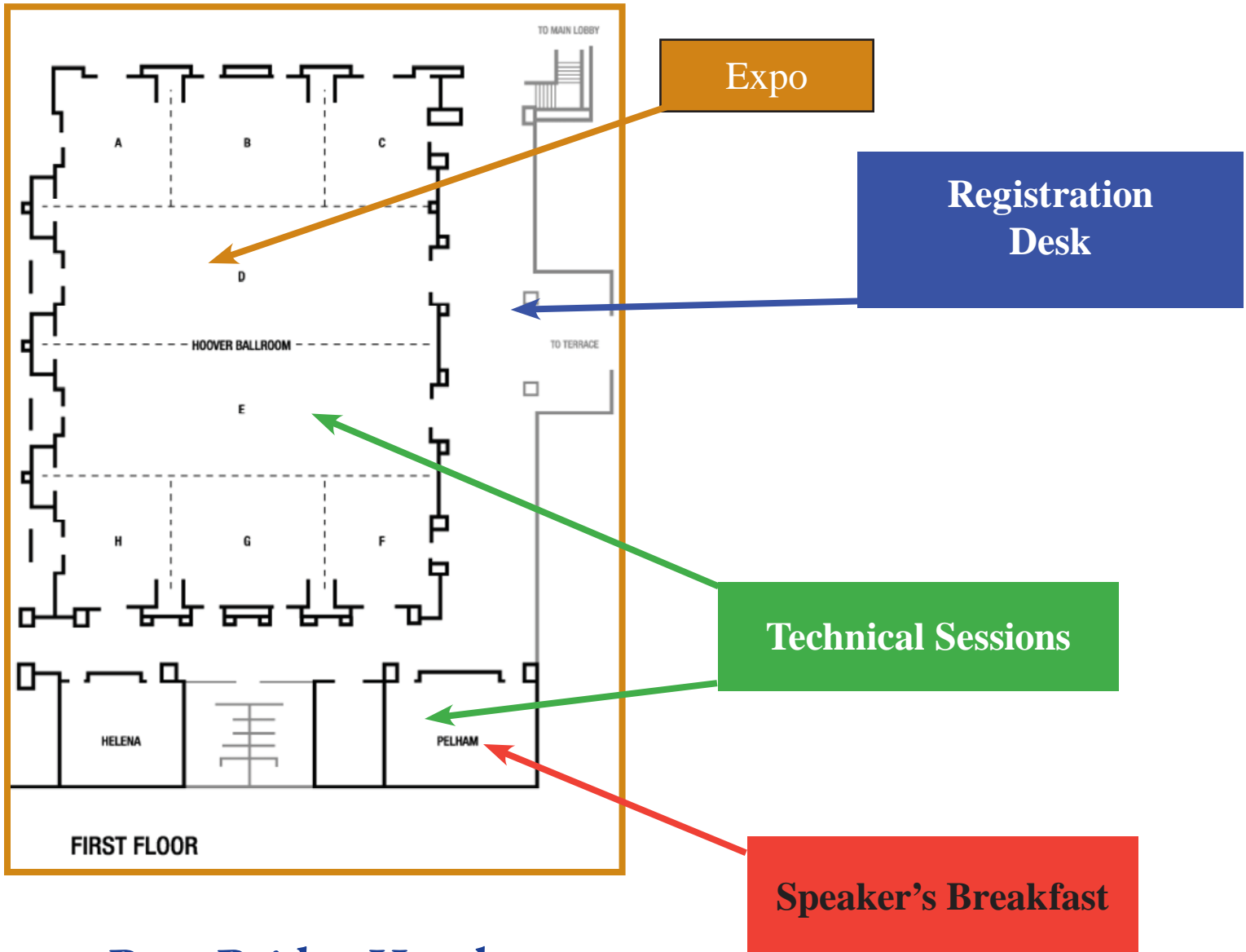


**WorleyParsons**

resources & energy

Director, Business Development  
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WorleyParsons is an industry leader in power project delivery and professional services. WorleyParsons provides innovative power solutions that result in on-time delivery, cost savings, and risk reductions. Our solutions improve the performance of existing assets, reduce water footprints, and meet the growing demand for environmental and profitable sustainability across the full asset spectrum, both in size and lifecycle. WorleyParsons' full range of power services and experience is driven by our customers' needs and tailored to optimize project results. WorleyParsons is ranked the #1 Top International Design firm by Engineering News-Record (ENR 2014) for the second year in a row.



## Ross Bridge Hotel Hoover Ballroom

# 2015 Upcoming Conferences



## 2015 NO<sub>x</sub>-Combustion PCUG Conference

*Hosted by Dominion*

February 23-26, 2015  
Omni Richmond Hotel  
Richmond, VA

*Presented by*  
**Reinhold  
Environmental**

## 2015 APC/PCUG Conference

*Hosted by Southern  
Company*

July 13-16, 2015  
Hyatt Regency Atlanta  
Atlanta, GA



[www.reinholdenvironmental.com](http://www.reinholdenvironmental.com)

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