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**30th
REINHOLD
Round Table
& Expo**

**Coal & Gas
Co-firing; Air Pollution Control
Waste Water Treatment**

Show Guide

2023

Smarter catalysts: two in one Better emissions compliance

Clean air is our business. The GTC-802 (NO_x/CO-VOC) "Dual Function" catalyst will help your plant meet stricter emission standards while improving performance and profitability. **GTC-802 combines two catalysts in one, delivering both superior NO_x reduction and outstanding CO and VOC oxidation.** Lowest pressure drop, near zero SO₂ oxidation and reduced ammonia slip add up to improved heat rate, increased power output and fewer cold-end maintenance issues. GTC-802 is positioned downstream of the ammonia injection grid in the same location as the current SCR catalyst. As an added benefit, the catalyst allows direct injection of liquid ammonia or urea in place of the traditional vaporized ammonia.

2023 REINHOLD/PCUG Conference



presented by Reinhold Environmental (www.reinholdenvironmental.com)
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2023 REINHOLD Round Table

June 26-27, 2023, The Westin Cincinnati, Cincinnati, OH

June 26, 2023 - Monday - REINHOLD Round Table

Registration & Continental Breakfast in expo (Presidential Ballroom) begins at 7:00am

	Wastewater/Scrubber/ELG	SCR/SNCR/DSI	Particulate/Fuels	Gas/SCR/CO
8:00-9:00	Workshop 1 (Presidential Ballroom 3)	Workshop 2 (McKinley Room)	Workshop 3 (Garfield Room)	Workshop 4 (Hayes Room)
	An Innovative and Economical Approach to CCR Surface Impoundment Dewatering <i>by Morgan French, UCC Environmental</i>	Back to the Basics: Fundamentals in SCR Catalysts and New Trends <i>by Scott Hinton, WSHintin and Assoc</i>	ESPs, Their Operation and Needs <i>by Russ Ridgeway, Shel-B EE Consulting</i>	Achieving Maximum DeNOx Performance on CCGT's Using Current SCR Technology <i>by Wayne Jones, Umicore</i>
9:15-10:15	Workshop 5 (Presidential Ballroom 3)	Workshop 6 (McKinley Room)	Workshop 7 (Garfield Room)	Workshop 8 (Hayes Room)
	Novel Approaches to ELG Compliance <i>by Claire Schmit, AECOM</i>	Improving Plant Performance with Reliable, Low Cost DSI System Retrofits <i>by Mark Thomas, Mark Thomas & Associates Consulting</i>	Electrostatic Precipitation Inspection & Maintenance <i>by Tim Mallory, Air Advantage</i>	New Technologies to Meet More Challenging Emission Limits on CCGT's <i>by Craig Sharp, Umicore</i>
10:15-11:00	Break in Exhibition Hall (Presidential Ballroom)			
11:00-12:30	Presidential Ballroom 3			
	Awarding Round Table Awards: <i>Chad Donner, Tim Mallory, John McKenna (posthumous)</i> Keynote Speaker: The Continuing Evolution of Environmental Performance in the Electric Generating Industry <i>by Michael Geers, Duke Energy</i>			
12:30-1:30	Lunch in Exhibition Hall (Presidential Ballroom)			
1:30-2:30	Workshop 9 (Presidential Ballroom 3)	Workshop 10 (McKinley Room)	Workshop 11 (Garfield Room)	Workshop 12 (Hayes Room)
	The CCR Leachate Debate -- Achieving Clarity with Effluent Limitations Guidelines (ELGs) <i>by Lindy Johnson, Stantec</i>	Media Cleaning SCR Catalyst for High Dust Applications: Industry Observations and Best Practices <i>by Noel Rosha, Ceram; Elizabeth Danielson, OPPD</i>	FF Lessons Learned <i>by Ryan Abel, BWF Envirotec</i>	Considerations for New HRSG SCR's <i>by Michael Allen, Vogt</i>
2:45-3:45	Workshop 13 (Presidential Ballroom 3)			
	Reliability During the Energy Transition Challenges around the World <i>by Michael Caravaggio, Director Thermal Fleet EPRI</i>			
3:45-4:30	Break in Exhibition Hall (Presidential Ballroom)			
4:30-5:30	Workshop 14 (Presidential Ballroom 3)	Workshop 15 (McKinley Room)	Workshop 16 (Garfield Room)	Workshop 17 (Hayes Room)
	Success with Ice Blasting Air Heater Baskets <i>by Joseph Skipper, Cormetech</i>	Flexible Good Neighbor NOx Compliance <i>by Blake Stapper, Messer</i>	Impulse Cleaner Benefit with High Fouling Fuels <i>by Adam McClellan and Vince Barreto, Storm Tech.</i>	Combined SCR/CO Catalyst Performance <i>by Dan Johnson, Cormetech</i>
5:30-6:30	Reception in Exhibition Hall (Presidential Ballroom)			

June 27, 2023 - Tuesday - REINHOLD Round Table

Registration & Continental Breakfast in expo from 7:00 to 8:30 (Presidential Ballroom)

	SCR/SNCR/DSI	Particulate/Fuels	Gas/SCR/CO
8:00 - 9:00	Panel I (Presidential Ballroom 3)	Workshop 18 (McKinley Room)	Workshop 19 (Hayes Room)
	ELG Status <i>Chairman: Will Stevick, Stantec Cooper / Panelists: Mike Surface, Dominion; Derek Henderson, Duke; Chris Cagle, Southern Company</i>	Meeting New GNP NOx Limits: How to Get More Out of Your SCR <i>by Andrew Kline, IGS</i>	Proposed New MATS Rule Revisions <i>by John Arnold, MSI</i>
9:15 - 10:15	Workshop 20 (Presidential Ballroom 3)	Workshop 21 (McKinley Room)	Workshop 22 (Garfield Room)
	SNCR in an OTR World <i>by Joseph Betenson, PacifiCorp</i>	Ammonia Injection System Tuning to Maintain Emission Controls <i>by Darren Hanby, AEP</i>	Fuel Switching/co-firing and Fuel Conversion Issues <i>by Max Bernau, AECOM</i>
10:15-11:00	Break in Exhibition Hall (Presidential Ballroom)		
11:00-12:15	Panel II (Presidential Ballroom 3)		
	New, Upcoming and Proposed Regulations for Coal and Gas / <i>Chairman: Chad Donner, Duke Energy</i> <i>Panelists: Michael Caravaggio, EPRI; Sean Behm, Vistra; Ed Healy, Southern Company; John Brotherton, Duke Energy; Doug Ritzenthaler, AEP; Mike Surface, Dominion</i>		
12:15-1:45	Lunch in Exhibition Hall (Presidential Ballroom)		
1:45-2:45	Workshop 24 (Presidential Ballroom 3)	Workshop 25 (McKinley Room)	Workshop 26 (Garfield Room)
	Good Neighbor Plan <i>by Olivia Ambuehl, Dominion</i>	Jeopardy: DSI Edition <i>by Ian Saratovsky and Jerry Hunt Lhoist North America</i>	Co-firing: Good & Bad <i>by John Massey, Alabama Power</i>
2:45-3:30	Break in Exhibition Hall - drawing Treasure Hunt Winners (Presidential Ballroom)		
3:30-5:00	Panel III (Presidential Ballroom 3)		
	Maintenance Strategies Under Current Operating Status <i>Chairman: Ann Palmer, Southern Company / Panelists: John Brotherton, Duke; Matt Wilson, TVA; Ben Albright, Vistra; Haley Turner, LG&E/KU</i>		
5:30-9:00	<p>Conference Event for Delegates & families at Rhinegeist Brewery - Clubhouse Drinks and Dinner: 6:00-7:00 / Buses start leaving from Westin at 5:30pm Lagar Cellar Historical Tours / Buses load at 7:00, 7:15, 7:30PM</p>		

Workshops and Panels

Congratulations to Chad Donner and Tim Mallory
and John McKenna (posthumous)
this year's awardees

Round Table Lifetime Achievement Awardees



**Ron Laws, Mark Thomas
Darryl Wall, Curt Biehn
John Brotherton, Blake Stapper
Melissa Allen; Sharon Sjoström
Randy Fields; Gary Tonnemacher
Doug Hartman; Dan Steinhaur
Darren Hanby; Nate White
Melanie McCoy; Per Ranstad;
Tony Engelmeyer; Connie Senior;
Scott Thomas; Robert Crynack; Paul Ford;
Michael O'Connor; Cindy Khalaf; Ron Richard;
John Walker; Gordon Maller; Steve Wolsiffer;
George Valentine; James Chaney; Nancy Stephenson;
Bruce Salisbury; Greg Betenson; Greg Bielawski;
Gerry Klemm; Hans Hartenstein;
Ed Healy; Russ Ridgeway; Robert Taylor;
Rick Collins; Rob Mudry;
Scott Williams; Tony Licata;
James Benes; Scott Hinton;
Michael Nelson; Jean Bustard;
John Lytle; Ralph Altman;
Rod Hansen; Chairman Tal Woo Lee**

Workshops and Panels

Monday, June 26, 2023

8:00 to 9:00 am

Workshop 1: An Innovative and Economical Approach to CCR Surface Impoundment Dewatering by *Morgan French, UCC Environmental* (Presidential Ballroom 3)

A discussion and overview of UCC Environmental's innovative and economical approach to dewatering and material handling for CCR surface impoundments. This method of dewatering and material handling allows for economical and safe operation of saturated CCR materials. The ability to transport, dewater and remove CCR materials that are below groundwater tables, submerged below free water, or contain large quantities of interstitial water has been a constant issue on CCR impoundment closures. Safety concerns with liquefaction and lost equipment, delays in removal, and multi handling of materials all lead to long delays and elevated costs on closure projects. UCC's approach allows for continuous removal of ash even in CCR impoundments still dealing with significant amounts of free water and saturated ash. The end result is an economical approach that reduces delays, improves site safety, and dewater ash that can be immediately transported to its final destination.

Workshop 2: Back to the Basics: Fundamentals in SCR Catalysts and New Trends by *Scott Hinton, WS Hintin and Assoc.* (McKinley Room)

The basics of SCR catalysts will be discussed with a focus on various fundamental parameters and how they impact catalyst selection, operation, and management.

Workshop 3: ESP Their Operation and Need by *Russ Ridgeway, Shel-B EE Consulting* (Garfield Room)

Learn how your ESP operates and why it is important to your process. It is not an obsolete device.

Workshop 4: Achieving Maximum DeNOx Performance on CCGT's Using Current SCR Technology by *Wayne Jones, Umicore* (Hayes Room)

Part 1

This presentation will cover the major challenges to achieve ultra-high NOx and ammonia emission performance on CCGT's utilizing current technology. Specifically the importance of a well-designed and modeled ammonia delivery system and near zero flue gas bypass. Discussions will include key design considerations to achieve exceptional performance and current technology limitations will be revealed.

9:15 to 10:15 am

Workshop 5: Novel Approaches to ELG Compliance by *Claire Schmit, AECOM* (Presidential Ballroom 3)

This presentation will provide a discussion of the 2023 proposed changes to the ELG rule as well as novel approaches to achieve ELG Compliance. Case studies detailing selected novel approaches are included in the material.

Workshop 6: Improving Plant Performance with Reliable, Low Cost DSI System Retrofits by *Mark Thomas, Mark Thomas & Associates Consulting* (McKinley Room)

In this workshop recent and updated examples of reliable cost effective DSI system installations and retrofits will be presented. Modifications include new lances for significantly improved dispersion, simplified feed systems for reliable and accurate feed and multiple injection grids for improved unit operational flexibility.

Workshop 7: Electrostatic Precipitation Inspection & Maintenance by *Tim Mallory, Air Advantage* (Garfield Room)

A brief outline of maintenance issues of interest that arise as precipitators age, including mechanical failures, electrical failures, and some uncommon events, accompanied by methods to find and diagnose issues, and followed by an audience interactive session to discuss issues of interest.

Workshop 8: New Technologies to Meet More Challenging Emission Limits on CCGT's by *Craig Sharp, Umicore* (Hayes Room)

Part 2

The presentation will focus on meeting more stringent emission limits resulting from the burning of new fuels (i.e. hydrogen & ammonia) as well as higher NOx emission from newer large gas turbines. The discussion will include the details of a new patented SCR system that is capable of meeting or exceeding these higher DeNOx reduction requirements. Also new higher performance catalyst's for simple and combined cycle gas turbines will be discussed.

Workshops and Panels

Monday, June 26, 2023

11:00 to 12:30 am

Award Presentation: Round Table Awardees: Chad Donner, Tim Mallory and John McKenna (Presidential Ballroom 3)

Keynote Speaker: The Continuing Evolution of Environmental Performance in the Electric Generating Industry by *Mike Geers, Duke Energy* (Presidential Ballroom 3)

*******LUNCH in Presidential Ballroom (12:30 to 1:30pm)*******

1:30 to 2:30 pm

Workshop 9: The CCR Leachate Debate -- Achieving Clarity with Effluent Limitations Guidelines (ELGs) by *Lindy Johnson, Stantec* (Presidential Ballroom 3)

The US EPA is proposing new regulations for discharges of coal combustion residual leachate (CRL). Learn about the emerging issues surrounding CRL treatment and compliance with these proposed regulations.

Workshop 10: Media Cleaning SCR Catalyst for High Dust Applications: Industry Observations and Best Practices by *Noel Rosha, Ceram and Elizabeth Danielson, OPPD* (McKinley Room)

Media cleaning of SCR catalyst can be a useful tool to reduce catalyst pluggage and improve SCR performance, however understanding the benefits and limitations of media cleaning can help determine if it is a cost-effective solution for a given application. Omaha Public Power District (OPPD) and CERAM will present shared experiences with media cleaning, including realistic expectations, potential mechanical and chemical impacts to the catalyst, and incorporating media cleaning impacts into the catalyst management strategy.

Workshop 11: FF Lessons Learned by *Ryan Abel, BWF Envirotec* (Garfield Room)

Workshop 12: Considerations for New HRSG SCRs by *Michael Allen, Vogt* (Hayes Room)

Would you like to know what to consider when building new or retrofitting existing SCR systems for natural gas fired applications? Come learn from Vogt's experience! At this workshop we will be discussing the latest SCR improvements for new combined cycle, new simple cycle, and aftermarket retrofit applications as well as answering any questions you may have about HRSG SCR's.

2:45 to 3:45 pm

Workshop 13: Reliability During the Energy Transition Challenges around the World by *Michael Caravaggio, Director Thermal Fleet EPRI* (Presidential Ballroom 3)

A robust fleet approach to managing assets can provide resilience to a system to ensure reliability in the face of challenges such as those posed by the energy transition. This presentation will review recent issues affecting electricity supply across the world, such as Winter Storms in the US, the Energy Crisis in Europe, the suspension of the Electricity Markets in Australia, and the Reliability concerns in the Western US this summer and previous summers, among others, and attempt to draw lessons learned for utilities in the development of fleet strategies.

4:30 to 5:30 pm

Workshop 14: Success with Ice Blasting Air Heater Baskets by *Joseph Skipper, Cormetech* (Presidential Ballroom 3)

As regulations continue to mandate ash pond closures and strict limits on water discharge, the coal fleet is looking for an alternative method for cleaning air heaters while avoiding the use of large volumes of water. CORMETECH's patented dry ice blasting process has been successfully used to clean SCR catalyst for many years and now it is proving to be just as effective at cleaning air heater baskets. This presentation will detail several recent projects where dry ice blasting has been deployed to successfully clean air heater baskets.

Workshop 15: Flexible Good Neighbor NOx Compliance by *Blake Stapper, Messer* (McKinley Room)

The EPA estimates that 22MW of coal-fired generation will be retired or forced to install SCR to comply with the Good Neighbor Rule. The challenge for the industry is trying to weigh the significant investment cost for an SCR against the uncertainty of electrical demand, fuel costs and the potential that a future administration could provide regulatory relief. Ozone injection offers an alternative NOx control solution with a lower capital cost and the flexibility to accommodate market unpredictability.

Workshops and Panels

Monday, June 26, 2023
4:30 to 5:30 pm (cont.)

Workshop 16: Impulse Cleaner Benefit with High Fouling Fuels by Adam McClellan and Vince Barreto, Storm Tech. (Garfield Room)

By keeping the tube surfaces clean with the PowerPlus Impulse Cleaners, you can reduce pressure drops through the system and improve the heat transfer effectively dropping the gas outlet temperature which directly improves the heat rate of the boiler. This presentation will provide details surrounding the system and a review of two installations briefly discussed.

Workshop 17: Combined SCR/CO Catalyst Performance by Dan Johnson, Cormetech (Hayes Room)

As power generation shifts towards more flexibility, alternate fuels and lower emissions there are many considerations to make with respect to the impact on SCR. This presentation will address how recent catalyst technology advancements, such as Multi-Emission catalyst that can reduce NOx while also oxidizing CO/VOCs, can support the modern needs of gas turbine assets.

*******RECEPTION** in Presidential Ballroom (5:30 to 6:30 pm)*****

Tuesday, June 27, 2023
8:00 to 9:00 am

Panel I: ELG Status Panel / Chairman: Will Stevick, Stantee Cooper / Panelists: Mike Surface, Dominion; Derek Henderson, Duke; Chris Cagle, Southern Company (Presidential Ballroom 3)

The ELG Status Panel will discuss compliance strategies and challenges associated with the 2020 Effluent Limitations Guidelines for FGD Wastewater. The panel, comprised of four utilities, will also consider implications of the proposed 2023 ELG Rule requiring zero liquid discharge and its impacts on the remaining coal fired fleet.

Workshop 18: Meeting New GNP NOx Limits: How to Get More Out of Your SCR by Andrew Kline, IGS (McKinley Room)

Learn more about how the new NOx regulations will impact your SCR performance and explore strategies to cost effectively meet these requirements while maintaining reliable SCR and plant operation.

Workshop 19: Proposed New MATS Rule Revisions by John Arnold, MSI (Hayes Room)

EPA has proposed changes to the Mercury and Air Toxics Standards (MATS) rule for utility coal fired power plants. Rule includes minor revisions to mercury and startup/shutdown requirements but significant changes to particulate monitoring requirements and allowable particulate emissions. Presentation will review all changes but will focus discussion on changes and challenges in measuring and controlling particulate at proposed new limits.

9:15 to 10:15 am

Workshop 20: SNCR in an OTR World by Joseph Betenson, PacifiCorp (Presidential Ballroom 3)

Take a closer look into why a utility would opt for SNCR retrofits on coal boilers instead of getting SCRs. This paper will include a review of SNCR basics along with the challenges and opportunities provided in the context of a rapidly changing power generation asset portfolio.

Workshop 21: Ammonia Injection System Tuning to Maintain Emission Controls by Darren Hanby, AEP (McKinley Room)

This presentation discusses the importance of ammonia injection system tuning to attain your NOx reduction goals. Important factors such as knowing your system, methods of tuning, tuning strategies, as well as operational diagnostics will be covered. Reseas Cups will be provided.

Workshop 22: Fuel Switching/co-firing and Fuel Conversion Issues by Max Bernau, AECOM (Garfield Room)

This presentation will consider impacts on operation of fans and air pollution control equipment downstream of the boiler after a conversion to natural gas. Specific examples from past work will also be discussed.

Workshops and Panels

Tuesday, June 27, 2023

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

Workshop 23: Recent Experience with Pressure Wave Plus by *Mark Williams, GE* (Hayes Room)

GE offers a solution for effective cleaning of different heat recovery steam generator, boiler, and heat exchanger designs. PressureWave+ technology, developed by BANG&CLEAN® Technologies AG, uses controlled pressure waves to penetrate deep into areas that cannot be accessed by hand. The presentation will provide an overview of the PressureWave+ technology and share results from recent projects.

11:00 am to 12:15 pm

Panel II: New, Upcoming and Proposed Regulations for Coal and Gas / *Chairman: Chad Donner, Duke Energy*

Panelists: Michael Caravaggio, EPRI; Sean Behm, Vistra; Ed Healy, Southern Company; John Brotherton, Duke Energy; Doug Ritzenthaler, AEP; Mike Surface, Dominion (Presidential 3)

*******LUNCH in Presidential Ballroom (12:15 to 1:45pm)*******

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

Workshop 24: Good Neighbor Plan by *Olivia Ambuehl, Dominion* (Presidential Ballroom 3)

Workshop 25: Jeopardy: DSI Edition by *Ian Saratovsky and Jerry Hunt, Lhoist North America* (McKinley Room)

Think you know about dry sorbent injection (DSI) for acid gas abatement? Want to learn about DSI? Come learn and challenge yourself in this fun, informative game show format presentation. Teams will be formed and asked questions regarding DSI, Jeopardy-style. Prizes will be awarded to the winning team.

Workshop 26: Co-firing: Good & Bad by *John Massey, Alabama Power* (Garfield Room)

Workshop 27: Hydrogen Fuel 101 by *Emily Chatham, Southern Company* (Hayes Room)

How will hydrogen contribute to national decarbonization goals? This presentation will assess opportunities for hydrogen use across various sectors. It will also highlight upcoming hydrogen studies and projects in which Southern Company will participate.

*******Treasure Hunt Visa Cards Drawing in Presidential Ballroom (3:00 to 3:30 pm)*******

3:30 to 5:00 pm

Panel III: Maintenance Strategies Under Current Operating Status / *Chairman: Ann Palmer, Southern Company* / *Panelists:*

John Brotherton, Duke; Matt Wilson, TVA; Ben Albright, Vistra; Haley Turner, LG&E/KU (Presidential Ballroom 3)

The Maintenance Strategies for Coal Fired Units with Retirement Dates panel will include topics addressing challenges the utilities face in maintaining reliability on units that have limited budgets. The panel will consist of five utilities and discuss how each are addressing their maintenance strategies for these units going forward.

*******Conference Event*******

Buses will begin to load for Rhinegeist Brewery at 5:30 PM

Dinner for attendees and family at 6:00 PM

Tours begin at 7:00 PM

Come and have some fun!!

Conference Event on 6/27/23

*Tuesday night
dinner at
Rhinegeist Brewery
and
Lager Cellars Historical
Tours*

*7:00pm Tour: Gerke Cellars and historic Jackson
Brewery & Cellars (1hr.15min.)*

7:15pm Tour: Jackson Brewery & Cellars (45 min.)

*7:30pm Tour: Behind the Scenes Tour of Rhinegeist
Brewery*

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 2:45 Tuesday afternoon. Drawing for prizes will be held in the expo hall at 3:00 pm.

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12 VISA Gift Cards
will be awarded

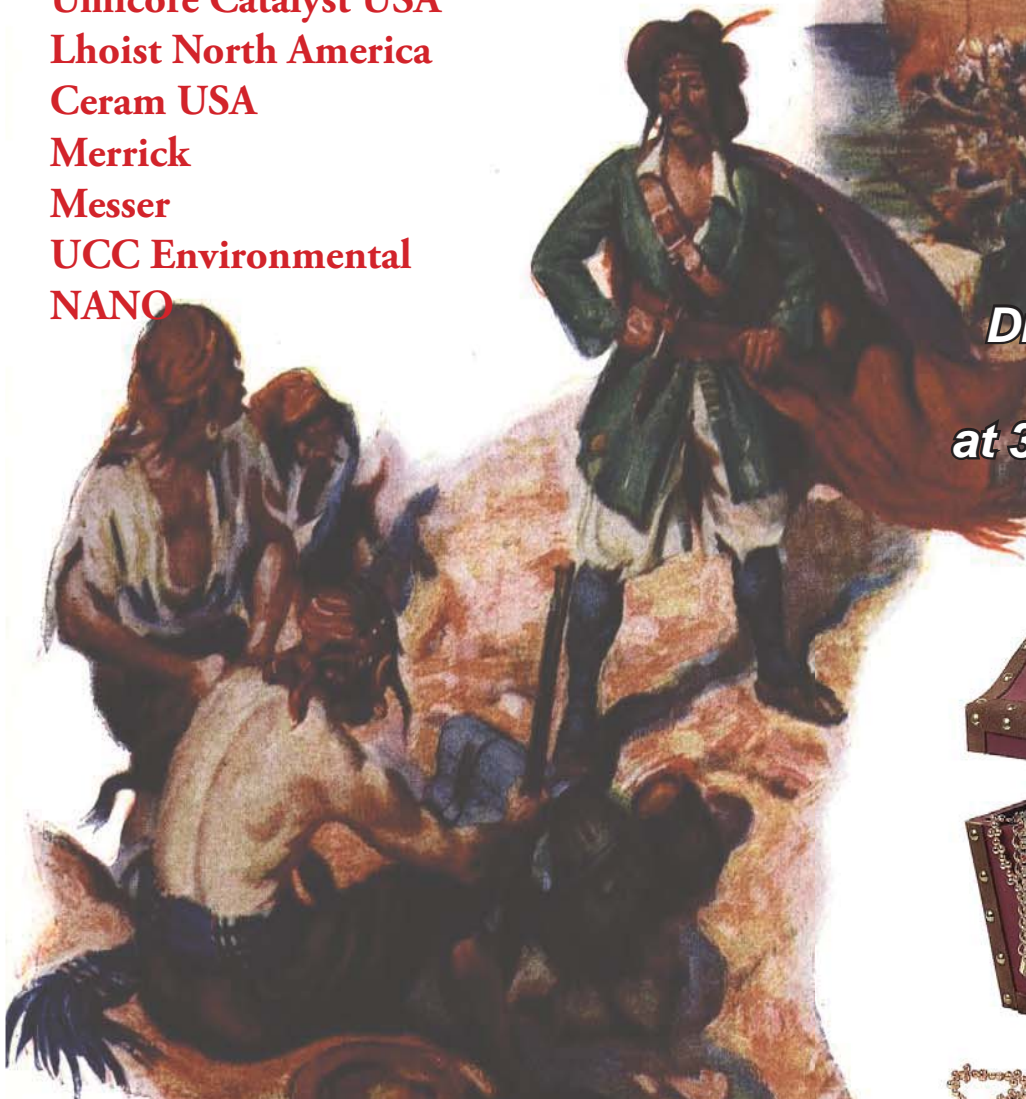
1@ \$500

2@ \$300

4@ \$200

5@ \$100

*Drawing to be held
Tuesday
at 3:00 pm in the Expo
Hall*



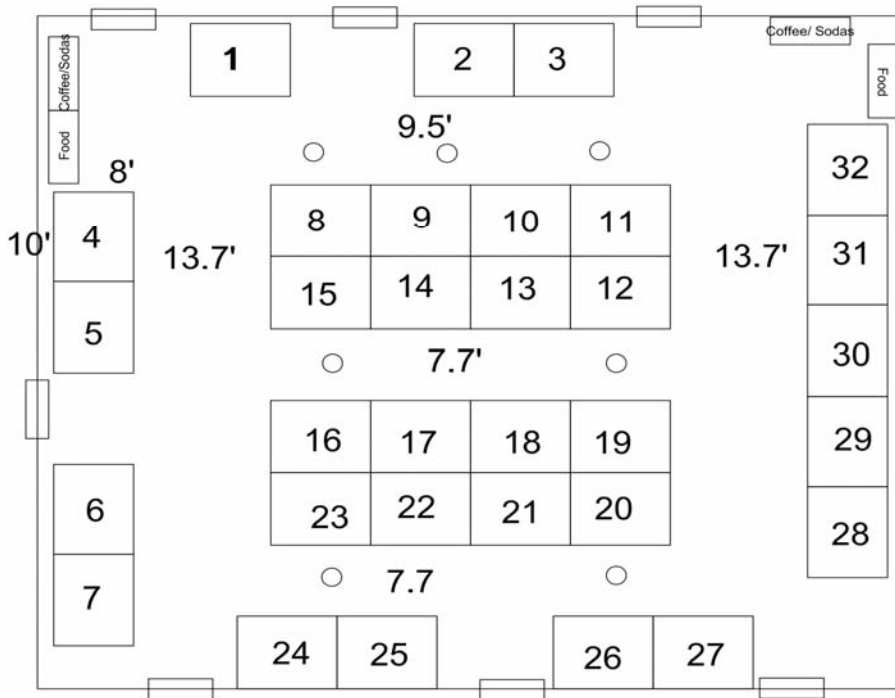
2023 REINHOLD Round Table & Exhibition

Hosted by Duke Energy/Vistra on June 26-27, 2023

The Westin Cincinnati, Cincinnati, OH

#	Exhibitor
1	ETS, Inc.
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3	REINHOLD Environmental
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6	Umicore Catalyst USA (Conf Sponsor)
7	Merrick
8	BWF America, Inc. (Conf Sponsor)
9	Open
10	Open
11	Veolia Water Technologies & Solutions
12	Airflow Sciences Corp.
13	CEECO Equipment
14	Messer
15	Mississippi Lime Company
16	UCC Environmental
17	Cormetech
18	NANO Co.

#	Exhibitor
19	PULLMAN
20	EES
21	High Temperature Technologies, Inc.
22	Storm Technologies
23	Lhoist North America
24	NWL
25	Mitsubishi
26	Ohio Lumex
27	F.O.S Industrial Filter Technology
28	Beijing Denox Environment & Tech
29	Process Barron
30	CERAM USA, Inc
31	Gecko Robotics
32	Southern Environmental



Registration Desk

2023 REINHOLD Round Table Exhibitors

Airflow Sciences Corporation.....12

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Business: 734-525-0300
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Your go-to experts for coal fired and gas fired plant design and optimization. Cost-effective designs for SCRs, HRSGs, gas turbine simple cycle, ductwork, ESPs, baghouses, scrubbers, and stacks. Specializing in CFD modeling, scale physical flow modeling, and field testing since 1975. ASC also manufactures custom field test equipment for accurate and efficient measurement of flow, temperature, chemical species, and particulate. The combination of modeling, testing, and engineering expertise makes ASC the one-stop shop for all your flow-related needs.

ANDRITZ AG.....4

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ANDRITZ is an international technology group providing plants, systems, equipment, and services for various industries. ANDRITZ is headquartered in Graz, Austria. Since its foundation 170 years ago, ANDRITZ has developed into a Group with approximately 29'700 employees, and more than 280 locations in over 40 countries worldwide. As a reliable and competent partner, ANDRITZ supports its customers in achieving corporate and sustainability goals.

The Air Pollution Control (APC) division provides tailor-made APC solutions focusing on reduced emissions and improved performance and efficiency to meet changing market conditions and comply with asset strategies. The APC portfolio covers the entire flue gas line, ranging from particulate control, dry and wet scrubbers, to multi-pollutant equipment for utility and industrial plants. The APC division operates its regional activities from its service center in Roswell (GA, USA) and supports its large Americas' customer base with inspections, spare parts, trainings, SIR, service agreements and upgrades / lifetime extensions of ESP, FF, deSOx and DeNOx equipment.

Beijing Denox Environmental Technology & Co.....28

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Beijing Denox Environmental Technology & Co., LTD. (Stockcode HK01452), founded in 2010, isaleader of SCR technology for coal-fired powerplants headquartered in Beijing, China. Beijing Denox currently manufactures stationary SCR products in types of plate and honeycomb in high/low temperature, and Oxidation catalyst, etc. With over more than 50,000m² of manufacturing facilities and innovative laboratories, and an annual catalyst production capacity of 38,000m³,

Beijing Denox participates in reduction of nitrogen oxide (NOx) emissions from powerplants, industrial boilers, diesel generators, etc. Beijing Denox establishes business cooperation with major European enterprises from VATTENFALL, EON and China's top five powerplant groups. Up to today, Beijing Denox has signed more than 400 projects worldwide and more than 260 units of catalyst supply contracts, providing SCR catalysts for about 70 million kilowatt coal-fired boilers in total.

BWF Envirotec USA.....8

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Business: 859-905-1226
www.bwf-envirotec.us



BWF Envirotec is the world's leading supplier of filter bags to the power generation market. As both a needle felt producer and bag fabricator, BWF Envirotec has the unique ability to match the gas stream characteristics with the properties of the needle felt ensuring maximum bag performance. In addition the standard services offered by BWF Envirotec and the Environmental Services team are: baghouse maintenance service, change-outs, retrofits, and mechanical inspections.

CEECO Equipment.....13

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Business: 513-709-8444 / www.ceecoequipment.com



CEECO Equipment has been a leader in providing air pollution control (APC) systems and engineered process equipment to utilities and industry since 1961. CEECO is dedicated to serving our customers and providing engineered equipment solutions, backed by market-leading manufacturers. We strive to provide the best solution possible at the lowest total cost of ownership.

CERAM USA.....30

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CERAM manufactures honeycomb and plate type SCR catalysts and provides comprehensive SCR system services. We have delivered SCR catalysts for more than 2,000 SCR systems worldwide. Our experience portfolio includes coal, gas, oil, biomass, cement, MSW/RDF, petroleum refineries, diesel engines, and other unusual fuel/application types. SCR system services include catalyst testing, reactor inspections, operations assessments, AIG tunings, low load studies, and catalyst management planning utilizing our proprietary Manage CATLife® model. This model is adaptable for all catalyst types, geometries and compositions. The model is also flexible to evaluate both regenerated and new catalysts over multiple operating scenarios, fuels changes, and emissions targets.

CORMETECH.....17

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CORMETECH is a world leader in the design and manufacturing of environmental catalysts and is unrivaled in catalyst regeneration and recycling. The company is a full-lifecycle provider, offering an array of emissions control engineering services for the power, marine, industrial-process, refinery, and petrochemical markets. CORMETECH's reputation is built on three decades of developing and delivering U.S. market-leading selective catalytic reduction (SCR) catalysts. The Company's DUST BUSTER™ is the most advanced honeycomb catalyst for high dust coal environments. This catalyst affords superior pluggage and erosion resistance for long life. DUST BUSTER™ can be regenerated to original performance standards and is 100 percent recyclable. Since 2021, CORMETECH has also received multiple research and development awards from the U.S. Department of Energy to help advance CO capture technology both for direct air capture (DAC) as well as point source capture (PSC) from power and industrial plant exhaust gases. Based in Charlotte, N.C., CORMETECH exists to balance global energy and infrastructure demands with the environmental imperative to keep the air clean for people and the planet.

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Environmental Energy Services.....20

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www.eescorp.com



EES offers innovative technologies for the power industry: CoalTreat® for slag mitigation of coal-fired boilers; Delta CO, O2 and NOx analyzers; KLeeNscrub® precipitant for total Hg remediation. KLeeNwater™ to maximize water reuse and meet ELG limits; STEP Combustion for burners, gas conversions, SNCR and SCR, combustion/burner tuning and more.

ETS.....1

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www.etsi-inc.com



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.

F.O.S. Industrial Filter Technology, Inc.27

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Head-International Sales and Business Development
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Business: 617 650 1900 / www.fos-filtrertec.com



The F.O.S. Group offers comprehensive services and solutions related to all aspects of industrial baghouse filters. Headquartered in Germany, we are a world leader in manufacturing wide selection of high-performance filter media products including filter bags, filter cartridges, filter tubes, and other accessories. With over 25 years in business of optimizing dust collecting systems, we have our patented, German-engineered dedusting technology, F.O.S. On-line Cleaning®, which is a leader in the industry in terms of bringing tangible cost-saving advantages by avoiding need to replacing filter bags/cartridges allowing savings of up to 80% on reinvestment costs, and operational excellence wherein you can expect to find your differential pressure to be close to what is found with brand new filters. While every system and operation are unique, we have clients who realize additional months and even years of extended life.

We have a filter bag manufacturing at our factory in Germany and partner facilities. This ensures timely and quality product at the best optimized rates. All types of felt we use for filter bags are third party lab tested and approved. Our facilities are EU standards and ISO certified.

Gecko Robotics.....31

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Gecko Robotics is helping the world's most important organizations ensure the availability, reliability, and sustainability of critical infrastructure. Gecko's complete and connected solutions combine wall-climbing robots, industry-leading sensors, and an AI-powered data platform to provide customers with a unique window into the current and future health of their physical assets. This enables real-time decision-making to increase the efficiency and safety of plant operations, prevent forced outages, and promote energy efficiency and security.

High Temperature Technologies.....21

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High Temperature Technologies specializes in sealing air and gas leakage issues in high temperature and multi-plane movement environments with our ISOMEMBRANE® sealing system. ISOMEMBRANE® is a flexible multi-ply seal installed over the leakage area allowing for movement unlike refractory and welding options. In addition, we are able to install ISOMEMBRANE® directly over existing materials eliminating the need for demolition. Dependent on site conditions, we are able to install either internally or externally and online in many situations. We've had the privilege to provide solutions throughout the country since 1993. Making friends at different plants and testing out new theories, we've also discovered ISOMEMBRANE® is a great solution for not only sealing dead air spaces but also expansion joints! Our proprietary materials including ISOBANKET-E® and our "secret sauce" ISOBOND-E® are warehoused in Charlotte, NC allowing us to respond quickly to your needs.

Integrated Global Services, Inc.....5

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IGS Environmental provides a comprehensive approach to eliminate SCR fouling and buildup while helping plants meet and exceed NOx emissions regulations while maximizing SCR system efficiency. By utilizing state-of-the-art technologies such as NoNOx large particle ash (LPA) screens, CatFlow screens, and SCR air cannons, IGS is able to provide comprehensive SCR solutions and offer the industry leading 95% Clean SCR Guarantee.

Lhoist North America, Inc.....23

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Business: 917-541-0723 / www.Sorbacal.com



Lhoist North America is a leading supplier of high quality calcium based products, including Sorbacal® engineered hydrated lime sorbents for flue gas treatment. Sorbacal® SP is a highly reactive hydrated lime sorbent for acid gas, arsenic, and selenium abatement. Sorbacal® SPS is chemically activated to provide further improved performance while improving electrical resistivity, making it more compatible with ESPs. Sorbacal® ESP has the lowest electrical resistivity of any hydrated lime on the market. Lhoist also offers blended activated carbon (PAC) – hydrated lime sorbents for simultaneous capture of Hg and acid gases with a single sorbent. Lhoist can provide injection equipment, acid gas and/or mercury measurement equipment, data analysis, and application experts to identify and implement an optimized DSI solution.

Merrick & Company (Merrick).....7

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Merrick & Co. is an employee-owned engineering, architecture, surveying, and science & technology firm headquartered in Colorado. The firm has been a trusted leader in the energy, manufacturing, and bioprocessing industries for more than 60 years. Merrick's team of power experts offer comprehensive civil, structural, mechanical, and electrical engineering services for facilities across the US, from electric utility and industrial manufacturing plants to healthcare facilities and federal facilities. Merrick's power expertise spans power generation; distributed generation; renewables and energy storage; hydrogen, renewable natural gas, carbon capture and storage, and other advanced technologies. With a commitment to uncompromising quality control, Merrick delivers reliable and cost-effective services to power clients worldwide.

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Messer.....14

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Messer is the world's largest privately-held industrial gases company, with unrivaled technical development capabilities and agility from people you know and trust. Messer sustainably grows and innovates with our chemical and energy customers with gases application technologies that boost throughput and lower their carbon footprint.

Mississippi Lime.....15

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Paul Pine,
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Mississippi Lime Company ("MLC") headquartered in St. Louis, MO, is a leading global supplier of high-calcium lime products and technical solutions. With over a century in business, the company has built a reputation on the purity of its products, commitment to research and development, and tradition of customer service. Mississippi Lime operates the largest lime facility in the Americas and mines some of the purest limestone reserves in the world. The company supplies high-calcium quicklime, hydrated lime, dolomitic lime, calcium carbonate products, trucking services, and technical solutions from a diversified, reliable network of facilities in Ste. Genevieve, MO; Calera, AL; Verona, KY; Vicksburg, MS; Weirton, WV; Chester, SC; Mobile, AL; Prairie du Rocher, IL; Bonne Terre, MO; as well as several distribution sites throughout the country.

Mitsubishi Power Americas.....25

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Headquartered in Lake Mary, FL, MHPS Americas employs more than 2,000 people who design, build, install, monitor and service aero-derivative and heavy-duty natural gas turbines, steam turbines, generators, battery storage products and environmental control systems throughout North and South America. MHPS Americas collaborates with customers to deploy artificial intelligence and low carbon technologies to take the cost and carbon out of the electric power value chain. MHPS Americas is a subsidiary of Mitsubishi Hitachi Power Systems, a joint venture between Mitsubishi Heavy Industries, Ltd. and Hitachi, Ltd. PWPS and MD&A are wholly owned subsidiaries of MHPS Americas. Learn more about MHPS by visiting www.changeinpower.com.

NANO Co, LTD.....18

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NANO, the specialty company in SCR catalyst, has developed and commercialized all types of SCR catalysts including Honeycomb, Plate and Layered type catalysts. NANO catalysts have been successfully served various customers and applications such as coal power plant, boiler, chemical plant, glass plant, HRSG, incinerator, petrochemical plant, steel mill, gas turbine, and diesel engine powered vessel in the global market.

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- Catalyst research and development

We would like to help you to achieve your emission goals with the best solutions. Please contact us for more information of our products and services.

NWL.....24

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NWL Commercial Manager, ESP/Aftermarket Division
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OhioLumex.....26

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Ohio Lumex is a leader in gas analysis products and services with a focus on industrial applications. Specializing in solutions for especially challenging monitoring needs, we offer a comprehensive array of tools to meet our customers' unique requirements. From gas analyzers, to an in-house analytical laboratory, to onsite gas testing and instrument services, our diverse capabilities are designed to offer flexibility, convenience, and ease-of-mind to the markets that we serve. We pride ourselves on delivering innovative and reliable state-of-the-art solutions while aiming to provide the industry's best customer service experience.

ProcessBarron.....29

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ProcessBarron is an innovative leader in custom-engineered products and expert field services. We've been serving industrial customers since 1981 through our safety-focused, professional, and technically advanced teams driving smart, clean, and efficient production. ProcessBarron is one team that offers complementary products, services, testing, inspections, field services, and parts within 3 product divisions.

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2. Bulk Materials Handling
3. Air Pollution Control Equipment

Our unique approach to problem-solving, ability to provide one place for comprehensive solutions, and focus whole-system optimization allows us to lead smart, clean, and efficient production through innovative solutions.

PULLMAN.....19

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PULLMAN, a licensee of STRUCTURAL TECHNOLOGIES' products and technical support services, integrates technology-driven solutions into its industry-leading repair and maintenance services. PULLMAN serves commercial, power, industrial, water/wastewater and transportation clients both in the United States and internationally. As a signatory to local, national, and international labor agreements, PULLMAN has access to a large base of skilled craftsmen to supplement its own full-time workers in local offices across the country. These craftsmen specialize in the repair and maintenance of concrete/steel infrastructure, as well as building envelope repair and maintenance.

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Southern Environmental, Inc.....32

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Storm Technologies, Inc.....22

411 N. Depot St..
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www.stormeng.com



STORM™ is a full service and results-oriented organization which provides boiler consulting services, technical direction, general and comprehensive inspections, performance testing services, pulverizer and burner performance replacement parts, airflow management systems, training seminars and in-house programs which can help your team work towards total boiler optimization. Storm's specialty is to provide engineered solutions for coal power plants. Engineered solutions that are practical and cost effective using the combined resources of our engineering department, field services and fabrication shop.

UCC Environmental.....16

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Since 1920, UCC Environmental has been providing highly engineered environmental solutions for power generation, mining, steel, cement, construction and other heavy industrial applications worldwide. We work closely with our customers to conceptualize, design, and supply systems that meet their site-specific needs. Our company's success is based on providing customers with the highest level of innovations, system reliability and customer service throughout the life of their system. Our services include:

Umicore Catalyst USA, LLC.....6

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Umicore Catalyst USA, LLC (UCAT) is recognized as a world leader in the development and supply of catalyst and technology for both stationary and mobile air pollution control systems with multiple thousand worldwide references. With manufacturing facilities in Pasadena, TX with increased catalyst production for all catalyst types. Umicore's air pollution technologies include, Selective Catalyst Reduction (SCR) catalyst for the control of nitrogen oxides (NOx), including the highly active TripleCat catalyst operating below 400 degrees F, the GT-705 catalyst designed for high temperature operating conditions found in simple cycle turbine applications, a newly formulated HRSG catalyst, and a newly designed highly active high dust catalyst; the reduction of carbon monoxide (CO) and VOC's, including the market leading multiple functioning DNO and GTC catalyst; and patent pending technologies for achieving high NOx reduction at very low ammonia slips. Umicore has proven, over the last 25 years, to be the supplier of choice when it comes to highly active, long lasting products for environmental catalytic systems.

Veolia Water Technologies & Solutions.....11

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Veolia Water Technologies & Solutions offers value-added treatment products and services to address power producers' most challenging sustainability and operational challenges, from ensuring asset protection and steam purity, to treating effluent to meet discharge and reuse guidelines. We bring over 100 years of expertise through global applications experience to the Power Industry. Our dedicated field staff and lab researchers partner with plant operators to solve tough-to-treat water challenges, using break-through technologies supported by a complete suite of digital solutions.

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