



2024 Annual Conference Presentation Details

Last updated March 13, 2024

TUESDAY

Presentation #1 8:40 AM – 9:10 AM

The Babcock & Wilcox Company – Royce Warnick

“The Lowdown on “Dirty” and “Clean” Electrostatic Precipitator Inspections”

Through actual photographs and first-hand experience, this presentation will cover all aspects of conducting a thorough inspection of an electrostatic precipitator. It will discuss the general purpose of the inspection, including troubleshooting problem areas, identifying, assessing and repairing defects, preventive and predictive maintenance, improving collection efficiency, and identifying potential safety issues. Activities before unit shutdown, during shutdown and at startup will be described, as well as reviewing results and recommendations and the development of a plan forward after the outage and inspection.

Royce Warnick has been focused on serving the environmental needs of power and industrial customers since 1977. He began his career at Virginia Power, where he was responsible for the performance and maintenance of electrostatic precipitators (ESPs) at one of its flagship power stations for more than 12 years. He went on to serve in various sales, technical and managerial roles at Epscon-FLS and Stock Equipment Co., and most recently was Director of Aftermarket Services at Hamon Research-Cottrell, where he had direct responsibility for field service, parts and engineered improvements on ESPs and fabric filters across North America. In his current role as Technical Consultant for the ESP Parts & Services group at B&W, Royce helps customers evaluate ESP performance and collaborates on project strategies for existing and new ESPs.

Presentation #2 9:15 AM – 9:45 AM

Montrose Environmental Group –Judith Aasland

“2024 Emissions Testing Regulatory Updates”

Presentation #3 10:40 AM – 11:10 AM

Victory Energy - Gary Persichina

“Condensing Economizer Heat Recovery on a Black Liquor Recovery Boiler | A Case Study.”

Victory Energy will present a case study on a heat recovery application that is a first of its kind. Boilers conventionally have economizers included for heat recovery however a majority of the available energy in the flue gas is still lost through the stack. Furthermore, users have been reluctant to use these technologies in what are considered corrosive applications. Driving sustainable energy solutions and carbon reduction initiatives however make it imperative to reduce fuel consumption and maximize heat recovery on new and existing boilers.

Gary Persichina has responsibility for all Victory Energy industrial sales activities including on-going management and engagement with our independent representative sales organization.

Gary is relentless in his passion to help salespeople succeed – both within the company and also with rep partners. He has a keen understanding of what it takes to manage an independent representative sales organization and an ability to anticipate what our reps need in order to be successful. He's well-known and widely respected in the boiler industry, having enjoyed a 40+ year career that has spanned several different executive level sales, business development and marketing roles with companies selling industrial products into diversified markets. He has a degree in Architecture from Triangle Institute of Technology and is a member of NFPA Technical Committee on Single-Burner Boilers and Fundamentals of Combustion Systems Hazards.

Presentation #4 11:15 AM – 11:45 PM

Columbia Water Technology- Phil Egebrecht

“Results of Operating a Morpholine Regenerated Condensate Polisher”

Installation of a morpholine citrate-regenerated polisher on the kiln condensate return line has eliminated hardness intrusions in boiler feedwater. Long term hardness contamination caused multiple tube failures at a 1300 PSIG boiler at a cogen facility. The data shown in the presentation confirms the polisher's continuous hardness reduction to below 20 ppb. This improvement will protect the boiler from future scale deposits and tube ruptures.

Phil Egebrecht has 45+ years water treatment and power plant experience in: Fossil, Nuclear, Gas, and biomass power generation. Plant and corporate chemist at largest nuclear US utility. Chemistry Supervisor at the largest nuclear facility in the US. Member of ~15 Electric Power Research Institute (EPRI) operational and guidelines committees. Holder of 3 patents on treating PWR Nuclear Steam generators with a High Purity Dispersant for deposition control.

Presentation #5 12:55 PM – 1:25 PM

Kamengo - Derek Vaile

“Handling Biomass: The Three Root Causes of Bin Plugging and Poor Material Discharge”

Bin and feeder design for handling biomass is a complex challenge. Starting in the 1980's, Kamengo led an extensive 15-year research program examining why bins plug, in particular when handling difficult flowing fibrous and cohesive materials such as woody biomass and wet ash. What the researchers discovered surprised them.

The presentation will provide a primer on key concepts such as mass flow (first-in, first-out discharge) and funnel flow (first-in, last-out discharge), as well as review how key bin and feeder geometry, such as minimum hopper angle and discharge openings, should be chosen. The presentation will also use case studies to illustrate how the outcomes of Kamengo's research were applied in the design of new equipment as well as the retrofit of equipment suffering from chronic plugging.

Derek Vaile is an Application Engineer at Kamengo. Derek works with various operations and consultants to resolve challenging bulk solid storage and feed systems that are suffering from chronic plugging. Derek's approach is to apply principles and the theory of good bin geometry, as well as Kamengo's proprietary technology to engineer solutions that improve process reliability and efficiency. Derek holds a Bachelor of Applied Science in Mechanical Engineering from the University of British Columbia. Originally from Burlington Ontario, Derek now resides in Vancouver, British Columbia.

Presentation #6 1:30 PM – 2:00 PM

Coffman Engineers. – *Mark Sipe and Chris Hazelton*

“The Importance of Insulation and Proper Condensate Handling.”

We will present photos of the damage that can occur when condensate is not handled properly. Repairing the condensate return system and pipe insulation will pay for itself. We will demonstrate this with our findings from recent projects.

Presentation #7 2:55 PM – 3:25 PM

Veolia WTS - *Timothy Eggert*

“Reverse Osmosis Monitoring and Troubleshooting”

Topics will include online data monitoring and normalization, salt passage monitoring and system profiling, water quality analysis for scaling, fouling and microbial prediction and offline membrane autopsy procedures.

Timothy W. Eggert is a Senior Technical Consultant of Veolia Water Technologies Solutions. He has over 43 years' experience in the water treatment industry as a process engineer and as a chemical provider primarily in the Refining and Power Industries. Tim has RO, boiler, cooling and wastewater treatment, design and troubleshooting experience throughout the western United States. He has been involved in the application of boiler pretreatment and cooling water treatment programs for diverse makeup sources including municipal reclaim waters. Tim has a BS Chemical Engineering from MIT and resides in Portland Oregon.

Presentation #8 3:30 PM -4:00 PM

Flexaseal Engineered Seals and Systems - *Mike Pinckney*

“Mechanical Seal and Flush Plans for Boiler Feed Service”

Mechanical seals can pose a challenge in condensate and boiler feed water services. These pumps are critical assets and reliability is a top priority. Applying, installing, and maintaining the correct seal and flush system is paramount for success. This brief will cover key mechanical seal considerations as well as field proven API 682 flush plans to utilize at the plant

Mike Pinckney is the training lead for Flexaseal Mechanical Seals and Systems. He has spent 14 years working with mechanicals seals and has extensive experience with: repairs, installations, troubleshooting, and failure analysis.

WEDNESDAY

Presentation #9 8:05 AM – 8:35 AM

Detroit Stoker Company – Jacob Vuillemot

“Renewing Existing Assets with Current Grate Technology and Design Standards”

Presentation to include discussion of boiler event causing water wall and grate replacement, sharing process and evaluation of necessary replacement equipment and some overall background of plant operations. Followed by the grate equipment replacement and providing upgrades where applicable in an in-kind replacement. Discussion of design, demolition, installation, and operations following the new equipment installation. Overall theme of presentation is considerations of renewing existing assets as equipment begins to reach its life span expectancy.

Jacob R. Vuillemot – Current Staff Engineer with Detroit Stoker Company and works with the Engineering, Service, Quality & Sales Departments focusing on equipment design, equipment installation, and renewal of existing assets. Jacob has been employed by Detroit Stoker Company since 2019, holding positions as a Field Service Engineer & Staff Engineer. Jacob graduated in 2018 from Michigan Technological University with a Bachelor of Science – Mechanical Engineering Technology.

Presentation #10 8:40 AM – 9:10 AM

Applied Control - Amber Graviet

“Desuperheaters 101: Understanding Your Critical Equipment”

- What is a desuperheater?
- Types of desuperheaters
- Sizing of desuperheaters
- Installation of desuperheaters
- Signs of a failing desuperheater
- Importance of a PM schedule

Amber Graviet has over 6 years of experience working at Applied Control with a focus in Pulp and Paper and Power industries. Within those industries, she has spent time working with severe steam service applications and desuperheaters. Amber has a chemical engineering degree from Washington State University.

Presentation #11 9:55 AM – 10:25 AM

Nalco Water – John Zora

“Steam and Condensate Chemistry”

Don’t forget the Steam! There is a tendency to focus on the boiler itself and to forget about the steam and condensate that is generated. This presentation will cover the basics of steam and condensate quality, treatments, monitoring and control, as well as the latest technologies. Good quality steam/condensate ensures long term reliability of equipment and maximum recovery of heat, chemicals, and water.

John Zora has been with Nalco Water for 30 years focusing on a wide variety of industries in the NW, including Power, Paper, Lumber-cogen, Food and Beverage and high tech. He currently has direct account responsibilities, while training representatives and developing new business opportunities.

Presentation #12 10:30 AM – 11:00 AM

Nationwide Boiler Inc. – Scott Best

“Contingency steam planning and preparing for a temporary steam plant”

Member and Vendor Roundtable – 12:10 – 1:15 PM

NEW! - All Members and Vendors

A chance to bring up any issues you’re having at your facility with the entire group

Presentation #13 2:00 PM – 2:30 PM

ISS/Bay Valve – Mark Peterson

“Condensate Return and Steam Powered Condensate Pumps”

- I. Basic Steam System Outline
- II. Steam Trap Definition
- III. Condensate Return Systems
 - A. Reasons for Returning Condensate
 - 1. Boiler Chemicals
 - 2. Value of Condensate
 - B. Backpressure in Condensate Systems
- IV. Steam Powered Condensate Pumps
 - A. Operation of Steam Powered Condensate Pumps
 - B. Issues to Address
 - 1. Backpressure
 - 2. Elevation
 - 3. Motive Steam Pressure
- V. Proper Draining of Coils, Heat Exchangers

Mark Peterson is the Northwest District Manager for TLV Corporation, a steam products manufacturer for the last 5 years. Sales engineer in the Valve Industry for the previous 20 years. University of Washington Mechanical Engineer and a Master’s in Teaching degree from Seattle University. Mark enjoys solving problems with

customers and improving their steam systems. Mark also has the privilege of commercial fishing in Bristol Bay Alaska for Sockeye Salmon and loves hunting and fishing.

Presentation #14 **2:35 PM – 3:05 PM**
Gecko Robotics – Dylan Gabel

“Robotic Inspections and Software Modeling for Predictive Boiler Insights”

After several decades of plant operations, one of the most common causes of unplanned outages are boiler tube failures caused by various corrosion and erosion-based damage mechanisms. Given the sheer size of most boilers, traditional NDT methods can miss identifying areas of concern in the water walls and don't provide a full picture of asset health.

Real-time data from robotic inspections coupled with digital maps and predictive modeling provides decision-makers the tools to make strategic, long-term predictive maintenance and asset integrity plans. By leveraging the data, users can increase uptime and production by developing repair and inspection scopes and preventative maintenance plans to produce outcomes that drive efficiencies while conserving resources.

Dylan Gabel is a Sales Manager at Gecko Robotics. Previously serving as an NDE inspector, he has years of hands-on experience and a unique perspective across various industrial applications, such as power generation and manufacturing. Dylan excels at identifying opportunities to increase asset health, reliability, and outputs.