2019 Operator Field Day & Exhibit Show

Training Classes

September 17, 2019

Note: Each class is worth 1 TCH. You must attend 100% of the class to receive credit.

9:45-10:45 Competition Center

Impacts of PFAS Regulations on Wastewater Systems

(ww credit)

PFAS (per-and polyflourinated alkyl substances) represent a family of more than 4,700 compounds. There is science-based evidence that these compounds are highly persistent in the environment and are connected with significant negative health impacts. This presentation will include a brief discussion of the state of the science, challenges for water and wastewater utilities, treatment technologies and the status of regulatory requirements.

Speakers:

Ned Beecher (Northeast Biosolids and Residuals Association)

For almost 20 years, Ned Beecher has led the Northeast Biosolids and Residuals Association (NEBRA) as executive director. Ned is responsible for tracking research, regulation, legislation, and media reporting for NEBRA's members and the public. In addition he edits and contributes to NEBRA's email newsletter, NEBRAMail, and the "NEBRA Highlights" in the NEWEA Journal. Ned routinely provides presentations to professionals, scientific conferences, and the public and organizes and teaches workshops on various aspects of biosolids & residuals management. Ned earned a bachelor's degree in geology from Amherst College and a master's in resource management from Antioch University New England.

Barbara T. Reid (NH Municipal Association)

Barbara T. Reid is the Government Finance Advisor with the NH Municipal Association. Her primary role is to assist local officials in understanding municipal financial operations and successfully performing their fiduciary responsibilities. She also provides financial insight and analysis on the impact of legislative changes effecting municipalities including the state operating and capital budgets, retirement system changes, environmental regulations, and the financial impact of administrative rules enacted by state agencies. Barbara brings extensive municipal finance experience to this role, having spent most of her professional career in the government arena, including 18 years with the NH Department of Revenue Administration. She is a Certified Public Accountant, holds a BA degree from Mt. St. Mary College, an MBA degree from New Hampshire College, and a graduate certificate in Forensic Accounting and Fraud Examination from Southern NH University.

Ray Gordon (New Hampshire Department of Environmental Services)

Ray Gordon is presently the Administrator of the Residual Management Section in the Wastewater Engineering Bureau for the New Hampshire Department of Environmental Services Wastewater Engineering Bureau. Ray works with municipalities, septage haulers, septic designers, wastewater operators, and health inspectors. He provides training, technical support regarding wastewater treatment, septage, and management of wastewater facilities and "what's flushable?"

9:45-10:45 Adventure Park Building, Classroom #1

Drinking Water Regulatory Updates

(dw credit)

Top agency officials will provide an update on current rules and regulations that pertain to public drinking water systems.

Speakers:

Sarah Pillsbury, NH Department Environmental Services

Sarah Pillsbury is the Administrator of the Drinking Water and Groundwater Bureau at DES. Program responsibilities include Safe Drinking Water Act, Groundwater Discharge and Withdrawal Permitting, Water Conservation, Water Education for Teachers and Statewide Water Resource Planning. She has been with the agency for 26 years, working in a variety of programs during that period. Sarah has a BS in Resource Management from UNH and is trained mediator. Sarah is the current Past President of the National Groundwater Protection Council and is President of the Association of State Drinking Water Administrators.

Betsy Davis, EPA Region 1

Betsy Davis, an Environmental Engineer, at US EPA Region 1 Boston, has been with the Agency since 1991. She has worked in the Resource Conservation and Recovery Program, the National Pollutant Discharge Elimination Program and the Drinking Water Program. She earned a bachelor's of art degree in 1978 from Edinboro State University, Bachelors of Science degree in civil engineering in 1990 from Northeastern University and a graduate certificate in Management in 1995 from Radcliffe College. She currently divides her time at EPA Region 1 between the Drinking Water Program and the NPDES Permits Program.

11:00-12:00 Competition Center

Taking Lagoon Process Design to the Next Level

(ww credit)

Wastewater treatment process design modeling software, which models biological, chemical, and physical treatment processes, can be used to optimize the design, performance and reliability of lagoon based treatment systems. Lemna Environmental Technologies (LET) employs a dynamic wastewater treatment process simulation model, to analyze performance of existing facilities and the expected performance of proposed facilities. The modelling software is widely used in the wastewater community to investigate the impact of various changes in loadings and temperatures and allows LET to thoroughly verify process design and performance especially with regards to BOD, TSS and nutrient removal.

Using historical DMR data from an installation base of over 200 facilities, LET created a unique software model of its LemTec Biological Treatment Process, which utilizes a combination of aerated and settling lagoon cells for biochemical oxygen demand (BOD) and total suspended solids (TSS) removal, and additional integrated lagoon technologies for ammonia, phosphorus and total nitrogen removal. By calibrating the model through the analysis of historical operating data, the model can be used as an accurate predictor of process performance. The model may be manipulated to reflect the size, configuration, loading, aeration and effluent requirements for current or future facilities and is especially useful in predicting and troubleshooting nutrient removal.

The model enables LET to consider the effects of non-steady state factors such as peak flows, constituent loading, and ambient air and water temperatures on treatment performance, improving upon traditional steady state wastewater treatment process design methodology. The discussion will provide data and specific case studies demonstrating the predicted performance vs. actual data, using the calibrated model.

Speaker:

Tom Birkeland (Lemna Environmental Technologies, Inc.)

Tom Birkeland is the Director of Project Development for Lemna Environmental Technologies. He previously held management positions with North American Wetland Engineering, Jacques Whitford, Stantec and Natural System Utilities. He holds Class C Water and Wastewater licensees and received over 20 awards from the Minnesota Pollution Control Agency for operational excellence and compliance. Tom's area of expertise is designing lagoon systems capable of achieving high levels of treatment, including ammonia, phosphorous and total nitrogen removal, even in cold climates.

11:00 – 12:00 Adventure Park Building, Classroom #2

Safer Spaces: Gas Detection Technology and Working Around Water Tanks

(dw and ww credit)

We rely on the gases of our atmosphere to keep us alive but when gas is under pressure or includes dangerous compounds, operators need to take care. The first half of this seminar will be all about how to stay safe when working on or around hydro-pneumatic tanks. Gas pressure monitoring and appropriate response will be discussed in the frame work of best practices in confined spaces.

Areas such as vaults and headworks buildings are susceptible to accumulating gas compounds resulting in an unsafe environment. The second half of the seminar will consist of an overview of various sensor technologies available for both fixed and portable gas monitoring instruments. Discussion will include the advantages and disadvantages of technologies such as electrochemical, catalytic, infrared, and pid, how they are applied and the maintenance requirements of each.

Speakers:

Carl Horstmann (Mass Tank)

Carl Horstmann Carl is the CEO of the largest steel tank manufacturer and tank inspection company in New England. Mass Tank distributes tanks to Africa, Asia and North America for the fuel, water, confectionary and pharmaceutical industries. Mass Tank is a 100 year company fabricating, inspecting and servicing a wide range of tanks. Some of the qualifications include UL, ASME, AWWA, and PE Stamped to name a few. Prior to owning Mass Tank, Horstmann worked at Republic National Bank of New York where he spent time in New York, Tokyo and Milan. During his three year tour in Milan, Italy he worked on converting the branch from a middle market lending focus to trading and private banking. Horstmann is a member of Young Presidents Organization (YPO) and graduated from Lehigh University in 1986 with a degree in Finance.

Brian Gately (Mass Tank) Brian joined Mass Tank and Mass Tank Inspection Companies in September of 2018 as the Vice President of Sales. Brian's entire professional career has been in the tank industry. Before joining Mass Tank, Brian owned and operated Environmental Equipment Corp (EEC) for fourteen years. EEC distributed various types of tanks and tank accessories throughout the New England area. Prior to opening EEC, Brian was a Manufacturer's Representative for JMA Associates for five years. He holds a Business Management/Marketing degree from University of Massachusetts at Boston.

Joel Myerson (Safety Inc.)

Joel Myerson has been the president of Safety Inc. since 1988. This company was founded in 1970, as a distributor of safety equipment and portable instruments. Joel is also a part of ETA Process Instrumentation and Martech Controls which are divisions of Safety Inc that sell process measurement and analysis instruments. Joel is the Past President of Boston ASSE, Board member of New England AIHA, and past board member of the Mass Safety Council.

11:30-12:30 Adventure Park Building, Classroom #1

Tackling Rate Studies

(dw and ww credit)

Whether it's upgrading infrastructure, complying with new laws, or just dealing with rising costs, all utilities have one thing in common - they need money to operate successfully. Many times the current water/wastewater revenues are inadequate to cover costs. Figuring out how much money is needed and how to create a fair rate structure is a big project. Find out how systems are completing rate studies to gain a better picture of their own usage and to raise revenue.

Speaker:

Jenna Rzasa (Tata & Howard, Inc.)

Jenna Rzasa has over 21 years of engineering experience with specialized expertise in water system design. She serves on the Board of Directors. She also has concentrated experience in the development of new sources and maximization of existing sources, as well as in conducting water audits utilizing AWWA's M36 methodology. She holds a BS in Civil Engineering from Worcester Polytechnic Institute.

System Representative and/or NH DES Representative

System Rep Bio Needed

1:30-2:30 Competition Center

Utilizing Acoustic Inspection Technology to Prioritize Sewer Cleaning

(ww credit)

Reducing sanitary sewer overflows (SSOs) is an important function of maintenance programs - but effectively deploying resources to achieve that objective remains a tricky challenge for wastewater collection system managers. With the introduction of rapid acoustic inspection technology, an increasing number of utilities are using transmissive acoustics as a preliminary screening tool to quickly determine blockage conditions in small diameter gravity sewer. The acoustic score for each segment ranges from 0 to 10 (0 – blocked, 10 – fully open pipe). Acoustics does not replace CCTV or cleaning, but rather prioritizes the deployment of these much more expensive resources towards the pipes that most need it.

With acoustic inspection, utilities can cover 7,000 to 20,000 feet per day with a two-person crew. Operators quickly gain a low-cost/low-resolution view of blockage conditions in their entire system. Results from over 120 million feet of acoustic inspection data show that 65-90% of pipes in most utilities are free of blockage defect. Therefore,

acoustic assessment is an effective way to stop cleaning clean pipe and transition to a condition-based maintenance program.

Case studies will be used to discuss how various utilities have incorporated acoustic technology to improve resource deployment and enhance sewer maintenance operations. The implementation process, resulting cost savings, overall benefits of acoustic technology and limitations will be reviewed to provide a comprehensive discussion. This presentation will focus on discussing practical application based on operator training courses performed around the country and will summarize the ASTM Standard developed for acoustic pipe inspection.

Speaker:

Jon Gotchis (Scavin Equipment Company SL- RAT)

Owner of Scavin Equipment Company, Jon Gotchis got his start in the sewer cleaning equipment field in 2004, as a Northeastern sales representative for Sreco Flexible Inc. A manufacturer of municipal sewer cleaning machinery. He quickly developed an appreciation for and kinship with his customers, and realized he'd found his place in the water and wastewater industry.

After serving as National Sales Manager and International Sales Director for several years at the company, Jon realized it was time to start his own dealership in order to fully fulfill the needs of his clients by bringing a more comprehensive array of products to the marketplace.

SCAVIN Equipment Company was born in 2011. Jon's goal was to deliver the best time-tested sewer cleaning equipment, as well as new technologies that would better serve his customers' goals.

1:30-2:30 Adventure Park Building, Classroom #1

Basic Elements of Physical and Cyber Security

(dw/ww credit)

Implementation of security improvements for water and wastewater infrastructure are needed to reduce the risk of both malevolent acts and natural events. These improvements should take the form of both physical and cyber security.

Physical security of treatment facilities, source water and distribution components is a significate part of asset management. Attendees to this seminar will hear about safety approaches such as: access control, alarms, cameras, emergency plan, evacuation plan, exterior construction, hazardous material control, locking devices and relationships with security forces/emergency responders.

Today, assets, processes and whole systems are usually controlled digitally and many times remotely. This new standard of operation requires the existence of networks which, by their nature can be vulnerable to intrusion. Cybersecurity is the essential protection of digital systems. This seminar will address topics such as: restricted access, strong passwords, "air gap" it systems, enterprise vs control system access, third party protection, pen testing, email attachments, access control cards, and backup procedures.

Speaker:

Ron Peimer (Tight Line Security Consulting, LLC)

Ron Peimer is the owner of Tight Line Security Consulting, LLC. Since 2016, this company has been offering physical security and emergency management assessments for industrial, educational, and sports venues in all states & international sites. This work is conducted under non-disclosure agreements and involves a review of the site's preparedness based on physical security technology, emergency management planning, and written preparatory instructions to employees. Ron's prior professional experience includes working as the Protective Security Advisor for US Dept. of Homeland Security and as the Deputy Director for the National Infrastructure Institute.

1:30-2:30 Adventure Park Building, Classroom #2

Funding Options for Water and Wastewater Systems

(dw/ww credit)

Agency officials will discuss funding options including those from USDA Rural Development, the Clean Water State Revolving Loan Fund, and the Drinking Water & Groundwater Trust Fund.

Speakers:

Heather Malone (USDA)

Heather Malone is the Community Program Specialist with the USDA Rural Development and is directly responsible for fulfilling the Agency's mission of providing affordable funding to develop essential community facilities as well as provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste

disposal, and storm water drainage to households and businesses in rural areas of New Hampshire. She manages and oversees the administration of various and complex community facility and water/wastewater loan and grant programs. She plans and carries out the responsibilities for loan underwriting, loan servicing, and portfolio management of the Agency's Community Facility and Water and Environmental Programs for New Hampshire.

Erin Holmes (NHDES)

Erin Holmes is the Administrator of the Drinking Water and Groundwater Trust Fund in the MtBE Remediation Bureau of NHDES. She has a BS Chemistry degree from the University of New Hampshire where she also studied Environmental Engineering. She is a professional engineer with 15 years of experience in all aspects of site investigation and design and implementation of remediation solutions for contaminated soil and water. Erin is a key point person for the DWGTF, working alongside the Advisory Commission and assisting them to achieve the goals of their mission.

Beth Malcolm (NHDES)

Beth is the Administrator of the Clean Water State Revolving Fund (CWSRF) loan program and Wastewater State Aid Grants in the NHDES Wastewater Engineering Bureau. She has a BS in Environmental Science from the University of New Hampshire where she also studied Water Resource Management. She has over 23 years of experience with the NHDES Water Division. Beth works with municipal officials, consultants, funding partners and EPA to bring more affordable and sustainable water pollution control infrastructure improvements to NH communities.

3:00-4:00 Competition Center

Drone Applications

(dw and ww credit) Unmanned Aerial Systems (UAS) and Unmanned Underwater Vehicles (UUV) have come to the forefront in many industries over the past few years. Their use in the environmental field has taken hold with no signs of slowing down. This ever expanding technology allows us to perform operations in less time, with less liability, and with more frequency. This presentation will provide an overview of how Granite State utilizes this technology to perform operations for water systems around New Hampshire including: infrastructure inspections, shoreline inspections and mapping (bank erosion; beaver dams, etc.), watershed inspections, source water protection area inspections, high-resolution imagery (photo-mosaic and video), smoke testing and remote leak detection. Also presented will be how underwater drones assist with data retrieval in areas where only a diver could go in the past. With lighting, cameras, and the ability to travel distances, UUVs can now inspect water tower interiors, intake screens, and drinking water reservoirs.

Speakers:

Justin Shaw (Granite State Rural Water Association)

Justin Shaw attended Southern Maine Tech College in South Portland ME in 1992 for the Pollution Abatement Program (Water & Wastewater Management). Upon graduating Justin worked for Dufresne Henry Engineering as an operator at the Claremont Wastewater Facility in Claremont, NH and eventually transitioning to the Assistant Lab Director. In 1995 Justin formed a small NELAC certified environmental laboratory specializing in water and wastewater analysis which he operated for 13 years before selling the business to a larger commercial laboratory. Justin continued to operate small water systems as a contract operator as well as working for Whelen Engineering as their Industrial Pretreatment Coordinator. In 2016 Justin joined the staff of Granite State Rural Water Association as a Circuit Rider/Water Systems Specialist and transitioned to Source Water Specialist in 2018.

Brian Vose (Granite State Rural Water Association)

Brian began work in the water and wastewater industry at the Walpole Water and Sewer Department in 2013. Between 2013 and 2016 he was responsible for collecting and editing spatial data via GPS and tie-card records, as well as designing a custom geodatabase and maintaining mobile-mapping applications for the Town of Walpole. In May of 2016, Brian made the move to Granite State Rural Water Association to bring asset mapping strategies to rural New Hampshire towns. Currently, Brian provides GIS consultations to people in various positions of the water industry and collects spatial data to produce hard-copy and cloud-based maps for utilities across New Hampshire.

George Phinney (Northeast H20)

George Phinney is the founder and owner of Northeast H20. This family run business serves water utilities, rescue organizations and law enforcement agencies by deploying Unmanned Underwater Vehicles. George has 20 plus years of experience in the water industry and is currently employed as an operator for the Meredith Water and Sewer Department.