

Summary of DBIA Sessions:

Wednesday, April 26th 2017

Tour of US Pipe Fabrication Facility in Ephrata, PA:

Wednesday 7:00AM to 12:30 PM

Tour the recently updated facility (Formerly Custom Fab) in Ephrata, PA. This facility includes fabrication of Ductile Iron Flanged spool piece, grooved pieces as well a glass lining operation. The facility was recently upgraded, US Pipe has graciously allowed participants at the conferences to take a tour of this high-tech facility. Bus will leave from Hershey Lodge, promptly at 7AM and will return by 12:30PM. Lunch will be provided

Safety at Treatment Facilities – A Roundtable Discussion (Magnolia Room D)

Wednesday 1:00PM to 4:30 PM

Presenters:

Brad Osevala – EHS Manager SUEZ, NA

Domenick Salvatore – Former OSHA Area Director for Philadelphia

Marshal A. Miller – Compliance Manager – Stone Hill Contracting Co., Inc.

Michael Driscoll – Division Safety Manager – UR

Joe Gormley, QSSP – MSA Safety Executive Territory Manager

John Hucke – United Rentals Trench Safety

What are the risks associated with maintenance and construction at treatment plants and on utility line work? Join us as we take a look at various risks associated with this type of work. We will start with an owner's view of the associated risks on this type of work. We then look at the same type of work from OSHA's point of view, and then from a contractor's view. We then spend time looking at the options that are out there to help mitigate these risks. By speaking to industry veterans in risk prevention. The session will allow for interaction, and should be valued by Owner, Operations staff, Contractors, and design professionals.

DBIA Liberty Northeast Region Networking Event:

Wednesday 7:00PM to 10:00 PM – Your Place Sports Bar (located next door to Hershey Lodge Parking lot at the Hershey Grill) – Wristbands required – Maximum of 115 People

This Free Event is open to all attendees of the conference; however, wristbands are required and can be obtained from the Stone Hill Contracting and/or DBIA Booths on the exhibit floor. Free Food and soft drinks are provided as well as two (2) drink tickets for alcoholic beverages.

Thursday, April 27th 2017

Introduction to Design Build:

8:00 AM to 9:00 AM (Wild Rose A)

Presenter: Mr. Steve Reuther, PE, DBIA – President The Bell Company

Join Mr. Reuther as he goes over some of the basic fundamentals of design build and alternative procurement methods. This session will give attendees the ability to recognize some of the basics of design build construction and allow for questions to be answered.

Designing, Constructing and Commissioning New Pretreatment Facilities in 8 Months using Progressive DB.

8:00 AM to 9:00 AM (Wild Rose B)

Presenter: Mr. Rich Atoulikan, PE – HDR Inc. (and others)

Aqua Ohio owns and operates the Marion Ohio WTP, with a capacity of 10.2 MGD. This facility is a conventional lime-soda ash softening plant with surface water pretreatment using settling, groundwater aeration, and a mixing/equalization basin. Surface water is conveyed from the Scioto and Little Scioto River intakes to a 1-MG 1914 era ground basin for pre-settling. Groundwater is aerated then delivered to another 1914 era basin where it is mixed with surface water. The tray aerator constructed in the 1950's is used to oxidize hydrogen sulfide, iron and manganese, for subsequent removal in downstream processes.

These facilities are reaching the end of their useful life. Aqua decided to replace the facilities to maintain reliable treatment and plan for the future. These improvements will improve operational flexibility, reduce maintenance costs and enable Aqua to continue providing reliable and cost-effective service to their customers. Of highest importance on rehabilitation projects is avoiding operational disruptions at a working facility. This was accomplished by detailed planning to properly sequence the work, and through regular communication. Proper sequencing involved maintaining both river and groundwater sources, and assuring reliable water delivery regardless of the time of year and potential impacts from algae, nutrients or other contaminants that can approach the surface water intakes.

Aqua selected the Bowen - HOR team to design and construct these facilities using the progressive design-build (PDB) delivery model. The PDB model was selected due to the accelerated schedule and Aqua's desire to remain involved throughout the project. Using a qualified, experienced, and transparent design-construction team allowed Aqua's engineering, operations and maintenance groups to provide input to the design as it progressed. This ensured the improvements met the long term operational objectives and company economics.

Aqua's goal is to have these facilities in service by June 30, 2016. With Notice to Proceed given in early November 2015, the design, equipment procurement, construction and startup of these facilities is required in only 8 months. The Bowen-HOR team is using their PDB experience from other projects, to collaborate with Aqua to deliver this project efficiently and seamlessly.

An initial innovation workshop involved Aqua plant engineering, operations and maintenance, HOR and Bowen. At this workshop, project objectives were confirmed, alternatives identified for consideration, and plant operational constraints presented. That session resulted in a phased design development schedule, with a limited number of focused options identified to meet the overall objectives. Weekly meetings facilitated the communication and decision-making process. A 30% design review meeting

focused on confirming key scope decisions, affirming design and construction details which improved the facility operations and maintenance and addressed the budgeted costs. After this review and prior to a 60% design review, Aqua, Bowen and HOR evaluated and incorporated several revisions which reduced cost yet assured the project goals. The design was completed using 3D modeling to aid in visualizing the final plant outcome. Multiple construction cost updates were reviewed for each optimization iteration and provided Aqua with actual cost projections for budget management

purposes. In early February 2016, a Guaranteed Maximum Price was confirmed; field mobilization began shortly thereafter.

In this presentation, the Owner will describe their experience with the PDB method of delivery. The Engineer will describe the level of effort required to permit the project with the OEPA, developing designs quickly for phased review, and issue documents to meet the construction schedule. The Contractor will describe the project management for constructability and costing coordination while simultaneously planning for field operations prior to final designs. This paper will highlight what Owners can expect when selecting an experienced design-build team to translate their vision into schedule acceleration and cost savings results.

CoStars – Passport to Business Opportunity and Procurement Savings

9:00 AM to 10:00 AM (Wild Rose A)

Presenter: Kimberly Bullivant, PS Department of General Services

COSTARS is the Commonwealth of Pennsylvania's cooperative purchasing program and serves as a conduit through which registered and eligible local public procurement units (LPPUs) and state-affiliated entities (Members) are able to leverage contracts established by DGS to cost effectively and efficiently identify suppliers with whom to do business. The goals of this program are:

- To encourage, expand and facilitate the opportunities for Members to achieve procurement savings and best value through an interactive partnership with the Commonwealth.
- To provide increased opportunities for Suppliers of any size to participate and compete for Members' business.
- To provide contracts with competitive pricing.

The Commonwealth Procurement Code provides the statutory authority for Member entities to engage in cooperative purchasing with the Commonwealth. The Procurement Code authorizes DGS to enter into cooperative purchasing contracts solely for the use of its Members. DGS requires eligible LPPUs and state-affiliated entities to register as COSTARS members, and only those organizations registered with DGS may purchase from contract. Several thousand potential purchasers are already registered with DGS as COSTARS members. Learn more about COSTARS participation for Member entities.

Businesses interested in participating in the COSTARS program as Suppliers are required to register in the PA Supplier Portal to receive a six-digit vendor number as a prerequisite to bidding on a statewide or COSTARS-exclusive contracts. More information about the supplier registration process is available by visiting the Supplier Service Center. Following supplier registration and to become a COSTARS supplier, businesses must respond to bidding opportunities published on the department's COSTARS or PA eMarketplace webpages. A Supplier that successfully responds to a contract solicitation may be awarded a contract. Learn more about COSTARS participation for Suppliers.

Cathodic Protection for the Water Industry

9:00 Am to 10:00 AM (Wild Rose B)

Presenter: Daniel J. Joseph, Henkels & McCoy (HMI) Technical Solutions

It is estimated that more than \$30 billion in corrosion damage occurs in water and wastewater handling systems each year. Much of that estimated dollar amount is due to corrosion damage that occurs in treatment plants and pipelines. These facilities process some of the most aggressive and corrosive liquids to travel through any piping system, and the resulting corrosion remains an ongoing problem. The industry has spent, and will continue to spend, millions of dollars on a wide range of corrosion measures. One of the proven technologies for controlling corrosion is cathodic protection. Although used in numerous applications in WWTPs, there are still many untapped opportunities to apply this technology. Plants using cathodic protection are able to reduce the economic impact of corrosion. The following discussion will focus on the basic applications of cathodic protection in treatment facilities and the economic value.

Cathodic protection is one option for controlling corrosion. In the typical corrosion cell, the metal structure has both anodic (area where the metal is lost) and cathodic (area with no metal loss) regions resulting from electrical potential differences. Even small differences in potential can result in significant metal loss over time. Cathodic protection is accomplished by intentionally substituting the slightly anodic region of the structure with an even more anodic component called an anode.

Panel Discussion – Comparison of Procurement Methods for Facilities

10:30 AM to 11:30 AM (Wild Rose A)

Panelists:

John Hollenbach – Vice President – SUEZ-NA Mid Atlantic Division

Jason Wert, P.E., BCEE, ENV SP – Rettew -National Market Leader, Energy and Environmental Engineering

David Mott, Assoc. DBIA – Vice President Stone Hill Contracting Co., Inc.

Join the annual conversation at the panel discussion, where we probe into the advantages and disadvantages of alternative project delivery. Find out from the experienced Owners and Practitioners as to why they do or don't like alternative project delivery, and what can be done to mitigate past problems to assure a successful project.

Update on P3 Delivery – Insurance and Bonding

1:30 PM to 2:30 PM (Wild Rose A)

Presenters:

Gary Rispoli – Construction Risk Partners

Joe Kent – Construction Risk Partners

Public Private Partnerships look to a large portion of the market nationwide in the near future as the government looks for ways to improve infrastructure under tight economic constraints. Join us as we look from an Insurance and Bonding perspective at the risks associated with this type of procurement, and what can be done to mitigate the risks to best position yourself for this type of work.

Items to be touched on in the presentation:

- Use of P3 Project delivery globally

- P3 History in the US and region
- Bonding requirements and challenges
- P3 Risks and Insurance Solutions

How Technology Providers Have Geared Up to Support Collaborative Project Delivery Methods

1:30 PM to 2:30 PM (Wild Rose B)

Presenter: Patrick Regan, Evoqua

Owners can choose from a variety of delivery methods to meet their project objectives and priorities. Whether it is a Construction Management At-Risk (CMAR) or a Progressive Design-Build (PDB), the engagement of construction personnel and technology providers early in the design process helps maximize optimization of the entire operation as opposed to a single unit process within the facility. The end result for the owner is improved performance, reduced cost, and more clearly defined accountability. The role of a technology provider like Evoqua Water, offers a broad array of technical solutions to help meet the project objectives. By engaging subject matter experts from a variety of disciplines, a technology provider can offer the flexibility and expertise to minimize construction cost, meet tight schedule constraints and reduce the overall cost of ownership. Two specific technologies to highlight from Evoqua include ballasted treatment systems (BioMag/CoMag) and carbon diversion (Captivator). Both solutions are designed to minimize footprint, improve energy efficiency and make the best use of any existing infrastructure. The end result is dramatically lower construction costs and improved performance with the support of an experienced and hands on team of technical experts.

QA/QC Inspection on DB Projects

2:45 PM to 4:15 PM (Wild Rose A)

Presenter: Robert J. Scancelli, PE, DBIA – KS Engineers

This presentation will discuss the use of Engineering Consultants as Quality Control and Quality Assurance inspection management on design build projects. It will discuss the difference of the QC/QA between design Build and Design-Bid-Build projects. It will detail the role of QA/QC inspection under a design build project as well as reporting discrepancies. The discussion will show how the consultant need to work not only with the design-builder, but with the Owner and their representatives. Finally, the discussion will provide some examples of prior QA/QC on design build projects and the lessons learned.

The Final Chapters of DB Project follows the Same Collaboration Developed throughout a Major WTP and Transmission Project.

2:45 PM to 4:15 PM (Wild Rose B)

Presenter: Paul Delphos, PE, AECOM

The Bedford Regional Water Authority (BRWA) and the Western Virginia Water Authority (WVWA) joined together to construct a new 4 MGD water treatment plant and 22 miles of pipelines. This \$35 million (total project cost) project was constructed under a progressive design-build (PDB) delivery model. A fixed-price was negotiated between the Owner and the Design-Builder based on 60% design plans that included everything from a 12 MGD raw water intake, new raw water pumping station, new 4 MGD WTP (expandable to 6 MGD with no new structures required) and 22 miles of large diameter

pipelines. The lump-sum DB Proposal accepted by the Owners included permitting, easements, equipment, power supplies, railroad and stream crossings, etc. In addition, due to the tight Owner budget, only a 3% Design-Builder contingency and a 1.5% Owner Allowance was carried through the project. Even though the design documents had only been progressed to a 60% level, both the DB team and the Owner felt the closely reflected the final product and the smaller than typical contingencies were a worthwhile risk to keep the project moving forward.

Obviously, design-build is very different than traditional design-bid-build in that not everything is complete and finalized when bids are obtained. This does leave many questions unanswered as the team proceeds into construction. As such, this presentation will discuss all of the activities on this project after the final lump-sum price was accepted by the Owner through start-up and successful transition to the Owner. This includes start-up and testing of raw water pumps, a new membrane WTP with GAC as well as the testing and disinfection of 22 miles of transmission mains. Most importantly, due to the tight budget requirements, additive change orders were not an option, so all parties had to work together to keep the project within its budget and meet the original goals and objectives of this project.

Attendees to this presentation will learn about the Progressive Design Build process, how the team reached agreement on a lump-sum proposal, and, most important, how the team worked together to execute the project with no change orders and within the original budget and schedule agreed upon by all parties. This session will discuss the process from taking 60% plans to a complete operating WTP in 14 months. Attendees will get the full breadth of a completed DB project from beginning to start-up and commissioning, with proven strategies to make similar projects successful.