



TRAINING news

UA Education and Training Department

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Message from James Pavesic Director of Education and Training



I hope everyone had a safe and peaceful holiday season, and I wish everyone a Happy and Healthy New Year! Last year, we had a hectic and successful year, and it looks like 2020 is looking to be even busier. I would like to take this opportunity to thank my staff for all their hard work to make 2019 such a successful year. It is truly a pleasure working with them everyday!

I'm excited to announce the upcoming events for 2020, which will include the ITP Instructor/Faculty Bootcamp, that will take place in Dallas, TX, March 3-5. We also have a New Training Director/Coordinator Meeting scheduled in Annapolis, MD, for Monday, March

INSIDE this ISSUE

Apprenticeship—The Oldest Training System in the World..... p2
Normalizing Technology in UA Training p3
2020 Now is the Time..... p4
Attaining EPRI AP3 Compliance..... p5
What is a Virtual Foreman..... p6
ASSE 12000 Update..... p7

9 to Thursday, March 12. If you have not already registered, please contact Suzanne Ellis at the UA Education and Training Department or email her directly at suzanne@uanet.org.

The Instructor Training Program (ITP) and the International Apprentice Contest (INAC) are scheduled for Saturday, August 8 to Friday, August 14. I'm looking forward to promoting Industry Day this year, scheduled for Wednesday, August 12. Industry Day will have a new look and feel to it, and it will be worth promoting this event to contractors and end-users. Industry Day

MISSION STATEMENT

The mission of the UA Education and Training Department is to equip United Association locals with educational resources for developing the skills of their apprentices and journeypersons. By thus facilitating the training needs of the membership, we maximize their employability and prepare them for changes in the industry. We are committed to making training opportunities available across North America, allowing members to acquire new skills and remain competitive in the industry regardless of geography. In this way, we are determined to meet the needs of the piping industry and enhance employment opportunities for our members, while remaining fiscally responsible to the beneficiaries of the fund.



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allows us to showcase the training that turns out the very best skilled craftsmen and women in the industry. Additionally, graduation for ITP will be on Thursday, August 13, so make your plans accordingly.

For each local union, the ITF will offer a grant for one fourth-year or fifth-year apprentice to attend ITP. The awards are for individuals identified as future instructors. We will send out more details and the grant guidelines in the spring.

October 2020 will encompass a Training Directors/Coordinators' Meeting, which will be held in Chicago on Wednesday, October 7 and Thursday, October 8. The last time we had a two-day designated meeting for directors and coordinators was in 2011. There will be a lot of valuable information shared at this meeting, and I look forward to seeing you all there.

Revisions to the Guideline for Apprenticeship Standards are underway. Our committees are working on the current regulations from the Department of Labor regarding the updated standard, including the most recent revisions to 29 CFR 29 and 29 CFR 30. The standards will be presented and made available on uanet.org once finalized.

Also, the ITF is developing interviewer standards to assist in the proper ways to administer apprentice selection interviews. Once established, the training will be available regionally. In mid-year, the interviewer standards will be completed. Also, the ITF is working on the creation of validated apprentice selection procedures that will be made available to local JATCs throughout the country.

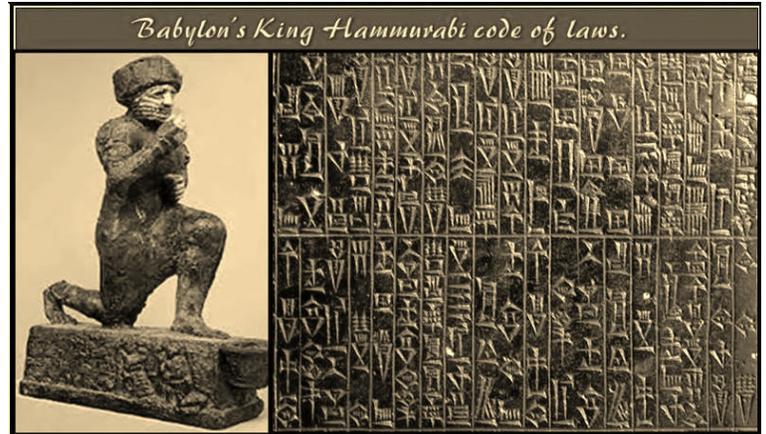
As you can see, we have a busy year ahead of us, but I have the highest confidence that 2020 will be even better than 2019! ■

Apprenticeship—The Oldest Training System in the World

Submitted by Lawrence G. Slaney, UA Special Representative

The definition of apprenticeship has been taken over in many jurisdictions in Canada by government officials and academic educators and schools. They define it by applying their principles on a system that is very old and proven and without a true understanding of the process or the product from a

well-defined and well-structured apprenticeship program. At the United Association, we know what apprenticeship is based on. We have worked with this system since long before 1889, when we were originally formed as a union. Apprenticeship is arguably the best system ever devised for training people to be skilled workers, and it is part of a long history of success.



Hammurabi was the ruler of Babylon from 1792 to 1750, and his complete set of codes called "The Code of Hammurabi" is celebrated as one of the first complete sets of written law in the ancient world that dates back to 1750 BC/BCE. The Codes were literally carved in stone on black diorite plates that established the requirements for written contracts and many other economic and legal precedents. Most importantly, the very first written law on apprenticeship was included in this Code. The statement below is directly translated from the Akkadian language and shows "The Code of Hammurabi" exhibits an understanding of human capital in the context of an apprenticeship. Law 188 states as follows:

"If a craftsman has taken a son for bringing up (in his craft) and teaches him his craft, he shall not be (re)claimed. To indicate that the issue is the training involved, the next law states that if the craft is not taught then the adopted son could return to his original parent's house. Together, these laws establish the principle that the original parents cannot appropriate the human capital conferred on an adopted child by a craftsman."

This statement proves that apprenticeship is not only the oldest tried and true system for development of human capital because it was written into stone on this plate that is 3,779 years old, but it also shows the economic value of the learned

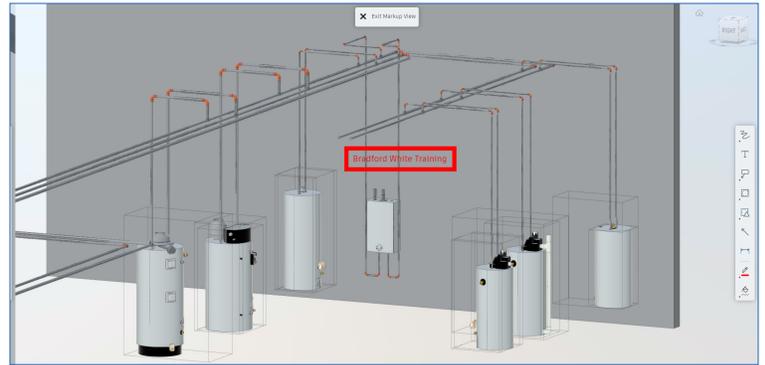
skills that a craftsman can transfer to another person in terms of human capital through an apprenticeship. Human capital, as every economist knows, is what constitutes the development and success of every economic system in the world. Nothing can be built without human capital, and it cannot be built cost effectively or economically without highly trained human capital. The members of the United Association are experts in the development of highly skilled workers and should be the organization making changes to a system that they truly understand. The system of apprenticeship is not something that should be changed at the whim of government regulators or educational institutions in political forums. We believe in the tried and true system of apprenticeship, which our country and economy needs to prosper. We will continue to develop our members' skills, because UA training professionals are the true experts in apprenticeship training development and delivery. ■

Normalizing Technology in UA Training

Submitted by Kenneth Schneider, UA Training Specialist

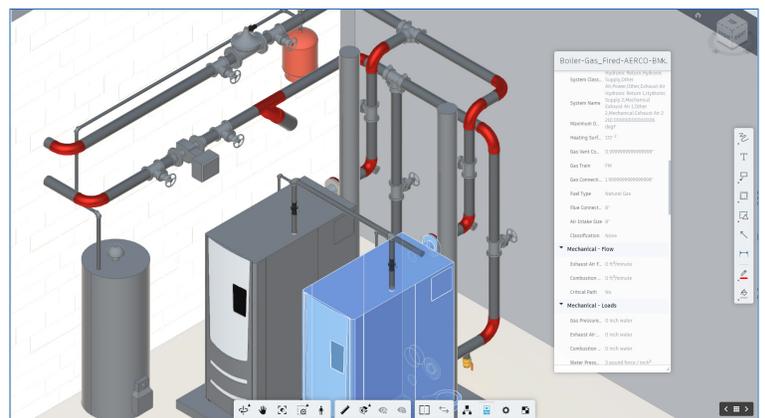
Every day we go to work with so much to do and so little time to do it in! Over the years, this is a statement I have heard and said many times. Whether it was on jobsites or in training centers, we have all been guilty of saying some form of this sentence. So, when someone says to you that it is time to implement technology into your training programs, it is easy to say, "There aren't enough hours in the day!" But, the truth is—there isn't any time left to wait. The time is now to begin the process of updating and implementing technology into every class and for every instructor who teaches at UA local training centers.

I firmly believe that Revit® provides an answer to technology integration. The following pictures are of projects that were created by those individuals who attended the Virtual Design and Construction (VDC) tour last year. Each one of these models can be used for training the various systems that they represent. These 3D models are all available through a web browser using the UA-ITF BIM360® account. Everyone who attended has access to each of these, so together, we can build a database of piping projects and piping systems that can easily be integrated into your current training.



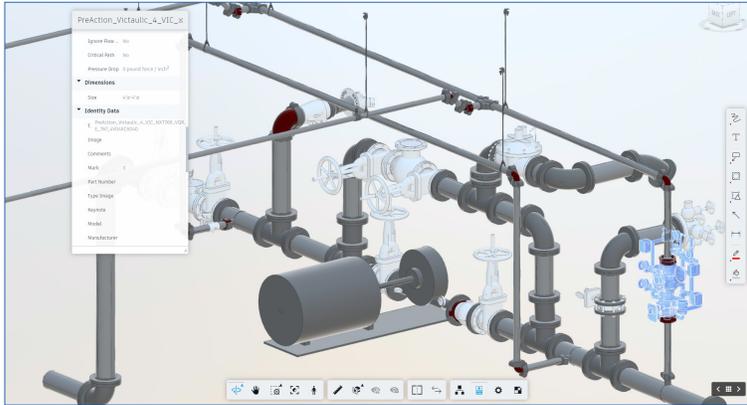
The Bradford White system can be used in the classroom to discuss how each system works, the proper piping methods, and it will give your students visual direction on what they are doing before they enter the practical classroom area. You are also able to load data sheets, specifications, and codes into BIM360®, so you have everything you need in one spot. The person who completed this model began the design process of the installation of this grantable item to ensure it would fit. It was a digital replica of the actual system in the practical classroom.

The "Boiler System" model created a replica of what had already been installed. This, once again, gives the instructor a valuable tool to use in the classroom prior to students entering the practical classroom. With a click of the mouse, you can find out information on the boiler, including model, manufacturer, BTUs, etc. You can also explore the pipe types and sizes, along with the other components of the system.



The "Fire Pump" room model provides a digital replica of a jobsite system, which isn't available inside a current training center. You'll have the ability to utilize this model inside

Revit® and produce a hydraulic calculation utilizing Hydratec software, a Revit® add-on. With the click of a mouse, you can gather information about the pump, such as the manufacturer, model, GPMs, etc. You also have the ability to change the pumps, pipe sizes, and types of fittings to meet the system demand requirements.



Sometimes, the hardest part is just figuring out how to begin. I would suggest giving us one week at one of the five locations listed below, and we will help you begin. As we have said to apprentices many times before, "It only takes two things to complete a project—show up and have the desire to succeed!"

3095 Utilizing Revit for UA Training

- District 4, UA Local 601
January 14-16, 2020
- District 5, UA Local 393
February 4-6, 2020
- District 3, UA Local 72
March 17-19, 2020
- District 1, UA Local 537
April 21-23, 2020
- District 2, UA Local 449
May 12-14, 2020

These classes are set up to take you through a couple of exercises, and we will have you routing pipe on the digital jobsite or training center, creating real projects to teach your apprentices and journeypersons utilizing today's technology. One week is all it takes to begin the journey on the technology train. Give us your time, and together, we will tackle technology together! ■

2020 Now's the Time!

Take Advantage of the Regional Training Opportunities

Submitted by Cathy Merkel, UA Registrar

Happy New Year! The 2020 Regional and Instructor Training Program (ITP) will include a lot of new courses. Some of the Regional courses to take advantage of include the newly designed Labor History course, *2010 Labor History and the UA: 1800 to the Present*. It is available online and is being taught by Sam White, Institute for Labor Studies and Research, West Virginia University. The online course is a combination of both labor history courses offered at the Instructor Training Program.

Also, for the first time the International Training Fund is offering Coordinator Courses through Regional Training. This will include courses 9001 - *Apprenticeship Standard Guidelines*, which will be taught in May and 9002 - *Administration of a Jointly Managed Training Program*, which will be taught in June at the UA Headquarters Training and Education Center.

Additionally, note that your instructors may take course 1003 - *Planning, Teaching, and Assessing Effective Lessons: Advanced* online in January or March. This will enable them to free up 20 hours to take other courses of interest at ITP. The Water Quality courses are now available to take in April, although they were not listed in the catalog. Please review the Regional course catalog on uanet.org to see what is available in 2020, as well as other new and revised courses that include the following:

5028 Petrochemical Facility Awareness, 6090 Fujitsu Variable Refrigerant Flow (VRF), Revit® for Fire Protection and 5028 Petrochemical Facility Awareness

All training courses are contingent upon the number of students.

Instructor Training Program dates are August 8-14, 2020. Registration will be open the second or third week in May.

It is important to do the following when registering yourself or your instructors for both Regional and the Instructor Training Program:

- Review a current transcript and ensure that course prerequisites have been met.
- If you need to obtain a current copy of a transcript, please contact the registrar's office.

- Students enrolled in courses 1001-1003 must complete the reflective teaching assignments (RTAs) before moving on to the next course.
- Provide accurate profile information and an individual email address for each registrant.
- Complete the survey questions and ensure to select the appropriate box if graduating.
- Those eligible for an associate degree from Washtenaw Community College should contact Brittany Tripp, Manager of UA Programs, at btripp@wccnet.edu or 734-973-3685.
- Note the personal protective equipment required for each course.
- If you register others, please share the brochure and course information with those individuals.

We look forward to seeing you at the Instructor Training Program. ■

Attaining EPRI AP3 Compliance

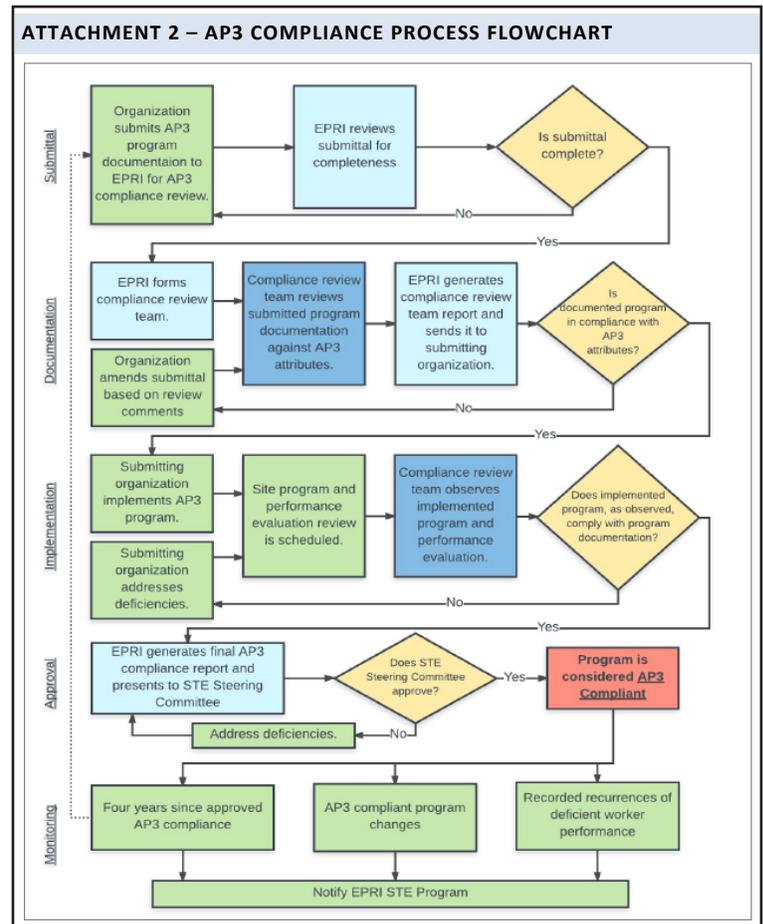
Submitted by Michael Galfano, UA Training Specialist

Many of us see the abbreviation EPRI in various documentation. Do we know what EPRI does and the value it brings to our UA members? EPRI is the abbreviation for the Electric Power Research Institute. The EPRI conducts research and development relating to the generation, delivery, and use of electricity for the benefit of the public. Through the EPRI, the Standard Task Evaluation (STE) program was developed. The Standard Task Evaluations, which cover tasks performed by utility and supplemental workforces during outage work, include task analysis and objectives, written test items, and practical performance evaluations. Through the STE process, personnel are evaluated on their ability to perform a given task in accordance with the standardized approach. Qualified utility and supplemental personnel are critical to a plant's ability to safely and effectively conduct maintenance tasks and help reduce the length of outages. The UA's Valve Tech, Instrument Tech, and Industrial Rigging are all included in the STE program. Over the past five months, the UA has been working on the renewal audit process of our AP3 program. AP3 is the administration protocol for portable practicals. The AP3 document provides a standardized approach that helps to ensure that each compliant workforce provider sup-

plies a consistent method for evaluating STEs. Compliance with AP3 helps to reassure end-users, such as nuclear utilities, that personnel supplied by the compliant organization have been thoroughly and independently evaluated on specific tasks. Under the cognizance of the EPRI STE program administrators, this formal process exists for a workforce provider to become compliant with AP3. The AP3 compliance review process consists of five phases:

- 1) Program Submittal
- 2) Program Documentation Review
- 3) Program Implementation Review - Site Visit
- 4) Program Approval - Steering Committee Vote
- 5) Program Monitoring - Feedback

ATTACHMENT 2 – AP3 COMPLIANCE PROCESS FLOWCHART



As of this writing, all revised documentation has been submitted, and the program implementation review site visit has been completed. The UA is waiting for the Steering Commit-

tee vote and program approval, which should be completed by February 2020. The program compliance approval will extend our renewal with EPRI for an additional three years. I would encourage all training directors and STE administrators to review updated AP3 information under the “Certifications” tab located on UAnet specific to Valve Tech, Instrument Tech, and Industrial Rigging. We have updated 19 revisions to our AP3 procedure guide. Updated revisions are in bold font. These updated revisions are essential to preserve the creditability and quality of these important UA Certification programs. I would like to thank Special Representative Phil Martin for all his help and guidance during this EPRI audit renewal process. I would also like to thank Training Coordinator Monte Kimes, Local 597, and Instructors Dan Mulligan, Local 597, Mike Howard, Local 353, and Scott Schoper, Local 597 for the site visit performance evaluation, which was conducted at Local 597 in Chicago. Please feel free to contact me with any questions and let me know if I can be of any assistance at mgalfano@uanet.org. ■

an office and design the job virtually. The virtual foreman is invaluable as they will take the lessons learned in the field, apply due diligence, and put the effort into making the process a seamless transition in the field. The lessons learned will come into play as the field experience will reveal itself when they pick up issues that they have come across on past work. They usually come up with solutions when past experience has determined the best, most cost-effective solutions. Due diligence is invaluable as a detailer as you need to be aware of putting all the pieces of the puzzle together, such as submittals, fine print issues, contracts, scope of work, and miscellaneous notes on obscure drawings that affect the entire project. These issues need to be figured out, as there are no more double checks before material is ordered and field labor hours are being spent. A detailer begins by obtaining all of the relevant information. Next, design the system and make it installable. In its most simplistic form—a virtual foreman needs to detail the job correctly and make it as easy as possible to install.

What is a Virtual Foreman?

Submitted by Dave Verna, Local Union 322 Instructor and Director of Construction Technology, A.T. Chadwick Company, Inc.

It came up in a discussion recently about the need for explaining trade knowledge to a CAD detailer who is doing the trade detailing. In my experience, the best detailers have a trade background. I have also found that you can teach computers to a trades person much easier than you can teach the trade to a computer person. The reason for that is the field experience attained by actually installing what you are drawing is invaluable, and essentially, it is unable to be taught as easily in any other way than through hands-on learning.

The trade skills and mindset that is obtained when you are running work or working as a foreman or general foreman on a construction site, is similar to when you step into



If the bar drops at this stage, it will never be picked back up. The issues that are flushed out at this stage will provide value to the contractor, save everyone time, as well as showcase the value that a trades person brings to the table—a true virtual foreman. Issues that are left for the “field to figure out” or something that “we don’t have time for” will ultimately cost time and effort on an exponential level. Virtually, we can lift heavy pipe, move its location with the strength of a mouse click, and rapidly make changes to suite hangers, arrange trade coordination, and any last-minute adjustments that are necessary before applying field labor hours to any task.

If you are having a hard time trying to relay this in context to your team, try asking the questions:

- Would you send a foreman out to a job without knowing what valve or pipe material they are using?
- Would you spend field hours not knowing what type of chiller is being selected?

If a foreman were to ask these questions, it’s pretty clear to everyone, he or she cannot complete the job at hand. We all need to do a better job relating that story line in the context virtually, as the same implications apply.

I’m proud to be a skilled UA worker, I’m even more proud to have had the ability to train our members to become true #virtualforemen. ■

ASSE 12000 Update

Submitted by Richard Benkowski, UA Training Specialist



In November 2019, the UA Water Quality Program offered a regional class in Pittsburgh, PA, for contractors and all UA members that was hosted by LU 27 with support from LU 449 and LU 562. The event was opened by Director of Plumbing Services, Tom Bigley followed by a welcome from International Representative, Kurt Steenhoek.

The keynote address was given by Dr. Janet E. Stout, PhD. Dr. Stout offered practical ideas for the intervention and prevention of Legionella for all building systems. A clinical and environmental microbiologist, Dr. Stout is recognized worldwide for more than 30 years of pioneering research in Legionella. Her expertise includes disinfection and control strategies for the prevention of Legionnaires’ disease and other waterborne pathogens.



More than 60 attendees from around the country learned from UA instructors the proper methods, vocabulary, and behaviors to offer healthcare facilities a path to compliance for ASHRAE 188-2018. Each of the UA crafts performed hands-on tasks at the three local training centers.

The third day offered techniques to qualify local UA instructors for the ability to teach plumbers, service techs, pipefitters, and sprinkler fitters at their home local. ASSE awarded certificates to both contractors and craftsmen to validate their efforts.

The following are upcoming program events:

February 1-5, 2020

Orlando Convention Center, Orlando, FL

ASHRAE Winter Conference

Technical Paper Session 23:

Legionella Intervention: Water Security and Resilience in Building Systems

Wednesday, February 5

9:45 a.m. - 10:05 a.m.

Learning Objectives:

- Identify threats to public health from Legionella and other pathogens.
- Formulate a plan for risk assessment of building water systems.

April 21-22, 2020 - Johnson City, TN

Regional ICRA 2157 to be offered April 21-22 at the new training center for LU 538.

All candidates for certification shall meet all of the following criteria:

- Successful completion of an OSHA 10 or OSHA 30 class prior to attending the training course.
- Successful completion of a minimum 12-hour training course encompassing all aspects of ASSE Standards 12010, 12030, and 12040.
- Successfully pass a written exam with a minimum of 75 questions encompassing aspects of ASSE Standard 12010, 12030, and 12040 with a score of at least 80%.
- Certification to this standard shall be through a nationally recognized third-party certification agency.
- Certification shall be for a three (3) year period.

April 23, 2020 - Johnson City, TN

Biological Pathogens Professional Qualifications Standard for Construction and Maintenance Employers

20-4.1 Certification

All candidates for certification shall meet all of the following criteria:

- 20-4.1.1 Successful completion of an OSHA 10 or OSHA 30 class prior to attending a 12020 training course.
- 20-4.1.2 Successful completion of a minimum 8-hour training course encompassing all aspects of ASSE Standard 12020.
- 20-4.1.3 Successfully pass a written exam with a minimum of 25 questions encompassing aspects of ASSE Standard 12020 with a score of at least 80%.
- 20-4.1.4 Certification to this standard shall be through a nationally recognized third-party certification agency.
- 20-4.1.5 Certification shall be for a three (3) year period.

April 21-23 2020 - Van Nuys, CA

This program is designed to prepare UA signatory contractors and UA members to provide risk assessment, control measures, and documentation for all piped systems in healthcare facilities for compliance with the CMS mandate and the CDC toolkit. All participants will learn how to map, monitor, identify risk, offer remediation, and provide documentation as required by ASHRAE 188-2018.

UA Signatory Contractors plan to attend April 21, 2020. UA plumbers, pipefitters, service technicians, and sprinkler fitters plan to attend April 21-22, 2020. UA instructors for all crafts plan to attend April 21-22-23, 2020.

Please contact the UA registrar to enroll your contractors and members for this event.

Be sure to make certain that your local training center is registered with ASSE as a testing site.

If you have any questions, please contact Rich Benkowski at richb@uanet.org. ■

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