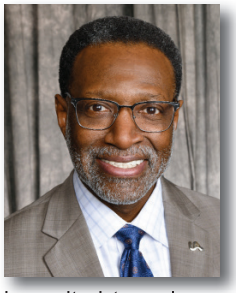
TRAINING news

UA Education and Training Department

April 2025 | Issue 46

Message from Raymond W. Boyd Director of Education and Training



Starting the Year Off in the Right Direction

The staff of the UA Education and Training Department is excited to welcome 2025. We successfully hosted the Pipe Trades Training and Technology Conference in Grapevine, TX, attracting over 900 attendees and collaborating with the UA Organizing and Recruitment Department to continue growing our membership. Throughout the week, we offered numerous workshops and participated in a blitz, engaging with skilled tradespeople, both men and women, about the United Association and all it has to offer.

This partnership between education and organizing provides us with an opportunity to understand each other's roles better. With the feedback we've received, we will be able to create training that helps us appreciate the importance of COMET (Construction Organizing Membership Education Training) and understand the Apprenticeship Standards and their permissible uses. This year, the UA Education and Training Department will assume a more active role in recruitment and organizing events.

INSIDE this ISSUE

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.

INTERNATIONAL TRAINING FUND

Three Park Place • Annapolis, Maryland 21401
Telephone (410) 269-2000 • Fax (410) 267-0382

As in previous years, this is the time when the Education and Training Department welcomes new Directors and Coordinators to UA Headquarters. This year, 23 new Directors and Coordinators attended our annual meetings. The week was filled with information from our entire ITF (International Training Fund) department. The discussions covered a wide range of topics, including UA grants, apprenticeship standards, accreditation audits, organizing and COMET, mental health and suicide prevention, apprentice selection processes, structured interviewer training, recruitment, and safety and health. This year's group was extremely diverse, featuring Directors and Coordinators with just two weeks on the job alongside those entering their second and third terms as Directors. The group was engaged throughout the week, and the surveys indicate they gathered a wealth of information while also providing the ITF Education and Training Department staff with many new training ideas to explore.

We are excited to host once again our 2025 New Instructor Boot Camp at Washtenaw Community College. This gives us the opportunity to prepare our new regional and ITP Instructors with the vital information they need to be successful. We have 24 Instructors this year who have accepted the opportunity to teach and take time out of their busy schedules from their home locals, and we genuinely appreciate it. We understand the importance of having the Instructor Boot Camp; it allows our Instructors to feel confident during our Train-the-Trainer and regional courses that the ITF offers. Please mark your calendars. This year's Instructor Training Program at Washtenaw Community College is fast approaching. The dates will be August 9 to 15, and registration for this year's ITP will open soon.

As we always say at the ITF, they're eager to help with anything you need at your training centers. If there's anything we can help you with, please contact us at UA Headquarters.

The United Association Construction Technology Committee

2025 MCAA MEP Innovation Conference Sessions Overview and Takeaways

Submitted by John W. Russell, Jr., UA Local 5

Members of the United Association Construction Technology Committee attended the 2025 MCAA MEP Innovation Conference held in Los Angeles, CA, January 27 thru January 30, 2025. The conference brought together more than 700 professionals from the mechanical, electrical, and plumbing (MEP) sectors. This collaborative event, organized by MCAA, NECA, and SMACNA, focused on the latest technological advancements and innovative practices in the construction industry. Following are the highlights of the three general sessions presented as well as a synopsis for each of the eight breakout sessions that I attended as a member of the UA Construction Technology Committee.

General Sessions

The four general sessions, held on the second and third days of the conference, focused on subjects that included Becoming a Data Empowered Contractor, Key Research Updates, Understanding MEP Technology Use, and updates of a VDC Time Study currently under way:

General Session: Becoming a Data Empowered Contractor

Presented by Todd Grossweiler (Executive Vice President, Allison Smith Co. Chair, NECA Innovation & Strategy Taskforce), Jeff Sample (Founder, Iron-man of IT), Matt Lamb (Chief Information Officer, Rosendin), Chris Weaver (Director Of Technology, Andy J. Egan Company) & Joseph Lansdell (President, Poynter Sheet Metal)

Todd Grossweiler provided a general introduction and overview for the conference, including sponsor acknowledgments and acknowledgments to the participating organizations and their associated staff members.

The panel session was moderated by Jeff Sample and focused on the shift from being data-driven to data empowered in mechanical contracting, and how the industry has evolved due to data availability and use of enhanced technological tools. Panelists discussed the evolution of leadership within contracting organizations, emphasizing how company roles have adapted alongside technological advancements. They addressed challenges in implementing technology-driven changes, including change fatigue, the progression of technology tools over the past 10 to 15 years, and how leveraging data has fueled business growth. The conversation also highlighted data tracking and forecasting tools that improve operational efficiency. Additionally, the discussion explored the importance of open communication in data-sharing for effective management, the emergence of future construction leaders with strong technological skills, and the ongoing workforce transition as older workers retire, fostering mentorship opportunities.

General Session: Foundations of Innovation - Key Research Updates

Presented by Sean McGuire (Executive Director, JRGF), Josh Bone (Executive Director, Electri International), Tom Soles (Executive Director, Smacna's New Horizons Foundation)

This session provided key research updates from Electri, JRGF, and New Horizons, focusing on managerial strategies, workforce trends, and industry innovations. Researchers are collecting data and feedback from contractor partners to identify areas for process improvement and best practices.

These studies included a VDC time study aimed at optimizing cost estimation and management, a hardhat study partnered with Virginia Tech evaluating hardhat durability and best value, and a wire hanger case study examining their use and impact on productivity and installation quality. Additionally, an ongoing Penn State study is developing metrics for measuring performance and success in VDC, shop work, field installation, and safety practices.

A significant workforce study also revealed that a four-day, nine-hour workweek is the most productive when compared to 4-10s or 5-8s, while incentive pay does not improve employee performance or absenteeism rates. Other research efforts included cyber security requirements for DOD projects, prefabrication cost factors (in partnership with Marquette University), managing rework on mega-projects, a workforce development study, and a study of the evolving impact of data centers on emerging markets.

General Session: From Data to Action: Understanding MEP Technology Use

Presented by Steve Jones & Donna Laquidara-Carr (Industry Insights Research, Dodge Construction Network)

This session explored the digital transformation within the construction industry, detailing the shift from manual processes to automated, integrated, and collaborative workflows. The discussion covered key findings from new research conducted for MCAA, NECA, and SMACNA, examining technology use, implementation, data utilization, and company engagement within the industry.

The presenters traced the industry's digital journey, highlighting the evolution from manual drafting to CAD to BIM, from light table coordination to software-driven clash detection, and from chalk-line layouts to laser-guided and robotic layout systems.

These advancements demonstrate how MEP contractors are increasingly leveraging technology and data to drive efficiency, enhance collaboration, and streamline operations. The session reinforced the importance of integrated digital tools in shaping the future of mechanical contracting.

They also explored how MEP contractors are leveraging technology and data to drive integration, collaboration, and efficiency in the construction industry. The presentation highlighted findings from new research conducted for MCAA, NECA, and SMACNA, with insights from 72 contractors on software adoption, data management, and company engagement with technology.

A major theme was the industry's digital transformation, moving from manual processes to integrated, automated workflows. Poor coordination remains a key challenge, with average 10% profit erosion linked to project misalignment. However, research shows that companies investing in collaboration—such as BIM-driven robotic layout—are seeing improved project outcomes.

Key findings in software adoption, data management, technology engagement, and workforce and fabrication trends were also presented. The session reinforced that effective technology use, collaboration, and data management are key drivers of success for MEP contractors. Organizations that actively invest in these areas report stronger project performance, higher efficiency, and greater adaptability in an evolving industry.

General Session: VDC Time Study

Presented by Carrie Sturts Dossick, Ph.D, P.E. (Professor of Construction Management and Associate Dean of Research, College of Built Environments, University of Washington)

This interactive session focused on benchmarking VDC time usage across different project phases, providing attendees with valuable insights into time management, resource allocation, and process optimization within Virtual Design and Construction (VDC). The presentation shared benchmark data on how VDC professionals allocate their time and how requirements shift throughout a project's lifecycle. Attendees engaged in live polling, allowing them to compare their own experiences with the research findings and contribute to a real-time discussion on the challenges and opportunities in estimating and managing VDC time. The session emphasized best practices for improving efficiency, fostering collaboration among contractors, and identifying areas where technology and workflow adjustments can enhance productivity within VDC processes.

Breakout sessions were held on each day of the conference and included roundtable sessions as well as workshop sessions scheduled on the final day. These sessions covered a range of topics including workflow implementation, improving operational performance, coordination processes, and workforce development:

UA CTC members Shawn Milligan (Local 562) and John Russell Jr. (Local 5) attend a breakout session

Eric Posey (Local 440) presents during the "Tech Tricks, Tips & Shortcuts" Roundtable session

Breakout Session: Building the Digital Foreperson

Presented by Stephan Schnell (Director of Training, UA Local 467), Ron McGuire (Director of VDC and Technology Training, International Training Institute), and Steve Rose (Director of Technical Innovation and Facilities, Electrical Training Institute of Southern California).

This session explored the evolving role of the foreperson, emphasizing the need for proficiency in both traditional construction practices and modern, tech-driven workflows. The speakers outlined how all three trades are updating training programs to prepare forepersons with a digital-first mindset, focusing on preconstruction, preplanning, and effective jobsite management. Key areas covered included: Communication - Apprentices trained with iPads, laptops, etc. and trained in digital communication tools, including email and Microsoft Office. Planning - Forepersons use tools such as Revit, Procore, and Revizto to streamline planning and improve real-time collaboration with other trades. Prefabrication - The session highlighted the move toward controlled shop environments, using Revit and other design software along with automated tools to reduce field errors and boost efficiency. Safety - By shifting tasks from the field to the shop and leveraging design models, risks are minimized. Strategies such as using RTS for overhead work and exploring wearable devices for real-time geolocation were presented as ways to improve safety. Scheduling - The foreperson's role in optimizing schedules through prefabrication and real-time tracking was emphasized, while suggested training included exposure to industry-standard scheduling tools such as Primavera P6, Microsoft Project, pull-planning, and Critical Path Method (CPM) usage.

The session underscored the training necessary to develop today's project foreperson. A foreperson that must be adept at managing digital workflows that enhance communication, safety, and efficiency, while keeping pace with evolving industry demands.

Breakout Session: Harmonizing IT, Security & Operations

Presented by Darren Young (Director of Construction Technology, UMC), Molly Knight (Cyber Security Specialist, UMC), and Dustin Adam (Director of Information Technology, Hermanson Company, LLP)

This session explored the challenges and solutions in aligning IT, cyber security, and construction technology within a mechanical contracting environment. The presenters highlighted common sources of tension between these departments, often stemming from poor communication, a lack of understanding of each other's roles, and limited collaboration.

The discussion emphasized the critical need for these departments to work as a cohesive team to enhance overall efficiency. Key topics included the importance of cross-departmental understanding, the frequent absence of dedicated construction technology teams in many firms, and the gap in IT's awareness of construction-specific needs. Additionally, the session addressed the delicate balance between implementing strong security measures and maintaining user-friendly systems, recognizing that overly complex security can lead to employees bypassing protocols.

By fostering better collaboration and mutual understanding, companies can improve operational efficiency and reduce security risks.

Breakout Session: From Support to Leadership – Elevating Subcontractors in GC-Managed Coordination

Presented by Eric Klaffka (VDC Pipe Manager, Mollenberg Betz Inc.), Jeff Miller (Director of Virtual Construction, Harrell-Fish, Inc.), and Adam Davis (Director of Fabrication & Modularization, Miller Electric Company)

This session explored strategies for empowering subcontractors within general contractor (GC)-managed coordination scenarios, focusing on improving communication, planning, and leadership in Virtual Design and Construction (VDC) processes. The presenters highlighted how subcontractors can shift from a support role to a leadership position by actively engaging in project coordination and fostering stronger connections between VDC teams and field operations.

Covering several key topics such as Coordination Schedules and Milestones, Working with Trade Partners, BIM/VDC Execution Plans, Financial Impacts, and The "Art" of Construction, the importance of integrating VDC schedules with overall project timelines, assessing trade partners' resources while understanding the experience levels of coordination teams, essential tools (e.g., Revizto, Navisworks, Autodesk Construction Cloud), level of development

(LOD) expectations, and scope alignment, were emphasized. Presenters also highlighted the art of "soft skills" that are crucial for successful coordination, including communication, adaptability, emotional intelligence, and problem solving. They also addressed how BIM/VDC inefficiencies can lead to project delays, design changes, labor overruns, and out-of-sequence work, underscoring the financial risks tied to mismanaged coordination efforts.

Key Takeaway: Subcontractors can elevate their role in GC-managed projects by taking proactive leadership in VDC coordination, promoting collaboration, and leveraging technology to optimize efficiency and minimize financial risks.

Breakout Session: 360 Degree Digital Workflow

Presented by Zach Piercy, Director of Commercial Sales, Poynter Sheet Metal

This session focused on transforming outdated shop and field communication processes into an efficient, transparent, and scalable digital workflow. Zach Piercy outlined the challenges faced due to poor communication, information

silos, inconsistent internal shop orders, and the common "shop vs. field" mentality. He emphasized how ineffective collaboration, unclear goals, and last-minute notifications hinder productivity.

The retirement of a long-standing shop foreman at his company presented a key opportunity to reevaluate and modernize the shop workflows. By conducting in-depth process mapping, the team identified areas to delegate, streamline, and improve communication between departments. Processes were implemented to develop solutions for improving these areas. These involved mapping the processes—walking through the entire workflow from foreman orders to truck loading—to uncover inefficiencies and variations. Evaluating needs of the field and shop - Ensuring field teams received confirmation of deliveries, real-time updates, and scheduling details, and the shop received uniform orders, clear prioritization, and reduced redundant communication, developing a digital platform, enabling status tracking, automated updates, and easier order filtering and sorting.

In addition, an implementation strategy was developed, beginning with beta testing, designating a small group to perform new process trials for flushing out issues and refining workflows before a wider rollout. Emphasis was placed on user-focused design, prioritizing ease of use, and ensuring the new system improved current processes rather than complicating them.

Breakout Session: Deploying & Vetting a New Workflow: Best Practices & Strategies for Success

Presented by Chris Hronek, Construction Technology Manager, Tweet Garot Mechanical, and Tiffany Robinson, Preconstruction Manager, Christenson Electric

This session explored structured strategies for successfully deploying and vetting new workflows within a contractor's organization, focusing on planning, stakeholder engagement, pilot testing, and leveraging technology for maximum efficiency. Key steps for successful workflow implementation were defined and described in detail. These key steps are briefly described as: a) Initial Assessment & Planning - Evaluating existing inefficiencies defining clear, measurable objectives and establishing realistic and achievable outcomes. b) Stakeholder Engagement & Communication - Identify and involve key stakeholders early to address needs and concerns, then maintain an ongoing dialogue to foster buy-in and to keep them informed and engaged. c) Pilot Testing & Evaluation - Conduct controlled pilot tests to validate the new workflow. Gather data and adjust workflows before full-scale implementation. D) Full-Scale Implementation - Develop a detailed plan outlining timelines, roles, responsibilities, and contingency strategies. Provide comprehensive staff training, and measure success against defined objectives.

Common challenges encountered during implementation were also discussed, and suggested methods for addressing them were presented. These challenges include: Resistance to change, resource limitations, ensuring long-term adoption, and leveraging of technology for maximum efficiency.

Roundtable Session: "Per My Last Email"

Presented by Nathan Wood (Founder & Chief Enabling Officer, Spectrumaec)

This roundtable discussion explored the often-contentious relationship between software vendors and users. As a follow-up to last year's session, the conversation focused on key frustrations from both sides, including contractor needs, scheduling challenges, unrealistic implementation expectations, insufficient training, poor culture change management, and inadequate planning.

With an evenly split audience of vendors and users, breakout group discussions followed by a class roundtable discussion, fostered mutual understanding by highlighting the pain points and expectations of each group. Attendees shared firsthand experiences and best practices for improving collaboration and communication, ultimately aiming to create more effective partnerships between technology providers and contractors.

Workshop Session: Building a Corporate AI Strategy

Presented by Josh Bone (Executive Director, Electri International)

This workshop emphasized the importance of a strategic approach to AI adoption in the construction industry, cautioning against automation for its own sake. AI is addressing long-standing industry challenges such as low productivity and poor predictability, offering efficiency gains in areas like automated submittals and bulk data analysis. Despite the increasing volume of data generated in construction, a Deloitte analysis found that 80% of global construction firms have only beginner or emerging data capabilities, highlighting the need for stronger data strategies and skill development.

AI can transform how construction teams analyze, augment, and automate information, enabling better decision making and long-term improvements. Tools such as Autodesk's Construction IQ analyze project data to provide real-time insights into risks, performance, and resource allocation. AI-driven solutions also optimize supply chains, balance workloads, and enhance site safety through real-time monitoring of these areas. Additionally, AI's ability to identify market trends can help firms anticipate industry shifts and adapt strategies accordingly. By leveraging AI effectively, construction teams can improve efficiency, reduce costs, and create safer, more responsive project environments.

In all, a total of 44 breakout sessions, roundtables, and workshops in addition to the four general sessions were offered during the three days of the conference. When I attended in 2024, the presentations focused on newer technologies, their impact on the MEP industry, and strategies for their use and application.

At the conference this year, four areas of emphasis could be identified. These areas include data empowerment, workflow/process implementation, workforce development, and VDC applications.

Networking and Collaboration Opportunities

As in the past, the event facilitated extensive networking, allowing professionals from the MEP trades to share perspectives and solutions to common challenges, fostering cross-disciplinary collaboration. Ideas are formed and discarded, and significant knowledge and insight can be gained during these networking events. This conference has been historically effective for promoting discussion and the sharing of ideas among the attendees, as well as providing relationship-building opportunities, continued collaboration, and beginning new friendships.

Key Takeaways

Applying the insights and information obtained during the week to our UA VDC and technology training, we must begin to explore training possibilities and strategies in the areas of data empowerment, workflow implementation, VDC processes, and workforce development. Emphasizing real-world applications, we can explore educating our members in these areas for both in-the-office and field installation applications:

Data Empowerment: As a major theme of the conference, many sessions highlighted the importance of building organizational structures, and adopting software tools, including AI, to collect and analyze data. The emphasis was on the importance of leveraging data and technology to mitigate risks, improve efficiency, and drive profitability. Sessions also covered labor performance tracking, scheduling, modeling, estimating, project win rates, financial performance and AI driven analytics.

As tools evolve for collecting and analyzing data from the myriad of possibilities within our industry, training our members with the knowledge of how data is utilized to impact our daily piping installation methods will enhance their skill set by understanding the purpose of certain workflow specifics, as well as the reasoning for why certain tasks should be performed in a specific way. In addition, our members will learn to create and apply their own methods for utilizing data related to their experience on the job, and analyze it to identify areas to improve personal performance.

Refining And Implementing New Workflows: These sessions focused on leveraging technology, process optimization, and managing resistance to change, to enhance efficiency in MEP workflows. One session of note included a case study using VDC, and fabrication to augment a totally paperless workflow from coordination through field installation. Sessions also explored integrating a duct fabrication process, custom app development, and the relationship between IT, cyber-security and operations technology within an organization. Additional presentations included topics related to best practices for workflow deployment, ensuring smooth implementation of new tools and methods.

As our contractors integrate the latest technology tools and overhaul long-standing workflows and processes, they will inevitably encounter resistance to change among team members. Many employees have developed deep familiarity with traditional methods, and the shift to new systems can be perceived as disruptive or unnecessary. Training in change management will help our membership to adapt to these new workflows by equipping them with the knowledge and skills to overcome uncertainty, build confidence, and see the value these innovations bring to project efficiency and company success.

Embracing technological advancements is about enhancing job performance, improving project outcomes, and maintaining a competitive edge in our constantly evolving industry. Training our members in these areas will help them to understand technological change, and to embrace it to become a contributing member of the team dedicated to the success of the project, the contractor, and ultimately the UA.

VDC Processes: The conference featured multiple sessions aimed at improving coordination, workflow efficiency, and technology integration in construction projects. One session focused on how MEP contractors can better integrate with GCs using technology. It emphasized leveraging tech tools for coordination meetings, communication, and relationship building to enhance project workflows and collaboration. Another VDC roundtable discussion addressed best practices for running a VDC department, covering software selection, procedural frameworks, template creation, and database management to optimize the production of coordination models, shop drawings, and fabrication spools. Several sessions exploring the efficient use of software for MEP contractors included various tech hacks, covered Revit API programming , shortcut keys, workstation hardware, Google Chrome tools, and task management software. Additionally, a session on subcontractor leadership in GC-led coordination provided strategies for asserting influence and preventing scope creep. Lastly, a session on VDC budgeting and project changes examined the financial impacts of schedule, sequence, design, and correction changes on MEP projects, and providing attendees with tools and strategies to track and mitigate these impacts.

Sessions reinforcing the importance of technology adoption, workflow optimization, and proactive coordination to drive efficiency and profitability in the MEP industry have consistently been a staple of the MCAA MEP Innovations conferences, highlighting the importance of model-based coordination, fabrication, and installation to ensure success for our contractors' projects.

For many years, UA detailers have traditionally taken the lead to manage the coordination processes with other trades in order to provide a high degree of model accuracy on many of our contractor's projects. These coordination and detailing skills have traditionally been acquired by our members only through on-the-job training. Although our current curriculums for advanced plan reading, Revit modeling, robotic total station, laser scanning, and piping fabrication are successful in training for the use of these VDC tools, we must expand our VDC curriculums to include more specific training in many aspects of coordination and detailing. With the development of a UA Mechanical Draftsman certification program, currently under way by our UA Construction Technology Committee, we may be witnessing this expansion in the near future.

Workforce Developmnet: Sessions involving workforce development emphasized the evolving skill sets and leadership required in today's construction industry. One session highlighted training methods for the changing role of forepersons, who must now integrate traditional construction principles with digital workflows, and jobsite technologies. Another session focused on building a successful technology team within an organization, covering the roles and skill sets needed, from Chief Technology Officers to BIM specialists.

Addressing the growing workforce shortage, another session explored innovative recruitment methods, including non-college career paths, AI-driven hiring processes, and youth outreach initiatives. Industry experts shared strategies for attracting and retaining talent through internships, engagement with new technologies, and construction technology career paths.

These sessions underscored the importance of digital adaptation, recruiting, leadership development, and the need for training in these areas to shape our future workforce. Understanding that our industry is adopting, and will continue to adopt new technologies both in the field and the office, and communicating the many related career path possibilities that this brings for prospective apprentices and journeyworkers, will aid in attracting and retaining that future workforce. In addition, curriculums at our UA locals that include leadership training, foremen training, project management training, etc., could include techniques for managing these new technologies on the jobsite, as well as synchronizing with existing VDC curriculums to provide training in additional skill sets required for the many roles that exist in these areas.

United Association Participation: The United Association (UA) was well-represented at the 2025 MCAA MEP Innovations Conference, showcasing its strong commitment to advancing technology and best practices in the mechanical, electrical, and plumbing (MEP) industry. Many UA members attended the event, with several being sent by their contractors to engage in the latest innovations and industry developments. Their presence not only highlighted the UA's leadership in MEP construction but also reinforced the importance of staying at the forefront of emerging technologies and digital workflows.

A highlight of the conference for me was the participation of several UA members as breakout session presenters, demonstrating their expertise and contributions to industry education. UA presenters included Eric Posey (Local 440), Derek Westfall (Local 440), Stephan Schnell (Local 467), Trent Leinenbach (Local 440), Eric Klaffka (Local 22), and Joe Melody (Local 597). These members shared valuable insights on virtual design and construction (VDC), coordination strategies, workforce development, and technology integration, providing attendees with practical knowledge to enhance their own operations.

Additionally, members of the UA CTC (Construction Technology Committee) were in attendance, further emphasizing our organization's dedication to education and workforce development. The UA CTC committee members present included Tom Cahill (Local 537), Roland Gutierrez (Local 709), Shawn Milligan (Local 562), Tanya Peddy (Local 100), and John Russell Jr. (Local 5). Their participation aids our UA training programs in remaining current with industry advancements and enhancing the technology skills of our UA members nationwide.

Stephan Schnell (local 467) presents at the "Building the Digital Foreperson" Breakout Session

The UA's robust involvement in the MCAA MEP Innovations Conference underscores its commitment to leading innovation, and preparing its members for the future of construction technology. This presence not only benefits UA members but also enhances the industry as a whole, reinforcing the organization's reputation as a driving force in skilled labor excellence and technological progress.

Conclusion

The 2025 MCAA MEP Innovations Conference once again proved to be an invaluable event for UA members and contractors, offering deep insights into the evolving landscape of construction technology. The sessions and roundtables provided practical strategies for overcoming current industry challenges, with a notable emphasis on data empowerment—highlighting methods for collecting, analyzing, and leveraging data to enhance efficiency and performance, and the overall quality and breadth of information remained excellent.

One point of note: AI (Artificial Intelligence) seemed to be primarily addressed in the context of data analytics in most sessions, rather than field impacts and direct jobsite applications. Attending the 2024 conference last year, a key take away had been impact of AI on our industry, not only on big data applications, but also applications related to jobsite workflows and robotics, and I had hoped to see more comprehensive discussions related to these topics. Beyond the technical discussions, the conference continued to serve as a critical platform for networking and collaboration, fostering meaningful relationships and the exchange of ideas among industry professionals. The MCAA MEP Innovations Conference remains a premier technology event for unionized MEP contractors, and all signs point to its continued success. ■

MEP Innovation 2025

Submitted by Thomas Cahill, UA Local 537

This year at MEP Innovation in LA, the sessions I focused on were centered around establishing and setting up technology in a construction company. As someone responsible for implementing construction technology and software at the company I work for, the process can feel overwhelming. With new technologies emerging every year, identifying the best solutions can be challenging.

Additionally, taking on the role of the "tech guy" or "CAD guy" at a company raises questions about responsibilities—what tasks should fall under my role versus someone else's? The session "Setting Expectations" emphasized the importance of defining clear guidelines for what is expected from a coordinator versus a project manager. While some overlap is inevitable, reducing it can help create a smoother workflow.

Another valuable session, "Establishing VDC Standards," provided in-depth insights on setting company expectations for VDC coordinators. Setting a clear company standard will help the coordinator understand what is expected from them and will help the workers in the field find the information fast. A great tip from this session was utilizing the home screen in a Revit file to list approved pipe valves, fittings, equipment types, and other essential information that coordinators need throughout the coordination process.

The session that I enjoyed the most was "Don't Forget the End User" by Jen Clark. This session talked about ways to implement technology based on the user's use of it. Jen made a comment during her lecture about "trying to make people less scared of technology." This statement is spot on in the construction industry. Workers do seem intimidated by technology instead of seeing it as a resource.

The best techniques to implement technology include:

1. Develop inclusive training programs - Everyone has different levels of technology knowledge. Try to make the training based on the users' needs and slowly introduce more of it at their pace.
2. Offer tiered learning - Offer training to all people based on their knowledge. There's no ceiling on learning.
3. Cater classes to employees - Make classes or trainings based on old or new projects that the employees are working on. This can help them see the value of the technology in a real-life setting.
4. Hands-on training - Allow time for them to use the technology or the software in an environment that isn't work and not stressful.
5. Proper pairing - Pair someone who has great trade knowledge and low-level technology knowledge with someone who lacks the trade knowledge but has a good understanding of technology.

Some of the biggest pushbacks or challenges in construction technology:

1. Resistance to change - Been doing it one way for years, and it works.
2. Lack of awareness - Did not know that there are technologies or software that could help their process.
3. Software overload - Tossing too much at a person at one time.
4. Inadequate training - Not allowing time to train or learn.

In 2022, the UA-ITF Construction Technology Committee recommended a grant to provide iPads as a tool for installing piping projects and for "Advanced Plan Reading" and "Construction Technology Training"-type classes at the local training centers.

The grant's purpose is to help locals implement technology into their training and utilize iPads as tools, just as they are being used in the field today.

There is no reason that a local cannot implement construction technology into their training centers; all you have to do is ask for help. Classes are available at the Instructor Training Program in August to help and assist our brothers and sisters succeed in construction technology.

For more information on the iPad grants and construction technology, please reach out to Ken Schneider kens@uanet.org, thank you.

EPA 608 Regulatory Updates

Submitted by Rob Vilches, UA Training Specialist

In the December 2024 newsletter, we highlighted the phasedown of HFC refrigerants that exceed certain GWP thresholds and the Technology Transition Rule, which is part of the AIM Act. Now that we have a new administration in the White House, we are seeing a change in direction, and the EPA is reconsidering the current rules.

Current Regulations

The AIM Act gave the EPA the authority to create new regulations surrounding HFC refrigerants and the equipment we install and service in several market sectors. It consists of three main parts: (1) phasing down the production and consumption of HFC refrigerants, (2) creating regulations to maximize reclamation and minimize the release of HFCs from equipment, and (3) facilitating the transition to next-gen technologies through sector-based restrictions.

Starting in 2023, HFC production was limited to 90% of its base levels. Each year following, we will see a reduction in HFC production until 2029, when the production of HFCs will be limited to 30% of its historic base levels. This reduction creates a supply issue of virgin (new) refrigerants. To counter this reduction, the EPA set transition dates on equipment by sector that coincide with the reduced supply. The new equipment will use lower GWP refrigerants, and the installation of current-gen equipment using higher GWP refrigerants will be banned in stages through 2028.

Existing equipment still needs to be maintained using the higher GWP gases. With the reduced production of HFCs, it will be important for the industry to start using reclaimed refrigerants at higher levels than we currently do. This means that our service technicians and contractors will have to increase the amount of refrigerant we send off to reclaimers. If we do not do this, it will only increase the already high cost of these refrigerants being phased out.

- Starting Jan 1, 2025, equipment using HFCs for self-contained and residential air conditioning and heat pump systems must be labeled.
- Jan 1, 2026, the labeling requirement will apply to chillers, industrial process refrigeration, and cold storage warehouses.
- Jan 1, 2027, the requirement applies to data centers, refrigerated food processing, and dispensing equipment.
- Jan 1, 2028, the requirement applies to the remaining sectors.

While most of the labeling requirements will fall to the manufacturers and the distributors, some requirements fall to the installers. We will be responsible for ensuring the label is attached and indicates the correct refrigerant and quantity. For self-contained products, this will be listed for the installer, and it is a simple verification that it is present. For any other system that requires the installer or startup technician to trim the charge, we will have to make sure we add the field charge and date. We should be doing this already, but it will now be required.

Disposable cylinders containing HFCs are required to have their contents removed by a 608-certified technician before disposal. The date and quantity removed will need to be recorded. In the event of an EPA audit on your contractor, they will be looking for this information.

EPA Reconsideration

Due to industry backlash and pressure from the new administration, the EPA has agreed to reconsider the Technology Transition Rule, which is part of the AIM Act. While they have not released details on everything that will be reconsidered, they have stated that they will review the tight transition deadlines imposed on the food industry. Several trade groups related to the supermarket industry claim that the deadlines to transition to systems that use lower GWP refrigerants are unreasonable and violate the AIM Act.

Currently, supermarkets are being forced to transition into lower GWP refrigerants such as CO2. The deadline for this requirement under current regulations is Jan 1, 2027. The industry is in short supply of technicians who can work on CO2 refrigeration systems, on top of the short timeline mandated by the EPA.

Even though the EPA has agreed to reconsider this ruling, it will not bring change any time soon. The EPA has a rule-making procedure that takes time. Once they review the ruling along with input from the industry, it will need to go out for public review and comment. After that, they will publish a final rule, which, under current policy, cannot go into effect until a year after the rule is published. This means that the industry is stuck planning the future under the current transition rules.

States Are Doing Their Own Thing

While the U.S. EPA decides what to do, several states are passing

legislation that is, in some cases, more stringent than the federal rules.

In 2021, the **Governor of Washington State** signed a law regulation setting stricter GWP limits for new commercial and industrial refrigeration systems. Effective Jan 1, 2025, new or retrofit supermarket systems, cold storage, and industrial processing systems (excluding chillers), with a limit of 150. The law also includes the residential sector and sets a limit of 750 GWP on new and retrofit systems. For new systems, the effective date was Jan 1, 2024, and Jan 1, 2029, for retrofit systems.

Equipment owners in Washington are required to record HFC usage and take measures to repair leaks on systems containing more than 50 lbs. of refrigerant. The leak thresholds are based on a 12-month rolling average and are required to calculate leaks every time they're inspected or refrigerant is added. The thresholds are:

- 16% for commercial and retail refrigeration
- 24% for industrial process refrigeration
- 8% for air-conditioning

Leaks must be reported to the Department of Ecology, and repairs must be completed within 14 days using a certified tehnician or within 45 or 120 days if an allowance is granted.

To help fund and administer the refrigerant management program, usage fees have been proposed for equipment owners. For owners of existing equipment with 200 and 1,499 lbs of refrigerant with a GWP greater than 150, there will be an annual fee of $170. For equipment owners with 1,500 lbs or more, there will be a one-time fee of $1.50 and an annual fee of $370. Several groups in Washington State are contesting these fines (fees), which have not been finalized.

California SB 1206 states that as of Jan 1, 2025, no one can buy bulk virgin (new) refrigerant with a GWP greater than 2,200. The term "bulk" applies to a single 25 lb refrigerant bottle and is not limited to pallets or large bottles. California SB 1206 sets its own policy and timeline for the phasedown of HFCs independent of the federal EPA. Starting Jan 1, 2025, it is unlawful to service state-owned or operated equipment with refrigerants with a GWP greater than 750. For all other owners/operators, this same rule will apply on Jan 1, 2033. It is important to note that these restrictions do not apply to certified reclaimed refrigerants. See below for a complete list of allowed or banned refrigerants and the dates.

GWP Limit	Date	HFCs/HFC Blends With Associated GWPs Above the Limit		HFCs/HFC Blends With Associated GWPs Within the Limit	
		Refrigerants	Clean Agent Fire Suppressants	Refrigerants	Clean Agent Fire Suppressants
750	**January 1, 2025**: State-owned or operated **January 1, 2033**: All other owners/operators	R23 – 14,800 R500 – 8,077 R143a – 4,470 R507 – 3,985 R404A – 3,922 R434A – 3,245 R422D – 2,729 R417A – 2,346 R410A – 2,088 R407A – 2,107 R442A – 1,888 R407F – 1,825 R407C – 1,774 R453A – 1,765 R407H – 1,495 R134a – 1,430 *R449A – 1,396* *R448A – 1,386*	HFC-236fa – 9,810 HFC-125 – 3,500 HFC-227ea – 3,220	R32 – 675 R123 – 77	There are not HFC clean agent fire suppression gases with GWPs that fall within these limits. Contact A-Gas to learn about your options: 1-800-372-1301.
2,200	**January 1, 2025** All other owners/operators	R23 – 14,800 R500 – 8,077 R143a – 4,470 R507 – 3,985 R404A – 3,922 R434A – 3,245 R422D – 2,729 R417A – 2,346	HFC-236fa – 9,810 HFC-125 – 3,500 HFC-227ea – 3,220	R410A – 2,088 R407A – 2,107 R442A – 1,888 R407F – 1,825 R407C – 1,774 R453A – 1,765 R407H – 1,495 R134a – 1,430 *R449A – 1,396* *R448A – 1,386* R32 – 675 R123 – 77	There are not HFC clean agent fire suppression gases with GWPs that fall within these limits. Contact A-Gas to learn about your options: 1-800-372-1301.
1,500	**January 1, 2030** All other owners/operators	R23 – 14,800 R500 – 8,077 R143a – 4,470 R507 – 3,985 R404A – 3,922 R434A – 3,245 R422D – 2,729 R417A – 2,346 R407A – 2,107 R410A – 2,088 R442A – 1,888 R407F – 1,825 R407C – 1,774 R453A – 1,765	HFC-236fa – 9,810 HFC-125 – 3,500 HFC-227ea – 3,220	R407H – 1,495 R134a – 1,430 *R449A – 1,396* *R448A – 1,386* R32 – 675 R123 – 77	There are not HFC clean agent fire suppression gases with GWPs that fall within these limits. Contact A-Gas to learn about your options: 1-800-372-1301.

New York is taking things a step further by using 20-year-GWP limits, while the federal limits are based on 100-year-GWP numbers. By using 20-year-GWP numbers, this bill becomes extremely aggressive. Using R32 as an example, it has a 100-year-GWP of 675 and a 20-year-GWP of 2,330. R32 is an A2L refrigerant that some manufacturers are using in their new equipment for the rules that went into effect on Jan 1, 2025. As you will see below, under the current law in NY, come 2034, R32 will no longer be allowed in any application. Below are the dates and GWP limits under this NY law:

- Supermarket systems – Jan 1, 2026, GWP20 limit of 580 for systems with greater than 50 lbs of charge. GWP20 limit of 943 on systems with less than 50 lbs of charge. Jan 1, 2034, GWP20 limit of 10.
- Ice Rinks – Jan 1, 2026, GWP20 limit of 580, and Jan 1, 2030, GWP20 limit of 10.
- Chillers for comfort cooling – Jan 1, 2025, GWP100 limit of 700. All Chillers Jan 1, 2030, GWP20 limit of 20
- Heat Pump Chillers for Comfort Cooling – Jan 1, 2025, GWP100 limit of 700. All Heat Pump Chillers Jan 1, 2034, GWP20 Limit of 20.
- All residential and light commercial – Jan 1, 2034, GWP20 limit of 10.

This is an extremely aggressive stance on high GWP refrigerants. This will limit equipment in NY to natural refrigerants (propane, CO2, Ammonia) and, as of today, a very small number of HFOs and HFO blends (R1234ze, R1234yf, R470b, R470a, R480A).

If the states continue down this road of patchwork, it will become exceedingly difficult for the manufacturers, installers, and technicians to keep up. Each state will be training for different regulations on refrigerant and refrigerant handling, making a universal training package that can be distributed nationally next to impossible.

We will continue to monitor these changes, send out updates, and adapt our training programs as needed. ■

HVAC Educational Discounts

Submitted by Rob Vilches, UA Training Specialist

Appion Education Program

Appion has revamped its educational discount program. Local JATCs can now get 60%+ off MSRP with an approved application. This discount is for locals in the U.S. and Canada.

"Our education program offers more than a 60% discount off MSRP, with even greater savings available upon passing the optional "Appion Masters Exam." Completing the exam also earns your program a certification, recognizing the instructor and the program's commitment to continuing education and advancing the HVACR industry."

To take advantage of this program, you must meet the following criteria:
- You must be an accredited school or union offering classes in HVACR.
- Provide a Federal Tax ID number along with Tax Exempt or 501(c) documentation.
- Complete the on-line application.

Once your training center joins the education program, you will be granted your purchase portal. The discount can be used year after year and for as many items as necessary.

The optional mastery exam is an open-note exam focusing on recovery and system evacuation.

For more information, please visit the Appion education page https://appiontools.com/education-program/ or call 303-937-1580 or email educatoin@appiontools.com.

Testo Educator Savings Program

Testo is offering an exclusive 40% discount on a wide range of Testo instruments for training centers so your students can gain practical experience with the tools they'll use in the field. Testo will also offer training support that can be tailored to your needs.

The discounted instruments include:

- Refrigeration Technology
- Heating Technology
- Air Flow & IAQ Technology

To find out more about this program and how to order tools, please reach out to Steve Conrad @ sconrad@testo.com or by phone 862-599-4820.

TruTech Tools

TruTech Tools is one of the largest online distributors of tools dedicated to the HVACR industry. They have provided all JATCs with a discount on purchases from their website. To take advantage of an 8% discount, type in UA8 at checkout in the discount/promo code field.

In addition to selling tools to the industry, TruTech Tools offers free educational shorts and videos that can be used in the classroom

Please visit https://trutechtools.com/ to create an account and view their catalog and training materials.

We will continue reviewing other discount programs and send out information as needed. If you know of any discount programs that would help other locals, please send info to rvilches@uanet.org. ■

Disability in the Training Center - Starting the Conversation

Submitted by Lauren Friedman, Instructional Technology Coordinator

Would you be surprised to learn you might have a disability or use an adaptive device?

According to the World Health Organization, 64% of adults in the United States use some form of vision correction. And, because it's so common, we've normalized the idea of visual impairment. However used to it we are, the fact remains that, like a cane or a prosthesis or a screen reader, glasses are adaptive devices. We just don't think about it that way.

The CDC reports that roughly 13.5% of adults in the United States have one or more legal disabilities. Most of these are ambulatory disabilities, which means that 6.6% of Americans have trouble walking, moving, or climbing stairs. You may fall into this category if pain in your body makes it hard to function. The second most common disability in America is a cognitive disability, or a person who has trouble concentrating, remembering, or making decisions due to a physical, mental, or emotional condition. Roughly 6% of the population is affected by cognitive disabilities.

Six percent doesn't seem like a huge number until you consider that this represents roughly 18 million people, or a population roughly 47 times bigger than the membership of the UA. The numbers get even more stark when you look at education level; of people who have a high school diploma or equivalent as their highest education level, 20% report some kind of disability.

Which is to say, statistically, you likely have an apprentice in your program with a cognitive disability.

In theory, it should be easy to identify who might be impacted by disability. It feels like you should be able to look at a person and know that they're different. What complicates the matter is the issue of invisible disabilities, which are disabilities that are not immediately apparent. They may include things such as a repetitive stress injury or a seizure disorder, and they may consist of a mental or developmental disorder such as ADHD, depression, or addiction. Many cognitive disabilities are invisible by nature; you can't know how a person struggles inside of their own mind.

There is a stigma in our society around being disabled. We tend to believe that people who are depressed are weak, people who are dyslexic are stupid, or people with autism are weird. They need to try harder, be less lazy, and pull themselves up by their bootstraps. Just be normal. But as we all know from the conversations on mental health, we are all affected by the circumstances of our lives, and most of us are doing the best we can with what we have. There is no way to try hard enough to not be disabled anymore. It's a thing you live with and work around, not a thing you can cure.

The societal stigmas contribute to shame and make people less likely to ask for the help they need. Struggling with basic needs, especially when coupled with that shame, can lead to a swiftly deteriorating mental health situation. A UA brother who is severely dyslexic recently told me he grew up feeling like a "broken toy" because of his struggles, and it was only when he made contact with other disabled people that he began to feel like a real person again.

So, how does this affect your apprentice program?

We talk a lot about generational differences when learning how to teach people. One of the starkest differences is how disability is treated; a child who today may have an Individualized Education Plan (IEP) in school would probably have been told to suck it up or drop out 20 years ago. Students today are much more aware of their needs, but that doesn't mean your older students don't have them. They have had to struggle without being seen and may need someone to suggest to them that there are other ways to cope.

Due to the Americans with Disabilities Act, we have a legal responsibility to provide reasonable accommodations to help our brothers and sisters cope. The term "reasonable accommodation" is purposefully vague.

Simply put, it is any change to an application or hiring process, a job, or a work environment that does not create an undue burden or a direct threat.

This may be something as simple as allowing a student to audio record a course instead of taking notes, or as complicated as coming up with a fair policy regarding service dogs in the welding shop.

In order to be ready when the opportunity to help presents itself, we have to embrace that the antidote to shame is sunlight. Let's begin having conversations with our teachers, our students, and our contractors about cognitive disabilities. Someone who can't write well can still problem-solve; they just need a better way to express their answers. Someone who can't sit still can weld. They just need a break to move around every so often. These are simple things that you probably already do without thinking.

Encouraging folks with learning disabilities to seek out and actually use adaptive technologies is a major part of this. We are working at the national level to make contact with the developers of these technologies to build relationships and try to get advantageous pricing for training centers.

Finally, much like any other group that is underrepresented, forming a group of members who can support one another is a pivotal part of the process. Not only for the feeling of solidarity that a union is built on, but for the resources and problem-solving tools they can provide one another. To that end, I invite anyone reading this who sees themselves represented here to reach out and begin the conversation with me. If we receive enough interest, we will begin scheduling Zoom meetings to connect people across the UA and work on ways to do the same at your locals. *Lauren Freidman*, lfriedman@uanet.org

"An Opportunity That Sounds Too Good to Be True"

Submitted by Robert Derby, UA Training Specialist

Members of the United Association often refer to themselves as a "proud member of Local (insert your local number here)." That sense of pride and acceptance comes from accomplishments that became possible resulting from a series of opportunities.

For some people, opportunity begins with an apprenticeship. But how does one learn about the UA apprenticeship programs? Often, it is through word of mouth. Maybe they grew up with friends or family in the UA. They could have also heard about the UA through outreach such as career fairs or social media.

Other people enter the workforce after attending a technical school or college. These types of education and training entities provide students with a good foundational understanding of the subject or craft they have chosen. However, the training is typically very broad to encompass many options upon graduation. Therefore, graduates enter their chosen craft as entry-level employees, or they must continue their education to focus on a specialized area within their discipline.

Another approach is to go directly into the workforce. This is a common path for welders. Many entry-level welding jobs offer an attractive wage to start. However, in the open-shop sector, there is not always a defined path for an employee to advance. These welders often stay working on a specific process or project because they master that aspect of the job. Unfortunately, the result can limit their potential for growth within the company. Although they have done their best to master the specific task, they are not versatile. Anyone who maintains focus and dedication to master their craft deserves the opportunity to progress professionally. If the only thing that is holding an employee back is opportunity, then the employee needs to find that opportunity outside of their existing employer.

The UA provides that opportunity for those who have chosen the welding field for their career path. It is the eight-week Welder Finishing School (WFS) Program. This program is designed for welders who have already demonstrated their skillset as a pipe welder, either through work experience or advanced welding training programs. The typical candidate for the WFS program has passed welder performance testing to industry-recognized standards or possesses the skill to do so.

This is how the UA WFS works:

A welder contacts the WFS to set up an evaluation. During the evaluation, the Instructor will give the potential candidate pipe coupons and instructions for completing the weld based on the candidate's experience. As the evaluation progresses, the Instructor must determine if the welder (candidate) can be "finished" within eight weeks or less. "Finished" means the welder has the skill to produce pipe welds to the elevated standards of the UA Welder Certification Program. After a successful evaluation, the candidate will have demonstrated the skill to complete the program in eight weeks or less successfully. As a result, they begin the application process. The application process includes a background check and drug test at no cost to the candidate. Once the individual has been cleared for application, they will correspond with the UA WFS Instructor to determine a start date for the program. The WFS student is financially responsible for their living expenses and transportation during the duration of the free training they receive.

Typically, the candidate will have a destination (Local Union) that has been verified through communication involving the organizing team, the appropriate UA International Representative, the local union Business Manager, the WFS Instructor, and the local training coordinator, if required. The specific weld certification(s) needed for the destination local, the welder will be "exited" from the WFS program, a local union to begin the membership process.

The standard for a successful UA WFS has been set by Local Union 577 in Portsmouth, Ohio. The Portsmouth WFS program began in June of 2018. Since then, nearly 500 welders have been exited from the program. As of March 20, 2025, the WFS at LU 577 has exited 492 welders to 53 different locals. Collectively, the exiting welders have achieved UA welding certifi cations in five processes commonly required across the country: SMAW, GTAW, GMAW, FCAW, and Automatic Orbital Tube. In addition to many welding processes, the certifi cations obtained include autogenous welding of stainless steel, downhill welding, and alloy welding, such as UA-35 and UA-91. Communication and standardization combined with support and continued involvement from the UA, ITF, UA International Representatives, Organizers, and the WFS Instructor is essential for the long-term success of the WFS program·

The UA ITF is pleased to provide a means for existing welders to enter a career with the UA through advanced, accelerated training that hones their skills to the elevated acceptance criteria of the UA WCP. This proven WFS program validates the great benefits of organizing and training working together to provide a better career in the pipe trades to welders who were not aware of the opportunities that the UA offers—an opportunity that SOUNDS TOO GOOD TO BE TRUE ■

Gas-Fired Power Plant Trianing & Construction

Submitted by Justin Forni, UA Training Specialist

Brothers and Sisters of the UA,

I have some very exciting news to share regarding the industry we serve. The gas-fired power plant industry is on the move to build a substantial number of new units across the United States. The additional power plants will be both combined-cycle and simple-cycle gas turbine technology.

The reason for this new wave of units will mainly be to support the demand for new power in the data center and artificial intelligence (AI) sector. We have all experienced some peaks and valleys in the power plant construction industry through the years. It has been at least 10 years since the last boom, so now we will prepare to build a new workforce in specialty welding applications. One of the most important areas of concern is building a new generation of "Chrome Alloy Hot Welders!" Here is a preview of a new course in development to support projects on a regional level.

8091 Advance GMAW Chrome Alloy Heavy Wall Welding

- *The reason for this new course is to support the expansion of baseload power generation. The UA and signatory contractors are at the beginning of multiple power plant projects for many years ahead.*
- *Specific training on alloys such as P-91 and P-92. With the addition of hydrogen fuel, we will see new alloys coming to this industry to meet low-carbon emission standards.*
- *This course will focus on Induction Heating, Heavy Wall End Preparation, Heavy Wall Welding with GMAW, Post Weld Heat Treatment, and Phased Array Non-Destructive Examination.*

This training will be focused on four specialized areas related to field applications of chrome alloy piping. Members who have never worked in this industry need this opportunity to build a foundation of knowledge from experienced industry experts.

This training program will be deployed to a local union region as a train-the-trainer so each local union can create a program best suited for the upcoming project support.

This program is in the development process, and we will have more information for you as we move forward. Feel free to reach out to me with any questions or input you may have. If you see some of these projects in your area on the horizon, let's talk about this training to ensure we collaborate for a successful outcome. Stay Tuned!

I wish you all a blessed spring season, and thank you for all you do to represent UA Training!

In solidarity,
Justin Forni
UA Training Specialist ■

2025 Pipe Trades Recap: Preparing for the Future

Submitted by Mike Galfano, Assistant Director of Education and Training

I hope this newsletter finds each of you well as you prepare for a busy 2025 training year.

It was great seeing many of you and talking about your training programs at our recent 2025 Pipe Trades Training and Technology Conference. I wanted to recap some of the training updates from Dallas.

EPRI:

EPRI stands for the Electric Power Research Institute, which conducts research and development in electricity generation, delivery, and usage. The UA has been affiliated with EPRI since 2007, providing third-party accreditation for our members. Our programs in Industrial Rigging & Signaling, Instrumentation Technician, and Valve Technician all utilize EPRI's Standard Task Evaluation program. Currently, UA locals request all EPRI exams and documentation through our certification portal. All EPRI online exams are administered via Question Mark, with relevant documents submitted to our Certification Department. Recently, EPRI informed the UA that all exam requests, examinations, and documentation must be processed through EPRI's Learning Management System (LMS). EPRI is transitioning to a new LMS, specifically Blackboard, for its entire organization, aiming for completion by July 1, 2025. Following full implementation across EPRI, individual programs, including the Standard Task Evaluations (STE), will be prioritized, with an anticipated target date for STE conversion to the new LMS set for the first quarter of 2026. If this conversion occurs in early 2026, EPRI and the UA will collaborate to integrate all UA EPRI exam administrators into the new EPRI system for online test administration by the end of the fourth quarter of 2026. A user's guide and webinar will be available for all UA EPRI exam administrators during this transition. As we receive more information from EPRI, updates will be communicated to your uanet.org email.

Grants:

The ITF allocates approximately $8 million each year for equipment and monetary distribution. The ITF Board of Trustees convenes four times a year, typically in March, June, September, and December. Plan your grant submissions accordingly, as the approval and distribution process can take six to nine months. The ITF Board of Trustees makes all final decisions regarding ITF grants and approved items. For more information on grant preparation, please visit the Resource Tab on the grant site, which is an excellent resource. If you are planning a buildout or have any questions about grants, please reach out to me or another training specialist.

ITP 2025:

ITP will be held from August 9 to 15. Training coordinators are expected to receive the ITP course brochure by email on April 17. You will have two weeks to review the brochure with your instructors. Please ensure that any course prerequisites are met before registering your instructor(s). The new certification portal can assist with instructor transcripts. ITP registration is tentatively set to open on May 1 at 12:00 noon EST and will tentatively close on July 1.

NMAP:

The Nuclear Mechanic Apprenticeship Process (NMAP) is a formal method for demonstrating that contracted craft labor union personnel have each met the entry-level knowledge and skills training requirements. The UA conducts self-assessments of 150 local union JATC programs on a three-year cycle, starting in 2024. Local union self-assessments consist of 22 questions addressing the implementation of apprenticeship programs, instructors, training materials, and examinations. In 2024, 50 local unions successfully completed self-assessments of their JATC programs. For 2025, an additional 50 local unions will be required to conduct their self-assessments. Notices were emailed to these locals on January 31, 2025. If your local is among the 50 contacted by the Certification Department regarding your NMAP self-assessments, please complete and return them by May 30, 2025.

INAC:

A popular feature of UA Week at ITP is the International Apprentice Contest, which was reinstated in 2007. Skilled individuals compete in various hands-on projects and written exams to assess their knowledge and skills in their trades. This six-day event offers an excellent opportunity for our future journeyworkers to showcase their exceptional talents. The 2025 contest will highlight updated craft projects and incorporate iPad technology for exams, project specifications, project drawings, and general information. A major update for INAC in 2025 will be the implementation of the code of conduct. Each district winner, along with their Training Coordinator or representative, must sign this agreement when registering for the International Apprentice Contest. Please vet the apprentices representing your locals.

The INAC website is now live (uacontest.com). As local, state, and provincial contests commence, visit uacontest.com for up-to-date information on rules, regulations, eligibility, and code of conduct requirements. Pat Faley, our INAC chairman, will retire after the 2025 contest. Chuck Graham will take over as the new INAC chairman. Clancy Kelly, our pipefitter committee member, will also retire after the 2025 contest. Al Paterson will be our new pipefitter committee member. I want to personally thank these gentlemen and our entire INAC staff for their efforts in advancing the INAC contest.

UAnet.org Email Updates:

This is a reminder that auto-forwarding for emails is no longer available. All ITF and UA correspondence occurs through uanet.org emails. Please ensure your EPRI administrators have access to uanet.org for updates and certification program changes.

As General President McManus has said on many occasions, "We provide skilled labor to our signatory contractors." I believe we all have a responsibility to uphold our 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 Journey workers. 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."

Thank you for your leadership, commitment, and dedication, as well as your tireless efforts on behalf of your members, providing them with training opportunities for success and a rewarding UA career.

Feel free to reach out if you have any questions, and let me know if I can assist you in any way. mgalfano@uanet.org

Are You Getting the Best Applicants

Submitted by Trent Mauk, UA Training Specialist

Have you ever had a moment where you said there has to be a better way?
I had such a moment while filling in for an ailing contractor rep during our apprentice interviews. I was trying to determine how to score a handful of applicants based on a few plain brown wrapper questions. You know the ones:

What's your favorite subject in school? Do you belong to any clubs? Do you have any hobbies? What are your strengths and weaknesses?

After the tenth applicant or so, I wondered if it was even worth doing. All their answers were pretty much the same. When asked what their favorite subjects in school were, most answered math and science, and after I cross-referenced their transcripts, I knew there might have been some embellishment with their answers.

It became so routine that I did not realize it until one applicant answered that his favorite subjects in school were lunch and gym. I scored this applicant the highest I could for his honesty. Knowing what I know now, I might have changed our entire process to measure honesty, not hobbies they liked, because this apprentice became one of our best and has excelled as a journeyworker as well

We were primed for a change, which came to fruition when we were asked to pilot the UA's APT Apprentice Selection Process. I asked what was involved. They said seven hours of interview training for your committee and having your applicants watch a Realistic Job Preview video on the good, the bad, and the ugly in a day in the life of a trade apprentice. Your applicants will have to take two online tests through APT Metrics. The first is called The Journey, and the second is a Basic Math Assessment. Using the Structured Interview Process, you will interview the applicants who passed the Journey and Math. You send those scores to APT, and they will tabulate the results and give you a group ranking from which to pick your apprentices.

I spoke to my committee about the change, and they all agreed that we could do better, so we made the move.

Here's the Training Center's Point of View on the process:

The applicants watch the Realistic Job Preview video to see if they want to be in the trade. I recommend this as the first step. Either have a link on your website or have them watch it at your training center before they fill out the application. We discovered this eliminates about three percent of your applicants on the front end. Your current application can still be used, and I have always said that it's the "first test," right? It's amazing how many applicants don't get all their stuff in. Once you have their completed application, schedule The Journey and the Basic

Math Assessment tests in your training center or at your hall.

Your applicants will take The **Journey** test first. This 28-question test, developed by a group of Contractors and Directors/Coordinators, evaluates an applicant's reasoning.

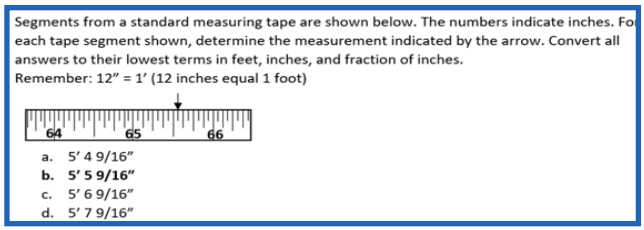
An example of one of the 28 questions is as follows:

You have made plans to go out with your friends after your shift. Once you arrive at work, you inform your Foreman that you plan to leave immediately after your shift is over so that you can meet your friends on time. However, mid-way through your shift, your Foreman informs you that a few work crew members called out sick, and they ask if you would be willing to stay a while longer. What should you do?

a. *Tell your Foreman that you're unable to stay late due to your plans.*
b. *Stay at work and inform your friends that you might be late and unable to meet them.*
c. *Inform your Foreman of the other times you've stayed longer but need to leave on time.*
d. *Tell your Foreman you can stay for a few minutes until they find someone else.*

In this case, the answer is b.

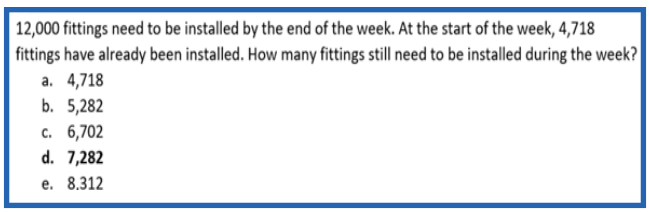
These questions were vetted by 100 Training Directors/Coordinators and their apprentices to see how the best apprentices answered and how the worst answered, adding validation to the process. The Journey is one of my favorite parts of the whole process. It screens out about eight percent of your applicants.


Segments from a standard measuring tape are shown below. The numbers indicate inches. Fo each tape segment shown, determine the measurement indicated by the arrow. Convert all answers to their lowest terms in feet, inches, and fraction of inches.
Remember: 12" = 1' (12 inches equal 1 foot)

64 65 66

a. 5' 4 9/16"
b. 5' 5 9/16"
c. 5' 6 9/16"
d. 5' 7 9/16"

The second test is the **Basic Math Assessment**. It was developed with the help of Directors/Coordinators, Contractors, and Trustees. With these industry leaders, they created what basic math skills were required in an apprenticeship program and how those skills were applied. This assessment will screen out about 15 percent of your applicants. They must wait six months to take them over if they fail either of the tests.


12,000 fittings need to be installed by the end of the week. At the start of the week, 4,718 fittings have already been installed. How many fittings still need to be installed during the week?

a. 4,718
b. 5,282
c. 6,702
d. 7,282
e. 8.312

The final step in the Apprentice Selection Process is a **Structured Interview** containing questions that target the critical knowledge, skills, and abilities required to be successful in the apprenticeship program.

The baseline target is a 20-minute interview. APT Metrics has written and validated two questions for each interview question, targeting work experience, reliability, time management, safety orientation, learning orientation, and communication.

Here is an example of a Structured Interview question about reliability:

Give me an example of a time when you had to work many hours over a long period of time.

Follow-up questions if the applicant does not give you a **STAR**.

- Why did you have to work long hours?
- Did you ever show up to work late? Did you make any changes as a result?
- What was your reaction to having to work long hours?
- What was the outcome?

What is a **STAR**? In the seven-hour Structured Interview Training required for your committee to be a part of the whole process, we learned that, as interviewers, we are looking for a **S**ituation/**T**ask, **A**ction, and **R**esult. If the applicant doesn't give you a STAR when answering your first question, the Interviewers' Guide provides the follow-up questions I provided above. We all know some applicants are more well-spoken than others, and the follow-up questions help pull those answers out of those who may be nervous.

The Structured Interview will show your committee how to score your applicant's answers and recognize biases that may affect their scoring.

We always had that one committee member who scored every applicant a three because nobody is perfect and another who scored every applicant a five. Through this process, studies have shown that interviewers are more consistent with scoring after attending the training.

Once Interview scores are sent to APT, they will give you the ranking groups for your applicants, and you can start putting them to work. Having APT calculate the final score protects your fund from exposure and makes it defendable in court.

The cherry on the cake is that APT continuously monitors the process and adjusts based on feedback from participating locals. This has streamlined the process and alleviated much of the burden on training centers.

A question we often receive is, what do I do with a pre-apprentice

who has failed the math or journey test and has been in the field for several months or an applicant with several years of experience in the trade? We always ask if you have Direct Entry language in your standards, and if so, does it say, "Direct Entry to an Interview?" If they are already doing the work, exercise the Funds right to Direct Entry to an Interview and then interview them for entry. They should have contractor references, and this will give your committee the best prediction of future behavior in the trade, which is what the APT Metrics process is doing for you with applicants who have no trade experience.

It may seem like a lot, but the effort is well worth the results. If we don't spend a little more time on the front end to ensure we get the best applicants, we will pay for it much longer in the back—not only at the training center but also at the hall.

If you are interested in the process and want to know more, please email ApprenticeSelection@aptmetrics.com or call me at 517-525-1777. ■

Building Stronger Together Is the Key to Keeping the UA Strong

By Lauri Rollings, submitted by Laura Ceja, Special Representative of Training and Outreach

As more and more of our members retire, it is more vital than ever to expand our recruiting and retention efforts. We are not recruiting tradespeople fast enough to replace the ones who are retiring. By one estimate, for every one skilled worker coming into the workforce, there are five who retire. The U.S. is projected to be short around 550,000 plumbers and pipefitters by 2027.

This is leading to project delays and challenges for businesses trying to fill critical roles. It's also bad news for our pension plans, which rely on a steady stream of new workers paying into the plans to support the benefits earned by members who were promised a secure retirement.

A key way to address the labor shortage is to enhance efforts to support new tradespeople who come into the UA. That's why the ITF developed the "Build Stronger Together" respectful workplace training program. Build Stronger Together promotes best practices for creating respectful, psychologically safe workplaces. It also covers tips for addressing the safety, productivity, and mental health issues associated with negative workplace behaviors.

The program consists of two four-hour trainings and can be delivered either in person or virtually. The course materials are also available on the OLR. Below is a brief description of each training.

Part I: Build Stronger Together Leadership and Respectful Workplace Training (4 hours**)**

This fun and highly interactive training focuses on how to build a respectful workplace where everyone can work safely and productively. Participants work through several real-life scenarios to learn how to model respectful behavior and to use bystander intervention techniques to address negative workplace behaviors like harassment, bullying, and hazing.

Part II: Train-the-Trainer Session (4 hours**)**
(students must have completed the Leadership and Respectful Workplace Training to be eligible for this session)

This session is designed for those who wish to become instructors able to teach the material covered in the Respectful Workplace Training. This intensive session gives potential instructors hands-on practice teaching the material.

Build Stronger Together Instructor Lauri Rollings

The ITF has conducted four regional trainings so far, and the feedback from participants has been very positive. Here are some examples:

"I was impressed with the training we attended and how the subject matter was presented. Ms. Rollings led a balanced, well thought out class with clear ideas and lessons, and she also moderated discussions in a very unbiased and judgement free way."

"Super excited, this is going to be a required Steward training and implemented in the apprentice foreman class as well as future OSHA training [because] this topic does tie directly into workplace health and safety and couples directly with mental health."

"Every member should be mandated to take this training!"

"The course was AMAZING."

"This was the best anti-harassment training I've ever attended."

"Great Class! All Coordinators/ Directors should be required to take this course! I will be implementing this to all my instructors and apprentices yearly! The instructor was great and took time to answer questions! A lot of interaction!"

In 2025, ITF will be offering four virtual Build Stronger Together sessions, with each session consisting of two half-days of afternoon (1:00p – 5:00p EST) training. The first session is April 22 and 24, the second is June 24 and 26, the third is October 21 and 23, and the fourth is November 18 and 20. By building stronger together, we can ensure the continued success of our members and our union.

2025 Construction Working Minds Summit

Submitted by Nicole Jeup, VIP Program Administrator

Leaders, changemakers, and industry pioneers gathered in Arlington, TX, from February 24 to 27 to address mental health promotion, suicide prevention, addiction recovery, and overdose prevention in the construction industry.

Omar Galindo, Chair of Pipe PALS and Business Agent of Local 78, expressed his pride in being part of the UA's efforts to establish a Suicide Safer Society. He said, "The Construction Working Minds Summit once again proved that the UA is head and shoulders above everyone in the construction industry. It reflects the outstanding leadership at all levels of the UA, from the General President down to our apprentices."

The UA presence was at an all-time high at this year's Construction Working Minds summit, representing numerous locals across the United States and Canada. The UA VIP program was also well represented by VIP program administrators, instructors, and graduates.

There were several inspiring keynote speakers, including Kevin Hines, a suicide attempt survivor; Dr. Simon Tyler from MATES in Construction; Cal Beyer, Senior Director of the SAFE Project (Stop the Addiction Fatality Epidemic); and Lauren Sisler, an ESPN sports broadcaster with a powerful message about surviving the overdose of her parents.

Kevin Hines captivated the audience by sharing his story of hope, healing, and recovery while teaching the art of wellness and the ability to survive pain with true resilience. In the year 2000, Kevin attempted to take his life by jumping off the Golden Gate Bridge. Many factors contributed to his miraculous survival, including a sea lion that kept him afloat until the Coast Guard arrived.

"#BeHereTomorrow and everyday after that" is Kevin's motto and one we all should encapsulate!

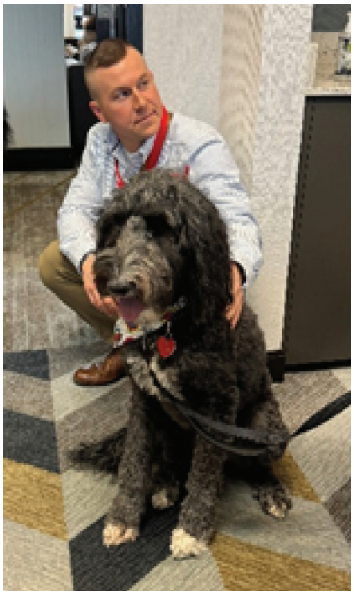
Dave Lee, a VIP graduate and Local 537 member, described the Summit as intense! "I was taken aback by hearing people tell their stories and talk about their struggles so openly. I'd say it certainly encouraged me to try and do the same as a leader in hopes it may help others and perhaps take away the stigma so others may do the same as well." Dave attended the Summit this year for the first time and was reunited with two of his fellow brothers, Connor Higgins and William (Billy) Northrop, with whom he

served in the Army and went through the VIP program during the very first welding class in 2013 at Joint Base Lewis-McChord in Washington State. They recaptured an image they had taken together in their early apprenticeship days.

Cal Beyer, Senior Director of the SAFE Project, addressed the Addiction Fatality Epidemic, which was incredibly eye-opening. Over 100,000 Americans lose their lives to overdoses each year. This is the highest number of overdose-related deaths ever recorded. Overcoming the addiction epidemic requires our collective action. That's why SAFE Project collaborates to bring solutions to communities, campuses, workplaces, as well as active-duty service members, veterans, and their families. Please help the SAFE Project end addiction by turning hope into action. To learn more, please visit: https://www.safeproject.us/

VIP Instructor Ezra Saint-Peter attended the Peer Support Group Facilitation Certificate Training pre-conference workshop. Brother Saint-Peter was pleasantly surprised to see an increase in attendance from last year's summit, which indicates changing attitudes towards mental health awareness and suicide prevention in the construction industry.

Throughout the summit, several educational panels provided tools for attendees to take back and implement within their organizations. Mike Hazard, UA VIP Program Manager; Ben Bradshaw, UA Local 100 Business Manager; and Alanna Marklund, UA Canada Special Representative, proudly shared the UA's Innovations in Mental Health Promotion during a panel titled "Mental Health Building Blocks for the Building Trades." Additional representatives from the Mechanical Insulators and LIUNA also joined to share their personal experiences with addiction, recovery, and the power of peer support. Brother Hazard expressed his honor in being part of this panel and learning from fellow building trades. "When I hear firsthand what others are doing for their members and employees, I always leave inspired to do more for the members of the UA," he stated.



Attendees also had the unique opportunity to spend time with Heart of Texas Therapy Dogs. Therapy dogs provide numerous benefits to individuals and communities' emotional and physical well-being. They are a type of therapy that is different from almost anything else. They provide a sense of comfort, peace, patience, ease, and love, especially during times of crisis. They also enhance social interaction and communication skills.

Connor Higgins, a VIP graduate, and UA Local 537 member found that conversations about suicide and mental health in the trades were productive, as it's an issue he has experienced on the job. "Hearing what other people are doing in different parts of the country gave me some ideas to bring to my jobsites," Higgins stated.

Overall, attendees gained practical tools to support mental health and well-being and left with tactical strategies that can be implemented immediately to create healthier workplaces and stronger communities.

If you or someone you know needs immediate help, please call, text, or chat with the 988 Suicide & Crisis Lifeline. Whether you're dealing with mental health issues, emotional distress, substance use concerns, or just need someone to talk to, the 988 Suicide & Crisis Lifeline offers caring counselors who are here for you. You are not alone!

How the UA Saved My Life

Submitted by Laura Ceja, Special Representative of Training and Outreach

It was 1997; I was 19 years old, working three jobs that didn't pay much and had no benefits. One morning, I woke up and had a horrible toothache. I needed a dentist, but I had no money or dental insurance. My friend said she knew a dentist who would treat me and let me pay a little each month. This was no way to deal with a dental problem, and it was no way to live. A few months later, I was at Local 761, Burbank, CA, with the prospect of getting a good job with good pay and, more importantly, a dental plan. The UA was the way to a better life and better teeth.

After five years of working in the field, taking classes, and learning everything I possibly could, I journeyed out and began working on projects all over Los Angeles. One day, my business manager said they needed people in West Los Angeles, where they were building a brand-new hospital, so there I went.

I worked on the hospital alongside other UA tradesworkers for almost one year. My job was to install medical gas lines and supervise other aspects of the construction. I crawled around in

the false ceilings, between the walls, and under floors, installing fixtures, pipes, and gas lines. I was proud of my work. One day, my little brother, or should I say younger brother because he is 6'5", visited me on the jobsite, and we took a picture to commemorate the occasion. At a time before cellphone cameras, I took lots and lots of pictures because I knew how important this project was. I knew it was a hospital, the UCLA Ronald Reagan Hospital, and I knew lives would be saved here.

My "little" brother and me outside of UCLA Ronald Reagan Hospital, 2003

As the years went by, I would occasionally drive past the hospital with friends and family, and I would brag, telling them, "I built that!" Of course, "I" had built it with a couple hundred other UA tradesworkers, but I would always leave that part out.

Fast forward about 20 years, my husband and I had finally moved from Los Angeles to our new home in rural central California. We spent weeks unpacking and throwing out boxes of junk, putting everything in its place, but one day, I didn't feel so good.

My husband had just unpacked the last box and hung the last picture on the wall. He walked into the living room where I was lying on the sofa, and said, "Honey, we're finally moved in!" And I said, "That's great, but I need to go to the hospital; I'm in a lot of pain."

We drove to the nearest hospital, which was 15 miles away, and were quickly taken into an examination room. The doctor had an ultrasound technician examine my abdomen and back, where my pain was focused. When the tech came into the room, she was smiling, but when she left, the smile was gone, and the mood quickly shifted from lighthearted to gloom and doom. They found two tumors, one on my liver and another on my pancreas, coupled with 20 pounds of weight loss in about a week, and the prognosis was not good.

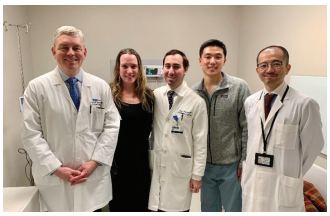
My husband and I went home that day and planned for the worst. We spent the next three weeks going from one doctor to the next, one test or procedure to the next. Thankfully, with each visit and each test came better and better news.

After all the tests and procedures, we were finally told to go back to Los Angeles and referred to Doctor Timothy Donahue, who would perform lifesaving surgery on me. As it turns out, Doctor Donahue is the best pancreatic surgeon in the world. While some surgeons may perform the occasional pancreatic surgery once or twice a month, Doctor Donahue performs three or four complex and delicate surgeries a week! We met with Doctor Donahue, and after reviewing my case, he said, with a big smile on his face, "Don't worry, I can fix this." That same day, I was scheduled for surgery, which brings me to how the UA saved my life.

In a twist of fate, my surgery was to take place at the UCLA Ronald Reagan Hospital. The same hospital that "I" had built 20 years before. The operating room that was used to save my life had the med-gas lines my UA brothers had installed 20 years earlier. I was drinking water from the fixtures my UA brother, "Bob-Bob," had set and finished. I was kept at the right temp by the HVAC systems that my UA brother, "Wild Bill," tested and balanced. I spent a week recovering in the same area of the hospital where, 20 years earlier, I had begun my life as a journeyman. I spent the whole time showing the medical staff the pictures I had taken 20 years before of me and the other UA guys building the hospital. Each nurse or doctor on duty wanted to see what "WE," yes "WE," had built 20 years before. With nothing else to do for a week but reminisce, I kept thinking about working in the crawlspaces of the very room I was staying in. I could never have imagined that the UA and the work my UA brothers had done would save my life one day.

UA medical gas crew, UCLA Ronald Reagan Hospital, 2003

If you didn't know the work WE do at the UA saves lives, I hope you do now. In my case, the hardworking men and women of the UA made it possible for me to be here sharing this story with you. I guarantee the work you are doing today will one day save the life of someone you love. But this story isn't just about the life-saving mechanical systems we install. This story is about the amazing benefits we enjoy as UA members. Unlike the 19-year-old who could not pay for dental care, the great benefits we have at the UA made it possible for me not to worry about paying for my pancreatic surgery on the installment plan. And then, there were the hundreds of well wishes I received from my brothers and sisters at the UA. All of you made it possible for me to make it through this horrible experience. And while I have a lot of people at the UA to thank, there is no one I would



UCLA Surgical Team lead by Dr. Timothy Donohue (my right) and Surgical Team Member Dr. Joseph Hadaya (my left)

like to thank more than my boss, Ray Boyd. Ray was not just a supervisor, he was a true leader, a friend, and a counselor. He talked to my husband on a regular basis, giving him support and hope when there was no hope to be had. Thank you, Ray.

And finally, I want to thank the amazing staff at the UCLA Ronald Reagan Hospital, especially Doctor Timothy Donahue. He said he could "fix it," and he did. He saved my life; he is the BEST!

I have never been more thankful to be a part of this amazing organization. It's great to be back. It's great to be at the UA! Thank you all for your thoughts, prayers, and support.

2025 Pipe Trades Presentation Apprenticeship Standards

Submitted by Bruce Dantley, UA Training Specialist

Training directors/coordinators have been selected by their JATC to manage the day-to-day affairs of the training center, and legal counsel plays an important role in running this separate entity. This is critical as the world has become more litigious. Directors/coordinators can be affected by litigation that can be brought against their training centers.

In workshops, we have disseminated fundamental legal information, primers, and specific statutes, such as the Fitzgerald Act, Taft Hartley, and ERISA, to training directors/coordinators with the understanding that they can help reduce the risk of a training center being involved in a lawsuit. The information the training directors/coordinators receive should be used as a reference and safeguard. It is not intended to replace the advice of legal counsel regarding major decisions concerning a training center.

Directors/coordinators must always make decisions that support training and what's in the best interest of the local union training program. As a director/coordinator, you now have the duty of loyalty and prudence to all your rank-and-file members who contribute their hard-earned dollars to the local's training funds. The seminar information received in 2025, combined with due diligence and good record-keeping, should keep the training directors/coordinators' local union training programs out of any potential litigation process.

Artificial Intelligence and the Plumbing Industry

Submitted by; Joe Fernandez Jr., UA Training Specialist

In this day of ever-changing technology, there is one facet that seems to have the most questions and controversy, and that is artificial intelligence, better known as AI.

We encounter it in our everyday lives, whether we realize it or not. Examples of how AI is incorporated into our lives are:

- **Smart Assistants:** If you use Siri, Alexa, and Google Assistant to set reminders, check the weather, or play music**, you use AI.**
- **Personalized Recommendations**: AI uses your browsing and purchase history to recommend products, such as movies or songs, based on your searches.
- **Customer Service Chatbots**: Many companies use AI-powered chatbots to answer questions and handle customer support 24/7.

These are just a few that come to mind, but the reality is that AI is here, and we are using it whether we want to or not. This led me to do further research on how or if AI is incorporated into the plumbing industry, and here's what I found.

AI in New Construction

In new construction, AI has become a common tool for engineers and contractors. Using AI-driven software, contractors can create more efficient plumbing layouts that minimize waste and optimize space. Here are a few examples:

- **BIM Integration** - BIM integrated with AI enables real-time collaboration among contractors and stakeholders, ensuring every detail is accounted for and enhancing overall project management.
- **Smart Building Technology** – AI enables the implementation of smart plumbing systems that monitor usage and efficiency, streamlining maintenance and reducing water consumption in newly constructed businesses.

AI in the Service Industry

In the realm of the service industry, the effect of AI is the most noticeable. Whether it's Plumbing or HVAC, AI is having an impact.

- **Diagnosis and Troubleshooting** – AI-powered diagnostic tools can analyze symptoms of plumbing issues, help technicians quickly identify problems, and propose effective solutions. This, in turn, leads to faster repairs and satisfied customers.
- **Scheduling Optimization** – Many service contractors have turned to AI to manage service requests because of efficiency. They use historical data to ensure that the service technicians are dispatched to jobs where they are needed most urgently.
- **Customer Engagement** – As I mentioned earlier, AI chatbots and virtual assistants provide immediate responesses to customer questions, enhancing communication and improving the customer experience by delivering timely scheduling options and updates.

With the current integration of artificial intelligence within our industry on the rise and the need to improve efficiency as a goal, we need to embrace the technology and make it work for our benefit. We need to continue to train our members on this technology. Whether you are a fan of AI or not, the fact is that it is here, and it will continue to grow with its capabilities, but at the end of the day, it is you who is turning the wrenches and making it happen.

Industry Training for Fire Sprinkler Design Technicians

Submitted by Nick Devine, Local Union 853

Note: Many mechanical trades refer to individuals performing detailing or drafting work as Mechanical Drafters—professionals who create detailed layouts for the installation or fabrication of mechanical systems and equipment. In contrast, the fire sprinkler industry commonly uses the term Designer, or more appropriately, Fire Sprinkler Design Technician, to describe a professional who performs the same type of work but specifically with fire protection systems.

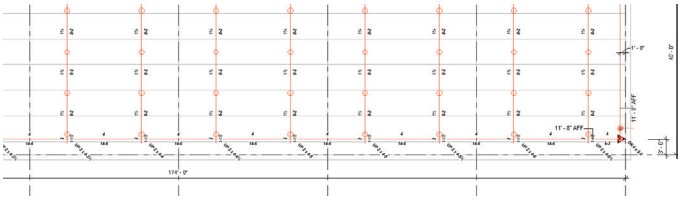
The UA recently participated in the Academy of Fire Sprinkler Technology's 10-week Fire Sprinkler Design Training Course, which concluded earlier this year. This course is designed to provide students with the essential knowledge and skills required to succeed as Fire Sprinkler Design Technicians. The program is particularly beneficial for those with little to no prior industry background, as it aims to provide the equivalent of six months to one year of practical experience.

Although this course is open to anyone interested in pursuing this work, it is predominantly attended by junior-level design technicians from various fire protection contractors who utilize this training to onboard their recent hires. The training is delivered through a combination of daily online lectures, hands-on exercises, and practical projects, ensuring that students gain both theoretical understanding and practical skills. The course curriculum covers a comprehensive range of topics. However, as it is intended for those with no previous experience in fire protection, there is a significant focus on the fundamentals of sprinkler and fire protection systems for the first few weeks of the course before moving into specific fire sprinkler design concepts such as:

- **Project Documentation**: Preparing detailed project documentation and submittals.
- **Software Use:** Demonstrating proficiency with industry-recognized sprinkler system design software

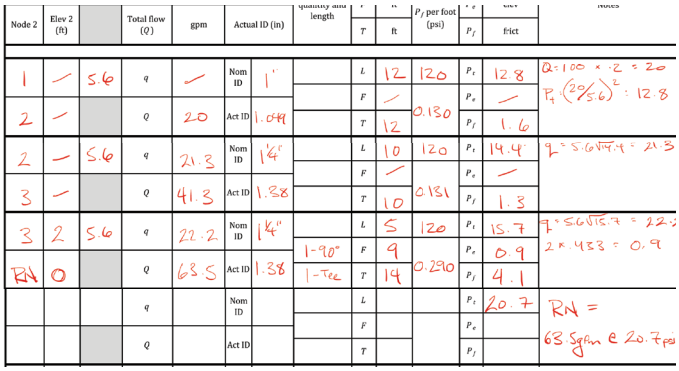
Wet pipe sprinkler system for a Manufacturing facility modeled in REVIT

- Sprinkler System Layouts: Creating efficient and effective system layouts for various occupancies with different system types.



Dry pipe sprinkler system layout for Warehouse

- Hydraulic Calculations: Performing hydraulic calculations utilizing manual and software-based methods.



Manual hydraulic calculations

RN3			70.88							24.470	K Factor = 14.33
12	18	5.60	26.37	1	T	3.568	4.000	100	22.169		
to							3.568		0.0		
RN3	18		26.37	1.049			7.568	0.3040	2.301	Vel = 9.79	
RN3	18		70.88	1.5	T	5.71	2.000	100	24.470		
to							5.710		0.866		
CM3	16		97.25	1.61			7.710	0.4222	3.255	Vel = 15.33	
			0.0								
CM3			97.25						28.591	K Factor = 18.19	
CM1	16		96.03	3			11.000	100	27.917		
to									0.0		
CM2	16		96.03	3.26			11.000	0.0133	0.146	Vel = 3.69	
CM2	16		96.29	3			11.000	100	28.063		
to									0.0		
CM3	16		192.32	3.26			11.000	0.0480	0.528	Vel = 7.39	
CM3	16		97.25	3	E	6.714	26.000	100	28.591		
to					Dvk	2.878	9.591		4.764		
DPV	5		289.57	3.26			35.591	0.1024	3.643	Vel = 11.13	
DPV	5		0.0	3	G	1.344	4.000	120	36.998		
to							1.344		1.732		
BOR	1		289.57	3.26			5.344	0.0730	0.390	Vel = 11.13	
			0.0								
BOR			289.57						39.120	K Factor = 46.30	

Software-based hydraulic calculations

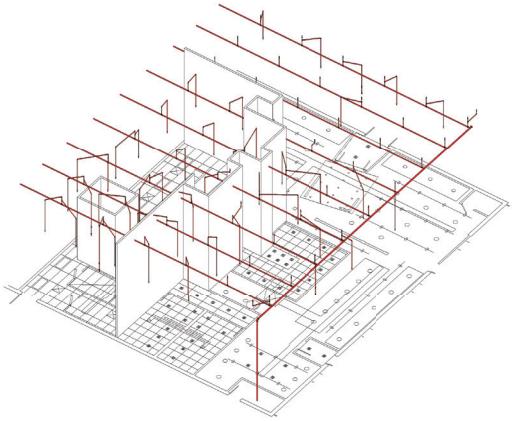
As the UA continues to work towards providing training for Mechanical Drafters, this course has provided valuable insights into the industry requirements for Fire Sprinkler Design Technicians. Understanding these demands will help focus the curriculum development to ensure our apprentices and journeypersons are well-prepared for these roles and able to meet their contractors' expectations.

Apprenticeship training provides Sprinkler Fitters with experience, knowledge, and skills to install and maintain fire protection systems. The UA also has existing training that can be integrated into a new curriculum for Mechanical Drafters. Courses such as Advanced Plan Reading and the various REVIT programs will help students become familiar with construction documentation and begin to build proficiency with sprinkler system design software.

Where a gap in our current training exists is with hydraulic calculations. Although this subject is discussed in the apprenticeship, it is not covered thoroughly enough to meet the requirements for a design technician. This topic will need to be expanded with new materials to provide practical experience with performing this work, both manually and software-based, to ensure a Sprinkler Fitter can complete hydraulic calculations as necessary. Once the curriculum is established, our training will ensure that UA Sprinkler Fitters are able to perform the minimum duties of a Fire Sprinkler Design Technician as expected by contractors.

Our members, however, will be able to far exceed these expectations by capitalizing on their wealth of practical experience and foundational knowledge of fire protection systems. Any UA Sprinkler Fitter looking to start a career as a Fire Sprinkler Design Technician will be able to draw on their:

- **Construction Technology Awareness**: The use of modern construction technologies is commonplace on many jobsites, and many Sprinkler Fitters have had the opportunity to navigate and utilize these tools effectively. This experience is beneficial for producing accurate and detailed design documents that meet industry standards.
- **Collaborative Expertise**: As Sprinkler Fitters, accustomed to working closely with field crews, they can leverage this experience to create designs that are not only technically sound but also practical and efficient for installation.
- **Comprehensive Training**: As UA apprentices and journeypersons receive extensive training in sprinkler and fire protection systems, this solid foundation allows them to quickly grasp advanced design concepts and apply them effectively.
- **Field Experience**: As Sprinkler Fitters, hands-on experience in installation and maintenance allows them to be well-positioned to excel in design roles. This practical background ensures they understand the real-world implications of their designs, leading to more constructible and efficient systems.



Tennant improvement providing coverage from existing system outlets.

Attending the Fire Sprinkler Academy's 10-Week Fire Sprinkler Design Training Course was highly beneficial, as it identified the training needs for those entering the industry as Fire Sprinkler Design Technicians. This course can serve as a model for developing the fire protection-specific Mechanical Drafter curriculum within the UA. As Sprinkler Fitters receive the necessary training and eventually take on roles with contractors, their inherent strengths will become evident, raising the industry standard. The importance of field experience in producing fire sprinkler system layouts that are both constructible and efficient for installation will lead to sustainable career opportunities for Sprinkler Fitters, further demonstrating that the UA remains dedicated to providing support and training for its members who continue to be leaders in all areas of the piping industry.

New JATC Training Director/Coordinator Meeting

From March 10 to 13, 2025, a New JATC Training Director/Coordinator Meeting took place at UA Headquarters in Annapolis, MD. The meeting commenced with a Welcome Reception on Monday evening and continued for three days of discussions.

Ray Boyd, the Director of Education and Training, opened the meeting by outlining the role of the Education and Training Department and the functions of the International Training Fund.

Assistant Director of Education and Training Mike Galfano introduced General President Mark McManus, who welcomed the new directors and coordinators. The General President spoke for an hour about his vision for the future of the United Association, including training and organizing initiatives.

During the three-day meetings, attendees listened to presentations from Executive Vice President Jim Tucker, who emphasized the importance of training and organizing in the United Association's ongoing growth, and General Secretary-Treasurer Derrick Kualapai, who outlined the different aspects of his role.

Training Specialists Bruce Dantley, Bob Derby, Justin Forni, Joe Fernandez, Trent Mauk, Ken Schneider, and Rob Vilches discussed their areas of expertise, providing participants with valuable insights. Rebecca Richardson, UA Counsel at O'Donoghue and O'Donoghue; Mike Warshaw, Union Accounting Specialist at Calibre CPA; Tony Swoope, ITF Consultant; and Jen Massey, Safety, Health, and Environmental Administrator, addressed critical relevant topics. Special Representatives Josh Windy, Organizing and Recruitment, and Laura Ceja, National Outreach and Recruitment, delivered presentations on recruiting and organizing. ITF Administrator Jocelyn Crowder, along with Helen Holmboe and Tracy Websters, spoke about UA grants, among other topics; Instructional Technology Coordinator Lauren Friedman outlined the UA OLR, Canvas, and online platforms; Assistant Registrar and Curriculum Coordinator Tyler Masengale and Agatha Wolyn discussed registration for ITP and regional classes. IPT-JTC Bookstore Manager Dianne Lash detailed the IPT-JTC Bookstore, while Veterans in Piping (VIP) Program Manager Mike Hazard and VIP Program Administrator Nicole Jeup outlined the VIP program.

The attendees left the three-day meeting with a better understanding of the function of not only the Education and Training Department but of various other departments as well. We welcome our new Training Directors and Coordinators and wish them an inspiring first year as leaders.

Education and Training Department Office Professionals STAFF

Administrative Assistant
Suzanne Ellis

ITF Meeting & Events Planner
Cindy Williams

VIP Program Administrator
Nicole Jeup

VIP Administrative Assistant
Tammie Parezo

Registrar/Certification Department
Carrie King, *Registrar*
Kristyn Ivey
Tyler Masengale
Angie Sterling
Agatha Wolyn

IPTJTC Bookstore
Dianne Lash, *Office Manager*
Peggy Jarrett
Jay Meadows
David Parmenter

ITF Comptroller
Matthew Robertson

ITF Finance Department
Helen Holmboe
Kathy Walker
Tracy Webster

Instructional Technology Coordinator
Lauren Friedman

Recruitment
Kiva Straser