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Summer 2021



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**Patrick Van Beek, President
MEA Energy Association**

In this issue, I'd like to acknowledge the volunteer leaders who provide the vision and innovation that continue to make MEA a sustainable organization—our Board of Directors. Thank you to all who have served and those who continue to serve!

MEA is at its most successful when we partner with our members through the Board of Directors and our committees. Being elected to the board is an honor, a compliment, and a form of professional recognition. The role also carries responsibilities connected to leadership, participation, and engagement. Board members have a shared responsibility for governance and focus on the future. We are working closely with Board Chair Webster, officers, and board members on five strategic initiatives:

- Renewable Energy
- Learning Technology
- Diversity, Equity, and Inclusion
- Workforce Recruitment
- Electric Vehicles

Teams of board members, MEA staff members, and 10-12 other member volunteers are discussing, planning, and evaluating how MEA should pursue the individual initiatives. If you are interested in participating, please let me know at patrickv@MEAenergy.org.

Thank you for your continued engagement with MEA.

Stay safe, stay kind, and stay connected.

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A Confident Future:

Exciting New Opportunities

by **John C. Webster**, director, natural gas division, Hutchinson Utilities Commission and
Elizabeth Fischer, managing editor, MEA Energy Association

John Webster's career in the natural gas industry began with Michigan Gas Utilities in Coldwater, Mich. back in 1983. He worked there for nearly ten years before becoming the Superintendent of the Natural Gas Division for Hutchinson Utilities Commission (HUC), a natural gas and municipal electric utility located in Hutchinson, Minn. Today, he is the Director of the Natural Gas Division for HUC, serving as the newly appointed Chair to the MEA Board of Directors.

When asked about the accomplishments he is most proud of, Webster explained, "several accomplishments stand out. First and foremost, being nominated to be Chair of the Board of Directors at MEA Energy

Association." Webster continued, "I am very proud to be a member of a very elite group of men and women who serve the energy industry through MEA Energy Association (MEA)."

Webster continued, "the second is the completion of a 93-mile-long high-pressure transmission line in 2003. The line consists of 16" and 12" diameter pipe operating at 1,000 pounds per square in gauge." HUC has added four additional interconnected stations since the original installation to serve communities and large end-users. Webster takes personal pride in the fact that the structure of this pipeline provides security and stable prices to the citizens and industries in Hutchinson.

*We need to
have a large,
positive
presence in the
communities
we serve.*

Views on the Industry

When Webster started in the industry, natural gas came from traditional wells and electricity from standard generation plants. He sees a future that is nothing like the past. “Utilities will shutter coal plants and hydrogen will fuel electric generation facilities – solar panel technology is evolving every day, and natural gas will be generated from the decomposition of organic waste,” thus eliminating the need for wells.

The new field of biogas and renewable natural gas technology fascinate Webster. He explains, “I find the biogas/renewable natural gas technology valuable for the future of the energy industry. Not only in the additional supply being created but, more importantly, the reduction in CO₂ emissions.”

Webster is also confident in the future of the electric industry. He thinks integrating and finding the right

balance between alternative energies such as wind and solar, the improvement to battery storage, and the continued adoption of hydrogen as a fuel source to generate electricity will provide clean and sustainable energy for our future.

When asked about future challenges for the industry, Webster remains confident. He truly believes that everyone involved in energy delivery wishes to preserve the environment while providing reliable and affordable energy. Achieving both these goals will be difficult but not impossible. Challenges exist due to the expense of new technologies and the amount of infrastructure that needs replacing and upgrading. Webster stated, “As we saw just this past February [when Texas suffered a major power crisis], our energy delivery system can fail, but I am confident we will continue to adapt and overcome these issues.”





For over 37 years, **John Webster** has been a noteworthy leader in the natural gas industry. Mr. Webster is the Director of the Natural Gas Division at Hutchinson Utilities and serves on the Board of Directors of the Minnesota Municipal Gas Agency (MMGA).

Mr. Webster has been honored with the Emerson Global Users Exchange "Best in Conference" award for his presentation "Measuring Real-Time Specific Gravity Will Save You Money," presented at the 2018 Emerson Global Users Exchange held in San Antonio.

He holds a Bachelor of Science degree in mechanical engineering from the University of Toledo in Toledo, Ohio.



Many in the industry are concerned about the ability to attract and retain new workers. When asked about this, Webster reflected on the most significant influence in his decision to pursue an energy-related career—his father. His father was a natural gas employee for Ohio Gas Company in Bryan, Ohio. Growing up with a living example of how the industry works helped Webster make his decision.

Webster thinks "the future of the energy delivery industry holds tremendous potential for those looking for exciting new opportunities." Unfortunately, most young women and men are unaware of what their local natural gas and electric utilities do to serve their communities, let alone the great career opportunities they present. Energy suffers from being 'invisible'—something that most people only notice when it is missing and the power goes out. Webster believes "we need to have a large, positive presence in the communities we serve." He says the industry needs to be the influence Webster's father was to him—a visible presence—especially to young people. Utilities should be noticeable where young people are and show how they support the issues that concern them and work on branding themselves as the preferred employer of their community.

HUC consists of many younger workers, and Webster finds "that the younger employees are more safety-conscious than workers of my age." He discusses safety with his staff daily. "It sounds cliché, but it is the truth. In this industry, the safety of our valued employees and the public we serve has to be our first and last thought every day," Webster says. He believes promoting safety helps when trying to attract young people to fill open jobs.

The Value of Engagement

Webster was first involved with MEA in the 1980s. He served on the Measurement &

Controls Committee into the early 90s before acting on the Gas Codes & Standards Committee and now serves on both the Board of Directors and the Gas Operations Steering Committee.

Webster explained, "I am grateful to the utilities that I have worked for in my career for allowing me to participate in MEA. When I began working for my current employer, I discovered that they did not participate in MEA. It was not long before I had HUC signed up as a participating member, and I have never looked back."

Webster has grown through his participation with MEA. Additionally, serving on committees allowed him to meet with many natural gas experts. He attended numerous MEA learning events over the years and presented at both the 2017 and 2018 Gas Operations Technical & Leadership Summits and the 2010 and 2011 Gas Ops Forums. He explains, "I attend for the education gained from the sessions, and, more importantly, interact with hundreds of men and women in this fantastic industry." Attending MEA events has allowed Webster to learn from industry experts, which he refers to as "the best of the best," while making lifelong friends.

For those reasons and more, he attended the 12th Annual Energetic Women Conference in Indianapolis, Ind. He had to check it out after hearing about the quality of the conference from participants. He also attended to show his support for the Energetic Women Leadership Team and the "fabulous work they do." He elaborated, "This is a conference that every member of MEA must attend. You will never forget the excitement and enthusiasm generated by the energetic women and men that attend this conference. I can't express in words the admiration I have for this 'new' force at MEA." 💡



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Technology-Centered Growth

A Look at How Evergy Investigates Technology

by **Matthew Bult**, operations technology, Evergy

I have been engaging with people and technology since I started in the utility sector. I realize that technology is always part of change — whether it's forcing us to change or enabling us to execute change quicker. Evergy's technology-centered growth, likely akin to many utilities, is focused on the evolution of the autonomous grid, non-wires alternatives, and the millions of accompanying data sets. As we work through these opportunities, we know and embrace that the end is not in sight. Instead, we focus on building adaptability into novelty, starting with bringing new technology in, whether from the "cutting/bleeding" edge or something that has more stability to it.

Investigating the Vendor

When the team at Evergy starts investigating new technology, especially those considered cutting or bleeding edge, we understand that we must be prepared to invest technical equity in this company. Knowing that this requires a significant mental resource commitment, we typically skip the initial formalities and dive into direct questioning rounds with vendors. Although not always ideal from a vendor standpoint, it allows us to make the best use of our time. We have over 50 questions spanning communication, control, asset software, and security categories. These questions boil down to a few key focuses:

1. Willingness of a vendor to adapt their proposed solution to Evergy's requirements
2. Ability of the platform to be highly configurable by Evergy
3. Technical aptitude of the vendor's current-state staff and solution(s)

The first stage of our new technology review encompasses this Q&A process. Once a vendor passes our three key focuses, we move to the next phase: an in-depth technical review process. Each response gathered from the first stage gets categorized into things we consider acceptable, middle-ground or and something that will prevent us from moving forward with the vendor (deficiencies). In the technical review phase, we spend time diving into the middle-ground and these deficiencies. We want to challenge new technology vendors from an offering and innovation standpoint. If they can prove themselves here, we will move to the final phase: piloting. Only about 20% of our technology reviews make it to this

point. Once we enter the pilot phase, we use our lab environments to execute testing and, when needed, move forward with field installations.

Learn and Adapt Processes Based on New Tech

A defined but flexible structure needs to be put into place to capture any benefit these new technologies would deliver. This approach has allowed us to conduct quick assessments around new integrations, database structures, and operational metrics. We have been able to utilize mentalities such as “fail fast” and “trust but verify,” allowing us to capture growth and continue presenting opportunities for ways to not only impact but sustain longer-term support for business objectives. As a result, there have been few changes in our deployment of grid automation capabilities, both in current-state operations and our future-state design.

For example, in grid automation, we have changed how we interpret data from a distribution SCADA standpoint. Most SCADA and Historian systems have robust vendor-created integrations that also require sustained care. When discussing the system setup, the Historian supports engineering research and analytics, while our SCADA database supports real-time data management and execution. Since our Historian is only as good as the SCADA data presented to it, we have decided to implement a better data management philosophy. Under this philosophy, we are segmenting our data based on priority: Pure operational points (e.g., open/close, amps, etc.), engineering data points (e.g., harmonics, oscillography, etc.), and finally, asset management points (e.g., settings, maintenance items, etc.). This work supports better bandwidth management but also supports my point around SCADA and Historian database relationships. To guarantee SCADA receives relevant data, Evergy is enacting a data gate model to field information better. Having a data gate will allow us to direct traffic, in a prioritized fashion, to the systems and repositories that need it the most. If an asset has 500 data points, but SCADA requires 20 and 250 for the Historian (we all know not all data is needed), we can adequately direct that data flow. Thus, our SCADA system becomes more efficient, and our Historian system is not directly reliant on the SCADA system.

Our data gate model generally supports what others refer to as an adaptable architecture, supporting our broader SCADA initiative, internally named ADMX, which is Evergy’s take on the traditional Advanced Distribution Management System (ADMS). ADMX is about pursuing the best technology in its class and not compromising the best module that a software package has. We are moving away from selecting large single-vendor platforms and making long-term investments in singular distribution technology stacks. We want to be agile as technology changes, keeping up with the ebb

and flow of utility and customer technology. Things like Volt-VAR Optimization have a wide range of capabilities and database structures depending on which vendor is selected. Thus, we want to select the vendor with the best algorithm and data architecture, which may be completely different from the vendor with the best SCADA framework.

In addition to prioritizing and directing traffic in a secure and reliable fashion, our data gate also supports the evolution of I/IoT deployments. The developmental points of an I/IoT strategy align with our data gate by focusing on support for a wide variety of protocols, data management, security, and staying agnostic to communication mediums. I/IoT technology is just starting to evolve and make its way into daily utility operations. The first example of I/IoT devices deployed and fairly common is Communicating Faulted Circuit Indicators (CFCIs). These assets spread across our distribution lines providing near real-time fault data to complete Fault Location Analysis (FLA), helping our field and system operators locate faults.

The Balance Between Over the Counter and In-House Created Technology

Under our ADMX strategy, we strive to balance over-the-counter software and creating applications in-house. We lean towards in-house development when the customization of current offerings outweighs the benefit of vendor-purchased software. We have learned a lot about operational data structures and how applications and SCADA appliances interact with them through our internal development. This fundamental knowledge helps us create the technical requirements when the need arises to purchase vendor-supplied software. Although we see the industry in the middle of changing to this framework, the work we do today is to make sure that we are enabling our future state and not preventing it.

Out of our ADMX and I/IoT strategies, we have developed a few in-house applications. As mentioned earlier, Fault Location Analysis (FLA) is one of our newest applications. This FLA system is part of our more extensive Operations Technology application set, ECHO (Engineering Control Hub & Observation). The FLA application reads reported CFCI and recloser fault data, analyzes the data, and presents a user with a color-coded fault map within a few moments of the field event. As we balance internal and external applications, FLA is an excellent example of a system we developed and are still learning from as well. However, we do not expect this system to live on indefinitely. When the time is right to migrate and create the requirements for an enterprise system, we will have the technical knowledge to create something made for our company.

We want to be agile as technology changes, keeping up with the ebb and flow of utility and customer technology.



With a Bachelor of Science in Electrical Engineering from South Dakota State University, **Matt Bult** started his career in Evergy's generation fleet focusing on electrical and control system upgrades. After transitioning to roles in IT and Distribution Automation, Matt became team lead for Operations Technology. In this role, Matt leverages his background in IT/OT, grid intelligence, and security to blend operational business practices and technology into functional systems built for adaptability. Operations Technology focuses on Grid Technology, Asset and Construction Standards, and Unmanned Aircraft Systems.

To support ADMX, our network segment must support isolated (not air-gapped) partitions for production and quality systems with untrusted corporate-orientated systems and databases. Like most control systems, security is our priority. We monitor what datasets are leaving, where they are going, and what we broadcast into our corporate routing tables. Security and its operational components change as we transition from centralized to grid-edge operating models. Although the field technology does not always support this, our goal is to create a hybrid system where some actions come from a centralized system, while field devices have the intelligence to analyze and react in a coordinated manner.

The best example of this is the reclosers installed Lawrence and Roeland Park, both in Kansas, and Lee's Summit, Mo. Each has different variations of FLISR (Fault Location Isolation and Supply Restoration) and has a centralized system coordinating the main activity, whether from an automation engine or manually via operator interaction. Then, using local intelligence or peer-to-peer communications, each recloser coordinates switching schemes or setting groups without interaction from a centralized command. Each of our assets is programmed to continue providing essential local operational functions even when communications or — worst case — the SCADA systems fail, as they did for years before remote intelligence.

The Feedback Loop

Whether through new grid-edge technology, the ADMX strategy, or making simple adjustments to how our operations personnel interact with field devices, we provide consistent updates and feedback loops with our stakeholders. Through this, we focus on the philosophy of executing changes in, or generally around, new technology deployments. Without a good change management practice, new technology will be considered "special" to our operations personnel. Without proper standardization practices, our operations personnel can see these "special" projects as not worth investing the time into understanding because technology continues to change and can sometimes have hiccups that impact the operational user's experience with it. Or, it can happen because the active users are busy, and their day-to-day priorities continue to change, regardless of our technology deployment plans. Whatever the reason, we believe the quick standardization of successful technology efforts means we get changes in front of our operations crews quickly and through a resource they are accustomed to working with for all other asset changes.

ABOUT EVERGY

Evergy is a vertically integrated utility spanning Eastern Kansas and Western Missouri. Evergy was formed in 2018 with the merger of Kansas City Power and Light and Westar Energy. Some quick company facts are:

- Over 4,200 MW of renewable generation
- All 1.6M customers have some variation of intelligent Landis & Gyr meters
- 10,000 miles of transmission and 52,000 miles of distribution lines
- Over 1,000 EV chargers throughout their territory with new installations occurring monthly

Sustainability Transformation Plan

All of this work has laid the foundation as we look to execute Evergy's broader Sustainability Transformation Plan (STP) initiative, our company's strategic plan. Aligned with this plan, we are expanding our ADMX plan and supporting field asset expansion through 2025. With the STP, we will be installing thousands of new field assets ranging from reclosers to CFCLs and other I/IoT sensors, creating our grid automation ecosystem. Specific to grid automation, our high-level plans are as follows:

- Source automated switching (FLISR) application and install corresponding field assets
- Source automated voltage management application and install corresponding field assets
- Expand ADMX / Data Gate architecture

As we execute this plan, it highlights the most critical element to our current and potential success: a technically sound and diverse team that engages in development, evaluates new technology, and builds stakeholder support with an eye towards operational efficiencies. This collaborative environment does not necessarily mean that we all always agree; it means that we work together to constantly find a balance between respect for the wealth of existing knowledge we have while raising the heat enough to enact the needed change. 🙌

Supporting Data

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Seven Steps To

Mastering Digital Body Language

by **Erica Dhawan** author of “**Digital Body Language**”

No traditional expert in body language could have predicted that today most of our communications would be virtual. Contemporary communication relies more than ever on how we say something rather than on what we say. That is our digital body language. Digital body language is the new cues and signals we send that make up the subtext of our messages in digital communication. Everything from our punctuation to our response times to our video backgrounds in a video call makes up signals of trust, respect, and even confidence in our modern world.

When the internet came along, it gave everyone a dais and a microphone but told no one how to use them. We all just picked things up as we went along. And the mistakes we’ve made along the way have had real consequences in business.

Misunderstandings are rampant in today’s workplaces. And while poor communication habits may feel inevitable

with colleagues, they can often come at the cost of a team’s potential to succeed. Each of us has different expectations and instincts about whether we should send a text versus an email, when to call someone, how long to wait before we write someone back, and how to write a digital thank you or apology without seeming insincere. These seemingly small choices create impressions that can either enhance or wreck our closest relationships in the workplace (not to mention our personal lives).

Most of today’s boardrooms, workplaces, and classrooms minimize the conditions necessary to foster and augment clear communication, leading to widespread distrust, resentment, and frustration. There are more far-flung teams. There are fewer face-to-face interactions. There is virtually no body language to read (even today’s video meetings are scarce of eye contact or hand gestures). But how can we stay connected when a screen divides us? The answer lies in understanding

the cues and signals we are sending with our digital body language and learning to tailor them to create clear, precise messages. What was implicit in traditional body language now must be explicit with digital body language.

By embedding a fundamental understanding of digital body language into your workplace, communication processes can provide both the structure and the tools that support a silo-breaking, trust-filled environment. Based on my new book “Digital Body Language,” I’ll share seven strategies to master your leadership skills in connecting with others. Online, careful reading is the new listening. Clear writing is the new empathy. And a phone or video call is worth a thousand emails.

1) The Medium is the Message.

Knowing how and when to use each one depends on the context. Every channel brings with it a set of underlying meanings and subtexts. Knowing how to navigate this array of hidden meanings is a telltale mark of digital savviness and—ultimately—professionalism. If you are unsure which medium you should use, consider the importance of the message and if it is urgent, who the sender is, and the best communication method. You are not bound to one or two communication



channels. Switching between channels is a good way to indicate a shift in the urgency of a message while denoting the closeness of a relationship.

2) Punctuation is the new measure of emotion.

Since we lack cues like eye contact, tone of voice, or body language to clarify what another person means, digital communication is inherently more challenging. By way of compensation, our communication style relies on punctuation for impact. To infuse our texts with tone and to clarify our feelings, we might use exclamation marks, capital letters, ellipses, or the “Like” or “Love” button on messages we receive. But instead of clarity, sometimes our reliance on punctuation and symbols can generate more confusion. You should use punctuation and characters carefully. If you’re worried about your digital tone, one way to clarify your feelings digitally is through the direct, easy-to-understand language of emojis. While emojis may be a learning curve for some, they can be critical to enhancing workplace efficiency and cultivating a corporate culture of optimal clarity.

3) Timing is the modern signal of respect.

Face-to-face interactions require that both parties be available at the same time. These interactions are less possible today, with most of us scrambling to keep up with our various inboxes. Thus, communication happens at a slower pace. And in a digitally-reliant world, the slightest pause between messages takes on an almost operatic meaning. The thing is, most of the time, a non-answer means nothing at all; the other person

is simply tied up, doing something else, didn’t notice she’d gotten a text, had her volume turned off, or forgot where she put her phone. Still, we can always help ease anxieties around timing expectations by encouraging communication norms and best practices for your office. For example, leaders can mandate a response time for email – within the hour, particularly if it’s time-sensitive or client-facing – to ensure team-wide accountability. Leadership expert Dr. Jaclyn Kostner has this to say to execs about sloppiness: “You have to find the time; otherwise, you’re not fit for the job, and somebody else should be doing it. Or maybe you need to offload some responsibilities because there’s no excuse for sending people cryptic emails.” Leaders don’t have to respond to every message, but their communications should be clear when vital work guidance is required. Your organization will be better for it.

4) To, CC and BCC are the new cues of inclusion.

Think of an email as a sporting event. You and whoever else is in the To: box are the athletes. If you do not CC or BCC anyone, you’re just practicing, rallying before a match, or throwing the ball around with a friend. When you add observers to the CC, suddenly, other people begin to fill the stands. Add more people to the BCC, and you’re now swelling the VIP box seats with scouts, coaches, and recruiters. From here, the stakes go up. If you choose to reply only to the other athlete, you’re having a private conversation no one else can hear.

In contrast, Reply All is equivalent to a booming voice coming in the overhead speakers that the entire stadium can hear. Reply Alls, Ccs, and Bccs are

Always be conscious of the level of power dynamics and trust levels with your recipients—and avoid jumping to conclusions.

Getting a slapdash email means that the recipient must spend time deciphering what it means, causing delays and potentially leading to costly mistakes.

necessary for most workplaces, but ask yourself who needs to be a part of the conversation. This inclusion involves discernment because some people insist on being a part of everything. Reply All should be limited to high-priority information you want to share with the entire team: meetings, announcements, agendas, and enterprise-wide information. Always be conscious of the level of power dynamics and trust levels with your recipients – and avoid jumping to conclusions when you receive a message that catches you off guard.

5) Always choose clarity over brevity.

We'd like to think that successful leaders are always calculated and careful in their communication, that they double-check all of their written digital messages, and treat their virtual interactions as if they're happening in person. But our leaders are often the worst when sending thoughtful responses, and their teams can suffer from it. Brevity from the upper echelons of power isn't exactly uncommon. Sloppy texts and sloppier emails, poor sentences, lousy grammar, atrocious spelling – we don't have time to care! At Morgan Stanley, there was a running joke that the more senior you were, the fewer characters you needed to express your gratitude in a text or email. You started your career with "Thank you so much!" and after a promotion or two, this was cut down to "Thanks." Brevity can make a person appear significant, but it can also hurt your business. Getting a slapdash email means that the recipient must spend time deciphering what it means, causing delays and potentially leading to costly mistakes. And, according to Danielle Gunraj, a professor of psychology at Binghamton University, when we use the punctuation we associate most with brevity – the dreaded sentence-final period – we come across as insincere.

Don't be afraid to request a phone conversation

6) Be Tone-Deft, not Tone-Deaf

Tone – the overall attitude or character of a message – is another crucial skill for any successful communicator. Perhaps more than anything else, it's the greatest tool for communicating empathy. I tell my clients who struggle with digital communication to make sure they keep in mind the visual impact of their message. Ethan, a young manager I coach, once told me about an interaction he had with a senior leader that left him feeling unappreciated and belittled. As requested, he had sent this senior leader a detailed plan about increasing productivity among his teams. The plan set forth a different way of working that Ethan was confident could help teams avoid duplicating their efforts and create new

levels of transparency. Ethan was excited about the plan and even included specific questions for the next team meeting. Expecting a positive response, maybe even a few follow-up questions, what he got back from the executive was this: "k."

Sorry, what? K-what? K-pop? Ethan felt confused and insulted. The visual impact of "k" was that Ethan's clear and comprehensive proposal hardly deserved a response at all. Was the executive even thinking about Ethan's plan—or was she dismissing it outright? Did "k" mean she was giving him the green light to proceed, or was it a subtle command to put his dumb idea on the back burner? It was impossible to tell. Also, did the senior leader think so little of Ethan that she couldn't be bothered to write more than a single letter? Even something pedestrian, like "Okay, I'll get back to you," would have conveyed more respect and attentiveness than that "k."

7) A phone call is worth a thousand emails.

With so many written platforms at our disposal, we can also get caught up in asking too many questions in email or group chat. Phone, video, or live meetings safeguard us from asking one tiny question after the next, instead requiring us to formulate the right questions. If you just received a vague or confusing text or email, don't be afraid to request a phone conversation or, if possible, a video or in-person meeting. If it's a sensitive dialogue, requesting a quick call shows you're being thoughtful. Instead of making you look indecisive, waiting a few beats before responding to questions shows the other person that you are listening and taking your work seriously.

I learned that understanding the nuances of digital body language does not merely solve problems; it also opens deeper and better ways for us to relate to one another and foster a sense of inclusion and belonging. This understanding benefits everyone in business, from executives to managers to team members, by creating environments that allow the very best ideas to come forth and shine.

A better understanding of digital body language goes a long way toward building greater trust, connection, and authenticity – allowing us to communicate better, build stronger relationships, and transform the way we lead, love, connect and live. 💡



Erica Dhawan is a leading expert on 21st century teamwork and communication who spoke at the Energetic Women Conference in 2021. She is an award-winning keynote speaker and the author of the new book "Digital Body Language." Download her free guide to "End Digital Burnout" at ericadhawan.com/endedigitalburnout.

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Training with Remote Technology

by John Jonas, supervisor operational training & OQ at Puget Sound Energy and Ray Deatherage, senior program manager at GTI



Conducting Remote Evaluations

The need for remote technologies was brought to the forefront over the past year and a half. John Jonas, supervisor operational training & OQ, describes how Puget Sound Energy Company (PSE) made use of remote technologies for conducting performance evaluations:

When PSE needed to comply with the stay-at-home order brought about because of COVID-19, we investigated the use of remote evaluations to maintain the qualifications of our field employees. We first looked at expirations. At the time, most qualifications for PSE would not expire until December 31, 2020. However, joining of pipe tasks was an exception, as they have expiration dates of one year to the date, with no grace period until the end of the year. For this reason, we made joining of pipe tasks our priority.

When deciding if a task would qualify for remote evaluation, we needed to answer several important questions.

- 1/ Could the evaluation be performed safely under the span of control?
- 2/ Could the evaluation be performed safely with simulations in the field without using live gas?

Since field evaluations would be difficult without using live gas, PSE determined the only tasks considered for the remote evaluation would be LycoFit. Therefore, all field employees have pipes, fittings, and tools required to perform the assessment as a simulation.

PSE conducted 333 LycoFit evaluations in 2020, with about one-third of them utilizing WebEx or FaceTime instead of face-to-face evaluations. A notation on the evaluation form indicates that PSE conducted the session remotely. Using the remote method was easier than expected, no additional resources were needed, and the evaluatees liked the option of not having to drive to the training facility. Even though we can now perform evaluations in-person, PSE is still utilizing this remote method when employees have no other OQ

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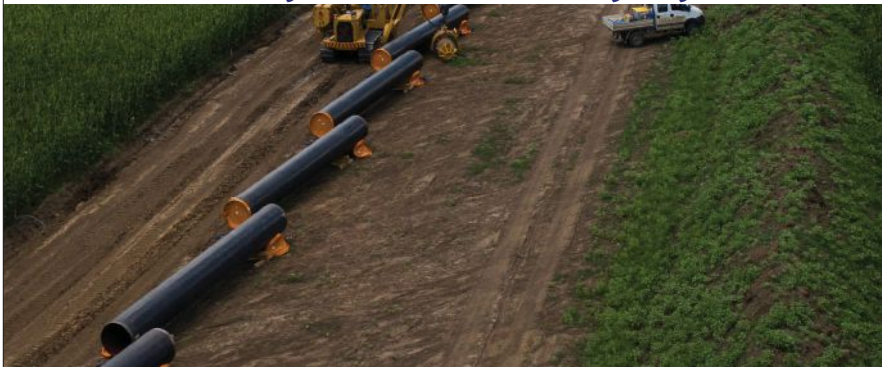
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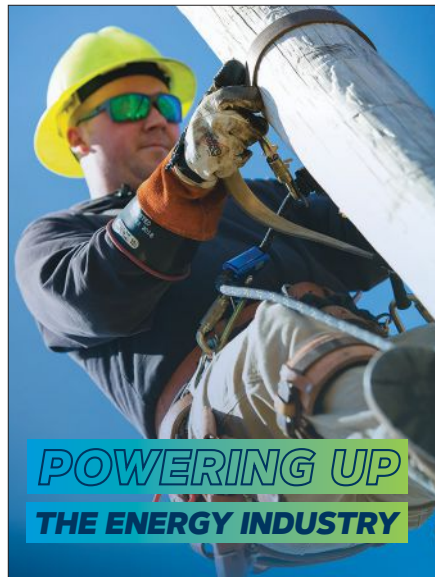
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evaluations needed at the time of their LycoFit re-qualification and have no other reason to report to the training facility.

Training in Virtual Reality

Remote technologies are effective for more than just field evaluations. Ray Deatherage of GTI explains how to incorporate virtual reality (VR) training as a solution to help overcome future travel and contact restrictions:

With applications for instruction, practice, and qualification, VR training has proven and defined benefits for learning retention, critical skills and knowledge transfer, efficient and uniform training, and the reduction of errors and cost and risk. The fully immersive and interactive 3D environments found in premium VR training modules help trainees build vital mental, physical, and emotional connections with the subject matter, creating a more meaningful experience that works across the four primary learning styles: visual, auditory, reading/writing, and kinesthetic motion.

With the potential for multi-user functionality, scenario and randomization/repetition, real-time data and analytics, and opportunities for simulated consequences, VR training allows a workforce to learn the best way possible – through personal experience – all within the safety of a virtual, computer-generated environment. Further, when coupled with a platform designed for efficient integration, distribution, and management of extended reality (XR) content, VR training represents an ideal complement to traditional training. This additional training allows organizations to get the most out of their existing programs while streamlining costs, creating efficiencies, and providing more significant opportunities for collaboration.

Using the remote method was easier than expected, no additional resources were needed, and the evaluatees liked the option of not having to drive to the training facility.



Another technology to consider for helping overcome training, qualification, and everyday work challenges is Augmented Reality (AR) platforms. These platforms allow for hands-free access to procedures, checklists, videos, and other types of support aids. In addition, these exact AR solutions offer “see what I see”

technology where a field employee can connect with a supervisor, trainer, evaluator, or peer to seek guidance or evaluation while seeing the same scene in real-time. This technology can easily overcome the travel and contact restrictions the industry is experiencing today and in the future. 🔥



John Jonas is supervisor operational training for Puget Sound Energy. He oversees training and Operator Qualification for Gas First Response, Corrosion Control, Pressure Control, Industrial Meters and Instrumentation. He believes a skilled work force starts with safety as fundamental building blocks for every job. He holds an AA in refrigeration technology and a low voltage electrical license with the State of WA. He has worked as an HVAC service technician for 15 years, as a corrosion technician with NACE-II certification for four years and technical trainer for five years.



Ray Deatherage is a Senior Program Manager at GTI and has 29+ years of experience in the natural gas distribution industry. This includes 14+ years developing, delivering, and maintaining training and qualification programs for a utility workforce of 1,200+ employees. He has 5+ years evaluating, developing, and deploying VR/AR/XR training technology in the natural gas industry. He is currently working on the development of an entire library of VR technical training content for the natural gas industry. He has an undergraduate in Workforce Education and Development and an MBA specialized in Organizational Behavior.



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PFAS Remediation:

Where Are We Now

by **Dennis Keane, geologist, XDD's Stratham**

The title deserves a bit of an explanation relative to remediation techniques that are currently available for per- and polyfluoroalkyl substances, or PFAS. When groundwater remediation was regulated more significantly in the 1970s, petroleum derived compounds were the primary focus. Initially, the active remedial technologies available for petroleum compounds were limited (i.e., pump and treat and excavation). It wasn't until the 1980s that bioremediation, air sparging, and soil vapor extraction were applied in the United States. In the late 1990s chemical oxidation was developed and applied, along with thermal enhancements. The timeline for chlorinated solvents was similar, but offset by a few years. Many of the treatment technologies for petroleum developed in the 1980s were adapted for this class of compounds, except for bioremediation. Chlorinated solvents were initially considered to be non-biodegradable until the late 1980s¹.

Similar to the remedial development of petroleum compounds and chlorinated solvents, we are still early in the process of determining which techniques will ultimately be practical and effective for PFAS. While we have the previous 40 years of remedial experience on other contaminants to draw from, PFAS provide some unique challenges, not unlike chlorinated solvents originally did. The most significant challenge associated with the remediation of PFAS is the carbon-fluorine (C-F) bond, a defining characteristic of these compounds. The C-F bond is one of nature's strongest, and its resistance to being broken has earned PFAS the nickname "forever chemicals". This strong C-F bond has significant implications when choosing a remedial technique that requires destruction of PFAS. To pull apart that C-F bond requires a great deal of effort (energy) and therefore the remedial

processes that promote complete destruction are likely to require higher energy input than needed for petroleum or compounds like tetrachloroethylene.

PFAS and Aqueous Fire Fighting Foams

The first PFAS started to show up in commercially available products in the 1940s. It wasn't until the 1960s that PFAS were used to develop aqueous firefighting foams (AFFF) for the United States armed services, which were then adopted quickly for multiple industries throughout the United States. AFFF applications included naval vessels, fire suppression systems for buildings, firefighting trucks, and general fire response training. A simple internet search for "foam fire test" shows how much AFFF might be used to suppress a fire at just a single facility. Historically, approximately 75% of the AFFF market was for military use, while the remaining 25% was for other markets, like refineries. Of AFFF produced by one major manufacturer after 1989, PFAS made up approximately 78% of the AFFF composition, of which PFOS was the compound of highest concentration². A laboratory analyses of AFFF historically used at fire training areas indicated that the PFOS concentration can be in the range of 100 milligrams per liter³. It should be noted that the US EPA master list includes approximately 6,330 compounds, of which only a few dozen can be analyzed by laboratories. The vast majority of these compounds lack basic toxicological data.

Regulatory Background

In 2009 the United States Environmental Protection Agency (US EPA) published a provisional drinking water health advisory for PFOA and PFOS of 400 and 200 parts per trillion, respectively. The current US EPA health advisory of 70 parts per trillion for a combined sum of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) was established in 2016. In February 2021, the US EPA reissued a final determination to create a National Primary Drinking Water Regulation for PFOA and PFOS. Additionally, the US EPA reissued a proposed rule that would have public water systems collect data for 29 PFAS. Even though the US EPA has yet to issue a drinking water standard, states have been moving forward on their own. As of the beginning of 2021, a total of 16 states have promulgated drinking water standards. For example, Michigan currently regulates seven PFAS, while Massachusetts regulates a total of six PFAS. Drinking water standards at the state level are generally much lower than the US EPA advisory level, which suggests that eventual federal standards will be well below the current guidance of 70 parts per trillion of PFOA and PFOS.

Environmental Sampling Difficulties

Because of the historical prevalence of PFAS in the environment and general consumer products, measuring for PFAS can be complicated by elevated background levels and cross contamination, especially when compared to petroleum compounds or chlorinated solvents. As such, guidance commonly prescribes that field personnel avoid using materials that have historically contained PFAS. For example, some of the prohibitions in guidance documents include Tyvek®, Gore-Tex®, fabric softeners, sunscreen, insect repellent, waterproof field books, plastic clipboards, or adhesives.

Even sampling equipment may contain products which have, or have historically had, PFAS, such as low-density polyethylene and seals on pumps with polytetrafluoroethylene (PTFE). Many field supply and equipment vendors have eliminated PFAS from their products or offer equivalent alternatives. For example, the ubiquitous Rite in the Rain waterproof yellow field book doesn't contain PFAS and is manufactured in a facility that is free of PFAS.

As always, check the guidance for your state (if available) or the Interstate Technology Regulatory Council (ITRC) (*PFAS Technical and Regulatory Guidance Document*) for sampling guidance and procedures.

PFAS in Background

A study was conducted in Vermont in 2018 to determine the background concentrations of a number of PFAS in Vermont shallow soils. Other states have considered or used the results of this study to set background levels for specific PFAS in soils (e.g., Massachusetts).

A total of 68 soil samples were collected from 66 locations across Vermont. A total of eight PFAS were quantitatively detected at frequencies higher than 50% with PFOS being the most common. In contrast, several other PFAS (PFBA, PFPeA, PFDoDA, PFTTrDA, PFTeDA, PFHxDA, and PFODA) were quantitatively detected in less than 10% of the samples. Total concentration of total PFAS detected ranged from 540 to 35,000 ng/kg.

It is important to note that avoidance by itself appears to have resulted in a decline in human exposure to PFAS. Blood serum concentrations have declined for PFAS from approximately 30 to six parts per billion between 2000 and in the US. – good indicator that production bans/reductions have had some effect.

The most significant challenge associated with the remediation of PFAS is the carbon-fluorine (C-F) bond, a defining characteristic of these compounds.



Remediation

When evaluating a relatively new class of compounds for groundwater remediation, their physical-chemical properties give important clues as to what processes are likely to be most successful. First the vapor pressure (think rate of evaporation) of most PFAS compounds is low relative to petroleum compounds like benzene and many chlorinated solvents. Additionally, the Henry's Constant for PFAS is also very low, which means that PFAS would much rather be dissolved in water than in the gaseous phase. The low vapor pressure and Henry's Constant means that these compounds are not going to easily partition into the vapor phase. Therefore, physical processes like air stripping (or when implemented in the subsurface - air sparging) are not going to be effective. The larger PFAS (eight carbon) do tend to have a higher affinity for partitioning into organic carbon (as measured by their organic carbon-water partition coefficient or K_{oc}) than either benzene or trichloroethylene. Therefore, adsorption at least of the higher molecular weight PFAS is expected to have application. The overall size of PFAS tend to be relatively large, making processes that employ either nano-filtration or reverse osmosis to have the potential to be effective. As stated previously, for PFAS destruction the C-F bond requires high energy input processes.

Adsorption and Ion Exchange

Adsorption is the most common remedial technique that is currently in use for PFAS. The technology uses an adsorbent such as activated carbon, naturally occurring minerals, or synthetic resins to remove PFAS from an aqueous solution. For pump and treat remedial solutions, once the adsorbent is saturated to the point of not meeting performance requirements, it is either regenerated (the PFAS is removed and then the adsorbent is re-used) or disposed of. One exception is for injectable activated carbon, which cannot be regenerated or disposed of. Activated carbon is injected into the subsurface as a slurry, which then absorbs PFAS, reducing groundwater concentrations. Because injected carbon is typically not regenerated, the amount of activated carbon injected must account for all the possible PFAS and non-target substrates that might be adsorbed, or eventually transported into the treatment volume.

Overall, activated carbon has many benefits in that it readily treats the larger PFAS (e.g., PFOA and PFOS), the materials are relatively inexpensive, and the infrastructure for delivery and regeneration already exists. Some of the biggest concerns with activated carbon is that the capacity to adsorb PFAS is orders of magnitude less than for

petroleum or chlorinated compounds and it is not as efficient when treating the smaller PFAS, like perfluorobutyrate (PFBA), which has four carbon atoms when compared to the eight carbons in PFOS. For the smaller PFAS molecules, manufactured ion exchange resins tend to be more efficient than activated carbon, but still are limited in capacity relative to the higher molecular weight PFAS. Ion exchange resins are made up of tiny hydrocarbon beads that are highly porous with chemical coatings to provide the ion-exchange capacity.

There are two broad categories of ion exchange resins: cationic and anionic. The anionic resins have a high capacity for many PFAS; however, it is typically more expensive than activated carbon on a per pound basis. Of the different types of anionic resins, perhaps the most promising is the single use material that is disposed of by incineration. One benefit of this treatment technology, there is no waste stream to handle, treat, or dispose of (except for the resin itself). The effectiveness of a resin can be greatly reduced if certain co-contaminants are present (e.g., natural organic matter). Like activated carbon, anionic resin removes 100 percent of the measurable PFAS for a time that is dictated by the type of resin, which PFAS needs to be removed, and other engineering considerations like resin contact time. It should be noted

that there are many types of carbon and resin on the market, not all have the same capabilities, so it is necessary to evaluate the best product for your site-specific conditions.

Filtration and Osmosis

High-pressure membranes, such as nano-filtration or reverse osmosis are typically more than 90 percent effective at removing a wide range of PFAS, including some shorter chain compounds. For each of the membrane types, approximately 80% of the water coming into the membrane, passes through to the effluent as treated water. Approximately 20% of the feedwater is ultimately retained as a concentrated waste. Therefore, treatment of a 50 gallons per minute influent would generate a concentrate at 10 gallons every minute. The volume of waste from this treatment process can create disposal difficulties, especially when PFAS are involved.

Bioremediation

For both petroleum and chlorinated solvent compounds, bioremediation has been a long-established remedial option. Bioremediation has several benefits over other technologies, the primary one being that it is generally less expensive and less disruptive. Because of these benefits, there has been significant focus on determining if bioremediation occurs or can be induced for PFAS. As of right now, there is some evidence for biodegradation of PFAS, but it generally does not result in complete mineralization (again, with one exception). What evidence does exist, is for the biological transformation of the “polys” (carbon molecules not fully fluorinated) into “pers” (carbon molecules fully fluorinated). What is occurring here, is that the C-F bond is too strong for the microbes to break, and therefore they are only able to attack the weaker parts of the molecular structure. The result is that a poly-fluorinated compound will be transformed into a per-fluorinated, essentially a byproduct. Once fully saturated, the per-fluorinated compound is more resistant to biodegradation.

There is an exception, an article published in 2019 showed the biodegradation of per-fluorinated compounds by *Acidimicrobium A6* under very specific conditions (acidic soils rich in iron)⁴. While degradation of per-fluorinated compounds has been demonstrated to some degree in a laboratory setting, the technology is unlikely to be available for field applications soon to meet regulatory criteria.

Chemical Oxidation

Conventional chemical oxidation technologies are generally not effective for PFAS due to the high energy requirements to break the C-F bond. Oxidation of

PFOS has been demonstrated with permanganate, but at high temperature, low pH, and with an extended residence time. Degradation of PFOS and PFOA have been measured with potassium permanganate at low pH and room temperature, but the required contact time was on the order of months.

Several advanced oxidation processes (AOPs) which generate high energy oxidative species, have demonstrated encouraging but limited treatability- and field-scale results. Proprietary oxidant mixes and ozone combined with activated persulfate in an in-situ field study showed decreases in mostly perfluoroalkyl acids (PFAAs). Additionally, bench-scale studies have been conducted for several AOPs: catalyzed hydrogen peroxide, activated persulfate, sono-chemical oxidation, photolysis, electrochemical treatment, and plasma. Results have been encouraging, but the potential costs limit the approach to low volume high PFAS concentrations wastes. Another significant challenge for many oxidative technologies is the potential to transform precursors into per-fluorinated end products (e.g., PFOA and PFOS).

Thermal

Treatment can be accomplished through thermal desorption or destruction. Heat is applied directly to the PFAS-contaminated soil/sediment at temperatures in the 400 to 600 degrees Celsius range to vaporize PFAS from the soil matrix, resulting in a PFAS laden gas stream. High temperatures of at least 1,000 degrees Celsius are then applied to destroy the PFAS in the gas stream. There remains public health and environmental pollution concerns related to the release of harmful ozone-depleting chlorofluorocarbons, fluorinated greenhouse gases, and products of incomplete combustion emitted by PFAS incineration. Research is ongoing to quantify the destruction of PFAS in these high temperature treatment processes.

Where do we go from here?

Any remediation approach for PFAS will need to be tailored to site-specific conditions. Given the complexity of PFAS, and their multiple potential interactions, a conceptual site model should be developed to select, design, construct, implement, and maintain any remedial approach.

With the advances in evaluations for PFAS toxicology, constituent identification, quantitation, and potential treatment technologies we expect a rapidly changing PFAS landscape. With the significant amount of research into remedial technologies for PFAS that is currently in-process, our understanding of how to treat these compounds could be significantly different in the near future. 🌱



Dennis Keane is a geologist at XDD's Stratham, NH office with over 20 years of environmental remediation experience. He has an in-depth technical and a practical understanding of many in situ technologies, including the application of innovative remediation solutions for contaminated soils and ground water. Mr. Keane lectures nationally on the design and application of innovative technologies for VOCs, SVOCs and inorganics.

1-https://www.researchgate.net/publication/279936113_History_and_ecology_of_chloroethene_biodegradation_A_review

2-<https://apps.dtic.mil/dtic/tr/fulltext/u2/1044126.pdf>

3-<https://www.sciencedirect.com/science/article/pii/S0169772218303048>

4-<https://pubs.acs.org/doi/10.1021/acs.est.9b04047>



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Distinguished Environmental Award Recipient:

Larry Milner

by **Larry Milner, vice president, Chicago office environmental global practice manager (retired), Burns & McDonnell and John Gann, senior vice president, MEA Energy Association**



The Distinguished Environmental Award acknowledges individuals for a specific breakthrough or achievement that has benefited the community of environmental professionals. For more information on the award, and to see past recipients, visit MEAenergy.org/environmentalaward.

Working over 40 years in the environmental and construction arena, Larry Milner has justifiably been recognized for a lifetime of contribution. Most recently, he was awarded MEA's Distinguished Environmental Professional Award for his significant contributions, and it compliments his MEA Hall of Fame Award, which he received in 2014. His lifetime of leadership, mentoring, and sharing, included 28 years of Manufactured Gas Plant (MGP) investigation, remediation and property restoration, a field in which he is a nationally recognized leader.

In addition to his MGP work, Milner worked in the areas of hazardous waste remediation and site restoration, as well as environmental permitting and planning, risk assessment, soil and groundwater evaluation and investigation, air quality evaluation and control, solid waste management, community involvement, design and implementation of sustainable solutions, regulatory reporting, and negotiations.

Passion in Retirement

Since retiring from Burns & McDonnell in 2018, Milner has barely slowed down. He serves on the University of Utah Civil and Environmental Engineering Industrial Advisory Board and the Engineering Alumni Association Board. Milner has a deep passion for our country and its laws, so he is studying history and constitutional law at the University of Utah and online from Hillsdale College in Michigan.

Milner's legacy continues to shine with his ongoing work with the University of Utah student chapter of Engineers

Without Borders (EWB), a national nonprofit humanitarian organization. EWB was established to support long term community-driven development programs both in the U.S. and worldwide. Larry has been particularly active in serving on the executive team for a project serving the community of Chosco, Bolivia.

The Chosco Project, as it is known, is designed to provide clean, sustainable, year-round water supply to the Chosco community. The inconsistent and often contaminated water supply impacts the livelihood and quality of life of the residents, a reality faced by a large percentage of older adults and young children in the area.

Milner is proud to be one small part of the team that identified a multi-faceted approach to this complex challenge. The team has completed the first critical task – installation of automated air release valves in the existing water lines. Next is replacing the existing lines. Future work may include water filtration systems, dam infrastructure reinforcement, and tank replacement and optimization.



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As *Larry* Sees It

Larry Milner served on the MEA Environmental Management Committee for a decade, making a name for himself as a trusted environmental expert, leader, and contributor. Larry's thoughts on this decade-long contribution:

“While serving on the MEA Environmental Management Committee, I met a lot of dedicated professionals that helped me to see different perspectives and gain knowledge. Planning and participating in the MEA environmental learning events enhanced my understanding of environmental concerns faced in the energy industry and helped me evaluate and develop solutions to those concerns. Serving on such an industry body was both personally and professionally very rewarding and a big part of my career and who I am.

”

For more information on MEA committees and opportunities to engage with professional peers, visit

MEAenergy.org/participate.



Recently, MEA sat down with Larry to gather some wisdom from his distinguished career. His thoughts:

Q To what do you attribute your professional success?

Hard work, passion, and a good education. And, maybe, a bit of luck.

Q What piece of advice or words of wisdom have been meaningful to you?

Be open minded and willing to listen to others and contribute with honesty and respectfulness.

Q Tell me about a failure you had and what you learned from it.

I once had a client push me into a

remediation that was not fully defined – final projected costs were more than double what was expected – the client was very unhappy and, of course, I had to eat a lot of crow. I learned to stick to my guns and walk away from a project if necessary.

Q What advice would you give a new engineer in the environmental field?

Don't be afraid to speak up – but remember to listen to your superiors and mentors and be willing to take their advice. Always be willing to learn.

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Get to Know

Artera

by **Laura Morrow, vp, communications, Artera Services LLC** and **Annette Busateri, owner & consultant, ALB Communications LLC**

Artera Services first came on the scene in August 2020. After two industry-leading organizations – PowerTeam Services LLC and MVerge – united, doubling the business in the number of employees and in revenue. While Artera may not be a household name just yet, its operating companies are well-known within the industry and in local communities across the United States.

ARTERA'S CORE VALUES

Safety:
Always, First-
and-Foremost

Quality:
In Absolutely
Everything We
Touch

Commitment:
To Our Team

Reputation:
Integrity as the
Foundation



Gas distribution is the largest segment of Artera's business. **KS Energy Services** and **Miller Pipeline** have operations spanning the Midwest and Northeast. **Southeast Connections** is Artera's third gas distribution business, operating across the Southeast. **Hydro-X** and **Hydro-X II** are dedicated hydro excavation businesses that operate in the South and North, respectively, and providing a complementary, environmentally friendly option to traditional excavation services.

On October 1, 2020, **Otis Eastern** became the newest operating company to join Artera. Together with **Minnesota Limited**, this created one of the leading gas transmission businesses in the country.

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Artera also operates an electric power division; **Volt Power**, provides overhead and underground electric utility services across the South.

Artera concentrates on ongoing maintenance, repair, and upgrades of its customers' established systems. This focus keeps the infrastructure of yesterday updated with today and tomorrow's future standards.

Together, Artera's three divisions – Gas Distribution, Gas Transmission and Electric – employ more than 9,200 team members across 35 states. Artera's mission: **To enable exceptional, mission-critical infrastructure to serve our customers and our communities to build their tomorrow.**

Built upon the legacy of family-owned and operated businesses, Artera is proud of its roots and taking best practices from each of its operating companies to strengthen the collective family.

Brian Palmer, Artera's chief executive officer, recently said, "The companies that we include in our family are already great at what they do, and many have been successful for decades. What Artera provides is an extended family to accelerate growth, share best practices, and provide new and additional opportunities for employees."

Artera leadership knows that being a member of various industry associations is important for the entire industry. Artera officially joined MEA Energy Association (MEA) in January 2021, while several of its operating companies are long-standing members, including KS Energy Services, Miller Pipeline, and Minnesota Limited.

"Associations provide a wealth of information and knowledge that companies can leverage, without recreating the wheel. From industry information to safety best practices to virtual and in-person events, MEA is a partner for the entire industry," states Palmer.

He explains that MEA provides opportunities for Artera's operating companies that are members to get more involved by participating, learning, and meeting thought leaders in the industry while also gaining online education and compliance management through MEA EnergyU.

Palmer says that, as an MEA member, "Artera joins an elite group of companies, many of whom are customers, suppliers, and even competitors. MEA serves as a convenor with the approach that rising tides float all boats. Having a seat at the table to discuss concerns and advancements relevant to the entire membership base is a distinct benefit."

The immediate focus for Artera is growth, scaling areas of excellence across its operating companies, and building its environmental, social, and governance (ESG) platform to serve customers and help advance their own ESG goals. That strategy starts with building a second-to-none workforce. The aim is to hire the right people – team members that want a career and a company that will invest in them rather than a job.

As such, Artera was excited to learn and participate in the Energetic Women's Conference. Finding new ways to attract, retain, and promote diverse talent is key to improving the overall diversity of the energy, utility and construction industries.

Additionally, as Artera ramps up the focus on ESG, they see the committees and ongoing educational opportunities from MEA as key elements to leverage for establishing goals in each of those areas.

Brian Palmer,
chief executive
officer of Artera



ARTERA'S EXECUTIVE LEADERSHIP

Artera, formerly PowerTeam Services LLC, has been owned and operated by private equity firm CD&R (Clayton, Dubilier & Rice) since 2018, when they hired industry veteran, Brian Palmer, to lead the business as CEO. Former GE vice-chairman, John Krenicki, is a partner with CD&R and serves as the company's Chairman.

To learn more about Artera and its operating companies, visit artera.com.

Laura Morrow is vp, communications at Artera Services LLC. Laura joined Artera in July 2020, following seven years with Miller Pipeline, which joined the Artera family in April 2020. She is passionate about the energy industry and enjoys telling stories to inspire employees, customers, and consumers.

Annette Busateri is owner & consultant at ALB Communications LLC. Annette has worked with Artera since March 2020 after the creation of her communications consulting firm. She is thrilled to offer her expertise to Artera in support of their continued growth and brand-building efforts.



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Pipe Cut, 2018 NGR

A Short History:

The National Gas Rodeo

by John Gann, senior vice president, MEA Energy Association. Article compiled with the assistance of numerous current and past Rodeo Steering Committee members with special assistance provided by Rich Muench of Xcel Energy.



Hand Dig, 2018 NGR

You will not find horses, bulls, or cowboys at the National Gas Rodeo (NGR). You will find shovels, backhoes, pipe cutters, gas meters, and a bunch of “gas hogs” testing their work skills and recognizing the very best in the gas industry. This is the story of how it began.

“The electric group at our company had a rodeo for years and years. I liked the idea and thought, ‘Why can’t we have a gas rodeo?’” explained Ric Utesch from Public Service of Colorado (now Xcel Energy). “So, I met with some of the people in the gas department after work one night and we came up with some events.”

“Unbeknownst to me, Debbie Capra, a friend and cohort, had been assigned to create a similar type of event as well,” he said. “So Debbie and I along with Larry Losasso in Denver Metro Engineering, put our heads together and came up with a series of events to test the skills of our journeymen and have some fun at the same time.”

The trio joined with other employees to create the first-ever rodeo in the country. For the first gas rodeo, each four-person

THE EVENTS AND THE RECORDS

METER SET	Competitors assemble a gas meter from a set of components.	World Record: 2019 Gashouse Gang, Spire Missouri East (25.62 seconds, four-person); 2019 Lil'Gashouse Gang, Spire Missouri East (31.27 seconds, two-person)
SERVICE INSTALLATION	Competitors install a gas service line and tracer wire to a main.	World Record: 2019 Dirt Demons, Spire Missouri East (58.22 seconds, four-person); 2016 Late Start, Alagasco (82.18 seconds, two-person)
PIPE CUT	Competitors cut 6" steel pipe.	World Record: 2019 Yosemite, IBEW Local Union 1245 (5.47 seconds, four-person); 2019 Manteca Gas Rats, Pacific Gas & Electric (8.62 seconds, two-person)
HAND DIG	Competitors dig through a sand and pea gravel mix to uncover colored dots at the bottom of the dig box.	World Record: 2011 Insane Methane, Piedmont Natural Gas (25.01 seconds, four-person); 2015 Sabotage, Piedmont Natural Gas (16.13 seconds, two-person)
RELAY	A series of consecutive events including Truck and Trailer Backup, Egg Pickup, Pipe Squeeze, Mini-Excavator Pickup, Regulator Bypass, and Water Cooler.	World Record: 2018 Intense Ignition, Spire Missouri West (100.34 seconds, four-person); 2018 High Pressure Hitmen, Duke Energy/Piedmont Natural Gas (111.91 seconds, two-person)

Note: Events change year-to-year due to rule and penalty updates. The term "World Record" should be understood in that context.

team chose four events out of 12 activities. Each activity involved a combination of brains, skill, and brawn, and a relay event that included maneuvering a crew truck and trailer through a series of obstacles, picking up an egg with the backhoe, setting a by-pass on a regulator station, and a new meter set. The relay was the only mandatory event. That first rodeo, hosted in 1991 at the ballpark next to Denver's Arapahoe Generating Station, was a big success and had garnered the support of all corners of the gas department.

The organizers realized that too much time and effort was involved in setting up 12 different events, so they narrowed the next year's rodeo to the four most popular events plus the relay event. Each rodeo event was, and still is, timed with penalties for improper or unsafe acts. The most popular event quickly became the Hand Dig — an event competitors dig (in a flurry of flying dust and dirt) to uncover colored dots at the bottom of a buried box.

In 1992, Utesch attended the Midwest Gas Association's (now MEA Energy Association) annual gas operations conference in Ames, Iowa. Knowing a good opportunity when he saw it, he went prepared to give a "rodeo"

presentation to see if he could drum up interest for a larger gas rodeo competition.

Several companies expressed interest. Illinois Power was interested enough to send four employees to attend Xcel Energy's next gas rodeo and learn how to put one on. They organized a rodeo of their own and had such a good time that they called Utesch and offered to host a national competition.

"I went through management and told them about the interest that was developing for a national gas rodeo and was told to 'make it happen'." Utesch said. "So, I made a few trips to Illinois to help them set up a national event, standardize the events, find a venue that would work for a national event, and most importantly, to get some other companies to attend and participate. I called several other companies to spread the word. In the end, the whole thing just clicked."

The Rodeo Goes National

The first national event took place in 1995, and involved eight teams from around the country. Teams from Tennessee, Iowa, and Montana — as well as Illinois and Colorado — came to the inaugural. The Rodeo Association was officially incorporated on April 17, 1996, in the state of

One of the enduring, and unusual, traditions of the rodeo is the canon shot of a "pig" (the pipeline type, not the Charlotte's Web variety) signaling the start of the event. Using compressed air and a big, open landing site, a pig is launched 300 or more feet. A perennial crowd favorite!



Above left: Rodeo Champions (3rd Rodeo), Southern Bucks-Columbia Gas of Ohio. The individual on the far right is our current, and long-time Rodeo Head Judge, Patrick Wentworth.

Above right: Patrick Van Beek of MEA Energy Association (MEA) presenting the 1997 Gas Rodeo.

Left: One of the original events from the 1st Rodeo in 1995, but long ago discontinued, the Gate Valve.



Illinois, where the event had been hosted in Illinois Power's service territory of Decatur.

In 1997, MEA began assisting with the logistics of planning and executing the rodeo, as well as providing financial assistance. By 1999, operating deficits, coupled with the financial burden placed on the rodeo board-member companies, necessitated a change for the long-term health of the event. Talks continued with MEA and in early 2000, the rodeo was officially transferred to MEA and the Rodeo Association was dissolved. The leadership body for the rodeo was now a partnership of MEA and a steering committee made up of gas industry volunteers. At this time, the name of

the event was changed to National Gas Rodeo (NGR) to highlight the nationwide nature of the competition. Also in 1999, the NGR changed locations, moving to its 15-year home in Fairview Heights, IL.

In the wake of numerous utility mergers and corporate malfeasance in the early 2000s, MEA and the NGR Steering Committee focused on strengthening the rodeo infrastructure and finances so the event could operate more uniformly and be financially self-supporting.

Growth, Adaption, and New Records

In 2004, two-person teams were added to provide an avenue for older workers to compete (both members of the two-person teams had to be age 45 or older; this age requirement was later dropped) as well as provide a less expensive alternative for utilities to compete in the NGR. In recent years, the number of two-person teams has eclipsed the number of four-person teams.

The year 2005 provided additional milestones in the history of the NGR. The Gas Gals, the first all female team from Ameren, competed in the two-person competition, earning third

CELEBRATING THE PIONEERS AND STARS

The Trail Boss Award, given to an individual whose leadership and contribution to the National Gas Rodeo were exemplary, was first awarded in 2000. Recipients:

- 2000 - Rick Utesch
- 2001 - Bob Barcum
- 2002 - Ron Pate
- 2003 - Terry Wilson
- 2004 - Connie Garrett
- 2005 - Ken Nichols
- 2006 - Mike Ventress
- 2007 - Scot Lutchtefeld
- 2008 - Mike Blum
- 2009 - Mark Popov
- 2010 - Mike Nizolek
- 2011 - Rich Muench
- 2012 - Randy Utech
- 2013 - Patrick Wentworth
- 2014 - Mike Chitwood
- 2015 - Tim Ellefson
- 2016 - Bob Cavaliere
- 2017 - Larry Buie

In 2018, the Rodeo Steering Committee replaced the Trail Boss Award with the Spirit of the Rodeo Award, which is given to a person, team, or company that best exemplifies the spirit of camaraderie and sportsmanship the National Gas Rodeo aspires to. Recipients of the Spirit of the Rodeo Award:

- 2018 - Spire
- 2019 - Navajo Tribal Utility Authority



Meter Set, 2018 NGR

Another enduring, and endearing rodeo tradition are the team names, created and determined by each team. A few of the most memorable include:

Hair Club For Men	Mercaptan 'Merica
Methane Maniacs	Buff N Grind
3-1/2 Men	Gas Backwards
Mutt & Jeff	Twisted Sisters
California Hot Squeezers	Luna Chicks
The Pipe Dopes	Chunky Gas Monkeys
Gas-A-Holics	Green Bay Frackers



The support for the NGR teams is immense.



Service Installation, 2018 NGR



Service Installation, 2018 NGR

place. Since then, eight additional all-female teams have competed.

Event times continued to drop over the years, resulting in some “world records” that are seemingly unbeatable: 5.47 seconds in the four-person Pipe Cut, 25.01 seconds in the four-person Hand Dig, and 100.34 seconds in the four-person Relay.

Giddy Up

To broaden the NGR’s reach and more evenly distribute the work required to hold the event, the Rodeo Steering Committee made the strategic decision to move the event site to a new host every two years. The first move was to Colorado Springs, Colo., hosted by Colorado Springs Utilities in 2014 and again in 2015. In 2016 and 2017 it was hosted by Xcel Energy in Golden, Colo., and in 2018 and 2019 it was hosted by Spire in Independence, Mo. In 2020, COVID-19

precluded holding the rodeo. In 2021 and 2022, the event is scheduled to be hosted by City Utilities of Springfield in Springfield, Mo.

The Future is Bright

The NGR has become the premier event highlighting the very best in the gas industry. Since 1991, it has been home to friendships and celebrations, and served as a showcase for the professionalism and elite-level skills found in the gas industry. The hard work, training, and visceral focus on safety all contribute to the NGR’s focus and tagline: Great Crews Don’t Just Happen. 🧡



John Gann is the membership senior vice president for MEA Energy Association. John leads organizational focus on membership, including retention, new members, engagement, and participation and has been involved in the National Gas Rodeo for much of his 23-year MEA career. Prior to joining MEA, John worked for GE Power Generation. He holds an undergraduate degree in engineering, a graduate degree in business, and is a Certified Association Executive.

▼
Want to Know More?
For more information on the National Gas Rodeo, including history, event descriptions, rules, and 2021 event information, visit nationalgasrodeo.org.



Streamlining The Process

Nationwide Permit Modifications Seek to Simplify Utility Line Projects

by Sarah Soard, project manager and technical services manager, Burns & McDonnell

The new NWP limit NWP 12 to the authorization of oil and natural gas pipeline activities and create new NWP 12s to cover other utility line activities previously authorized under NWP 12.

The Nationwide Permit (NWP) program managed by the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act is intended to provide authorization for projects that will have minimal environmental impact. Obtaining an NWP is a rapid approval process (typically 30-45 days), as compared to the Individual Permit process (typically up to a year). The NWP is generally the preferred approach for applicants, provided the project meets the general requirements for the NWP.

The NWP program is typically updated every five years; however, an early update

to the NWP program recently occurred. In September 2020, the USACE published its proposal to reissue and modify its more than 50 NWPs. The USACE is initiating this reissuance a year earlier than scheduled, likely as a result of recent court challenges in an effort to maintain compliance with the Endangered Species Act (ESA) and to separate NWP 12 – a blanket permit heavily used by utility projects – into more specific project permits.

The most significant change to the NWP program involves modifications to NWP 12. Since 1977, NWP 12 has covered activities associated with the construction, maintenance, and repair of utility line

projects, which included oil and gas pipelines, electric transmission lines and other utility lines. The new NWP limit NWP 12 to the authorization of oil and natural gas pipeline activities and create new NWPs to cover other utility line activities previously authorized under NWP 12. NWP 57 is for electric utility line and telecommunications activities and NWP 58 is for utility line activities for water and other substances. The separation of NWP 12 into three separate permits should streamline the process and allow for industry-specific considerations in the permit conditions.

These proposed changes come as NWP 12 has been the subject of ongoing litigation related to the Keystone XL pipeline, which prompted the USACE to vacate and then reauthorize the use of NWP 12, resulting in the crippling of many major projects. By separating oil and gas pipelines from other linear projects, these proposed modifications minimize the potential impact future oil and natural gas pipeline-related litigation may have on the rest of the industries originally covered under NWP 12. The new NWP 12 will authorize “the construction, maintenance, repair and removal of oil and natural gas pipelines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than one half-acre of waters of the United States for each single and complete project.”

Many of the existing oil and gas pipeline requirements under NWP 12 will not be impacted; however, the USACE has simplified the thresholds for when preconstruction notification (PCN) may be required, reducing the PCN thresholds. The NWP 12 requires a PCN for oil and natural gas projects that:

- Require a Section 10 permit (crossing a navigable water).
- Result in the loss of greater than one-tenth of an acre of Waters of the U.S.
- Involve new pipelines more than 250 miles in length, not including repair or maintenance projects.

NWP 57 has been created for the construction, maintenance, repair, and removal of electric utility line and telecommunications activities. This includes foundations for poles, towers, and anchors as well as access roads for construction



and maintenance of the line. Electric utility lines would include cables, lines, fiber optic lines, or wire used to transmit energy, telephone or telegraph message, and internet, radio, and television communications.

NWP 58 is for the construction, maintenance, repair, and removal of utility line activities for water and other substances, excluding oil, natural gas, products derived from oil or natural gas, and electricity. This is the general catch-all permit for utility lines that don't fit under NWPs 12 or 57. Major projects using this NWP will be water and sewer pipelines.

The new NWPs for electric lines and water lines, NWPs 57 and 58, will require a PCN for projects requiring a Section 10 permit or impacts greater than one-tenth of an acre. However, these projects are not required to submit a PCN based on overall project length as is required for NWP 12. Processing of all three of these NWPs remains consistent with the previous NWP 12, where each crossing of a regulated water is considered a single and complete project for the purposes of NWP authorization.

The 2021 NWPs went into effect March 15, 2021. Previously authorized projects remain approved until March 18, 2022, as long as the project remains in compliance with the NWP terms and conditions. 🌊



Sarah Soard is a project manager and the technical services manager for natural and cultural resources at Burns & McDonnell. She is certified as a Professional Wetland Scientist by the Society of Wetland Scientists and has nearly 20 years of experience in environmental permitting.

Regulations

These and many more regulatory updates may be found in their entirety on MEA Connect, connect.MEAenergy.org, our member forum. Federal agencies frequently update guidance; please check their websites for the most up-to-date information.

by Emily N. Masalski, partner at Hunter Masalski LLC and Darren Hunter, partner at Hunter Masalski LLC

President Biden Nominates Leaders to Key Administration Posts

On April 14, 2021, the Senate confirmed the nomination of Brenda Mallory to lead the White House Council on Environmental Quality (CEQ). Ms. Mallory, who previously worked in the Environmental Protection Agency (EPA), will serve as the will be the first Black leader of the CEQ.

Also on April 14, 2021, the White House published a public statement listing President Biden's intended nominations to various leadership positions in agencies related to climate and transportation. The intended nominees are as follows:

- Tommy Beaudreau for Deputy Secretary of the Interior, Department of the Interior (DOI);
- Meera Joshi for Administrator, Federal Motor Carrier Safety Administration, Department of Transportation (DOT);
- Faisal Amin for Chief Financial Officer, EPA;
- Christopher Coes for Assistant Secretary for Transportation Policy, DOT;
- Shannon Estenoz for Assistant



- Secretary for Fish and Wildlife and Parks, DOI;
- Radhika Fox for Assistant Administrator for Water, EPA;
- Michal Freedhoff for Assistant Administrator for Chemical Safety and Pollution Protection, EPA;
- Jill Hruby for Under Secretary for Nuclear Security and Administrator for of the National Nuclear Security Administration, Department of Energy; (DOE)

- Winnie Stachelberg for Assistant Secretary for Policy, Management, and Budget, DOI; and
- Tanya Trujillo, for Assistant Secretary for Water and Science, DOI.

The April 14, 2021, statement from the White House with the background on each of the intended nominees can be found at whitehouse.gov in the briefing room.

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CDC Updates COVID-19 Vaccine Guidance for Employers

On March 25, 2021, the U.S. Centers for Disease Control and Prevention (CDC) updated its guidance (Guidance) for employers of essential businesses to consider regarding policies for essential workers receiving vaccinations for the 2019 novel coronavirus (COVID-19). The availability of vaccines is decided at the state and local level.

The Guidance offers suggestions on how to determine if an off-site or on-site vaccination program is better for your business, as well as best practices for each type of program. Regardless of the specific plan chosen by an employer, CDC encourages non-punitive sick leave options for employees that display symptoms after vaccination.

Some employees may be exempted from mandatory vaccination.

An important matter to consider is which employees may be exempted from mandatory vaccination. Currently, vaccines for COVID-19 are not mandated by the Food and Drug Administration (FDA). Though an employer may mandate vaccination for their own workforce, individual employees might be exempt for religious or medical reasons. The Equal Employment Opportunity Commission (EEOC) offers guidance that may be helpful to employers in addressing such exemptions. The CDC also reminds businesses that decisions about returning to work and reopening businesses may be limited to by local authorities.

The CDC's Guidance can be accessed online at [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus).

PHMSA Issues Notice Regarding RIN Approvals

On March 4, 2021, the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Notice of Administrative Discretion and Guidance for Renewal of Requalification Identification Number (RIN) Approvals during the Coronavirus Disease 2019 (COVID-19) Public Health Emergency (RIN Notice). By way of background, a person must be approved by PHMSA to inspect, test, certify, repair, or rebuild certain types of cylinders and pressure receptacles under 49 CFR § 107.805. This RIN Notice applies



to current RIN-holders who are seeking renewal but are unable to obtain the Independent Inspection Agency (IIA) pre-approval due to restrictions and limitations related to COVID-19.

Check your renewal periods.

At the beginning of the COVID-19 public health emergency, PHMSA issued six-month extensions to RIN holder approvals, if they provided sufficient evidence that they were unable to obtain IIA pre-approval. As those extensions reached their expiration dates, PHMSA waived compliance with 49 CFR § 107.805(b) for RIN holders when they requested renewal of their RIN approvals, if they could not obtain the requisite inspection prior to applying for renewal. As this waiver is now reaching its expiration date, PHMSA will continue to waive compliance for an additional 45 days. If a renewal is granted under these provisions, it will only be granted for twelve months and not for the usual five-year period. 📌



Emily N. Masalski is a founding partner and an environmental lawyer and OSHA practitioner in the Chicago area law firm of Hunter Masalski LLC (www.HunterMasalski.com). This post does not constitute legal advice or the formation or proposal of an attorney-client relationship to or with any person or entity. In addition, this post should not be understood to represent the views of MEA Energy Association, the law firm, the individual attorneys at the firm, or of any of the firm's clients or former clients.



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Fall Executive Virtual Roundtable

September 16-18

National Gas Rodeo | Springfield, MO

October 13-14

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Visit MEAenergy.org/education for detailed event information and to register. In addition to the events listed above, MEA hosts frequent webinars, Train the Evaluator, and EnergyU Administrator Training sessions throughout the year.



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Rauhorn Electric, Inc. (Bruce Township, MI)
Roemer Utility Service (Mancelona, MI)
Safety Medic LLC (Oblong, IL)
Shactee Engineering (Woodridge, IL)
Triple J Inspection Services (Huntsville, TX)
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New EnergyU Subscriber Companies

D2 Safety Services, LLC (Woodridge, IL)
Dept of the Army – USAG West Point (West Point, NY)
Dixon Electrical Systems and Contracting Inc. (Huntington, WV)
Double A Inspections, LLC (LeRoy, MI)
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Johnson Creek Development (Tuscola, IL)
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Krisanna Construction (Hammonton, NJ)
Larson Construction Group (Kalkaska, MI)
Lowe Construction Co. (Horton, MI)
MATC (Mequon, WI)
Matrix NAC (Broomall, PA)
MEC Environmental Construction, Inc. (Chapel Hill, NC)
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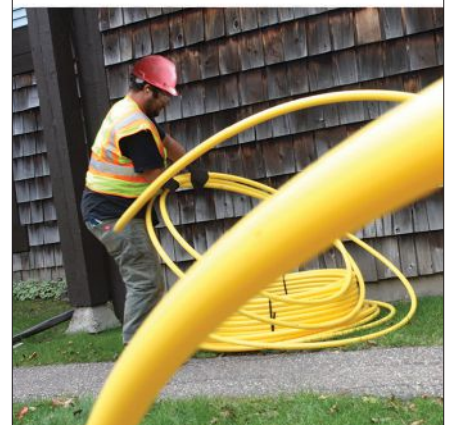
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