It’s an often-overlooked fact that pipelines are the safest way to transport crude oil, natural gas liquids, petrochemicals and refined products on land.

This achievement is the result of a safety culture that values safety above all, throughout the pipeline lifecycle – from the planning process, where pipeline companies work closely with stakeholders to address safety and security issues; to sound construction; to rigorous integrity management protocols during operation, where pipeline operators are constantly monitoring pipeline performance using state-of-the-art technology.

In addition to working closely with safety officials, local first responders and other community members, pipeline operators have extensive preparedness plans in place, ready to implement in the unlikely event of an incident.

AFPM recently sat down with representatives from three companies with pipeline operations to hear how they’re working with their communities, other operators and government agencies to continually advance pipeline safety.

Tell us a little bit about you, your company and your pipeline operations.

John Bowen, Pipeline Safety Lead, Monroe Energy, LLC: I’m a Board-Certified Safety Professional and have worked for Monroe for over six years. Monroe Energy, LLC, is a wholly owned subsidiary of Delta Air Lines and operates the 185,000 barrel-per-day Trainer, Pennsylvania, refinery, which focuses mainly on the production of high-quality transportation fuels. In addition to jet fuel, the facility produces gasoline, diesel and home heating oil. Monroe Energy’s pipeline subsidiary is MIPC, LLC which operates 52 miles of pipelines connecting the refinery to three storage terminals and one truck terminal in the Philadelphia and Woodbury, New Jersey, area. I’m proud to say that we’ve received International Liquid Terminals Association safety awards every year since 2016.

Michael Brocato, Safety, Health and Environmental (SHE) Manager, INEOS Pipeline Group: INEOS transforms hydrocarbon raw materials into high quality olefins, high density polyethylene, polypropylene and converts high density polyethylene resin into manufactured pipe. We operate 525 miles of INEOS pipelines in the Houston area and around southern Texas that transport hydrocarbon raw material feedstocks and products like ethylene, propylene and c4-benzenes. I’ve been with INEOS for almost nine years now.

Paige Chenevey, P.E., Field Services and Planning Manager, Marathon Pipe Line LLC, and Lauren Salinski, Public Engagement Coordinator, Marathon Pipe Line LLC: Paige has been with Marathon Petroleum Company and Marathon Pipe Line LLC (MPL) since graduating from college in 1999 and Lauren has been with MPL just over a decade. MPL operates over 10,000 miles of pipeline that transports and stores crude oil, refined products and natural gas throughout the continental United States and Alaska. Public safety is the company’s top priority and its employees are dedicated to being guardians of public safety. The MPL team strives to earn the trust of the public by offering transparency through its Earning Your Trust program.

U.S. refiners and petrochemical manufacturers frequently say that they'll operate safely, or not at all. The same applies to pipeline operations. Will you share some examples of processes, technologies or other tools that pipeline operators employ to advance safety?

Chenevey (MPL): One great example of advancing pipeline safety through technology is in-line inspection tools, called Smart PIGs, that travel through a pipeline, scanning and measuring a pipe's walls looking for signs of dents, corrosion or cracking. These incredibly sophisticated tools have a variety of specialized sensors that can detect early signs of a potential issue. The data collected is immediately processed and reviewed to determine if a mitigation strategy is needed. MPL embarked on a multi-year journey with a third-party to drive a step-change improvement in in-line inspection crack detection technology, increasing the probably of finding critical seam defects from 90% to 99%. The newly-created tool, Eclipse, also detects hook cracks, which previously required a more forceful method of testing — hydrotesting. Another exciting example is MPL's award-winning Marathon Pipeline Finder App, which was released in 2014 and demonstrates the company's commitment to transparency with the public. The app allows users to view the attributes and approximate location of MPL-operated pipelines. While originally developed for emergency officials in the communities where we operate, the app was revamped in 2019 to also benefit landowners and residents who live along MPL's pipeline routes. Some of those enhancements included location sharing, steps for safe digging, emergency response basics and access to important phone numbers — these upgrades empower landowners to be guardians of public safety anytime, anywhere!

Bowen (Monroe): Because of our size, our pipeline operators can – and do – drive along the pipeline at least once a week as a part of our damage prevention program. That's the bare minimum – and we go beyond it. Since MIPC started operating the pipeline system in 2012, we've initiated safety protocols and projects that exceed current regulations. In addition to in-line inspections – actual inspections of the inside of the pipes using a Smart PIG, which is the mechanical equivalent of taking an MRI of the pipeline – we've done in-depth surveys, including close-interval surveys, direct current voltage gradient (DCVG), alternating current voltage gradient (ACVG) and other surveys assessing the integrity of our pipe. And we continue to examine every portion of the pipeline system with a Supervisory Control and Data Acquisition system, or SCADA system, which is monitored in our Control Center 24 hours a day, 365 days a year. In addition to SCADA, we have a leak detection system that independently monitors the pipeline operations.

Brocato (INEOS): Pipeline technicians are on routine rounds, constantly driving around the Houston and southern Texas area, using state-of-the-art technology to monitor valve conditions and valve sites, and relay that data back to the Pipeline Control Center. From our Control Center, dedicated pipeline operators monitor all 525 miles of pipe 24/7/365 through our SCADA system, which receives real-time information on the operating conditions of the pipelines and alerts the operator to any operational deviation. We also have personnel dedicated to our Pipeline Integrity Management Program. Their sole focus is to schedule pipeline inspection gauge (PIG) runs, so they can monitor the internal condition of the pipes for corrosion or any other anomalies.

Pipelines, often underground, typically go unseen. Still, it is critical for operators to stay in close communication with members of the communities where their pipelines are located – including to ensure that building, construction and other projects that involve digging are aware of pipeline locations. What does that communication look like for your company?

Salinski (MPL): One of MPL's top priorities is to be a good neighbor by building strong and engaging relationships with the residents and community members along the pipeline route. In fact, it's not only a priority, but a passion of ours. MPL is dedicated to being guardians of public safety, which is why we developed an external stakeholder engagement program many years ago called Earning Your Trust — and that's exactly what we strive to do each day. Through this program, we use transparent, data-driven communications to tailor messages for our various stakeholders. We reach them through multiple communication channels, including in-person events, postal mail and email campaigns, social media platforms, and the Marathon Pipeline Finder App which Paige mentioned earlier. It is a free tool available for download in the App Store and Google Play. The app not only offers the location of MPL-operated pipelines but has a variety of other features, including the ability to share your location and easy access to important phone numbers, like MPL's emergency phone number and contact information for the local Right-of Way Specialist.

Bowen (Monroe): Because we're small, we do a lot of personal public outreach. We regularly go out and meet with community residents one-on-one. And we respond personally to anyone who poses a question or who wants more information. This helps us build a level of trust with people. For example, if someone calls and says a line marker is down, we go out there in person and replace it right away. In one case, someone once called and said a Verizon contractor was putting up a billboard near our pipeline. We were able to go out there quickly and thank them face-to-face for sharing their concern.

Brocato (INEOS): We consider the public as an integral piece of our public awareness program. As part of our Public Awareness program, we regularly send out safety mailers that encourage people to let us know if they notice anything out of the ordinary. We also have phone numbers posted on every one of our valve stations, which connects the caller directly to the Pipeline Control Center.

Safety and preparedness go hand in hand. Tell us about some of the plans and preparations your company is ready to employ in the unlikely event of an incident.

Brocato (INEOS): We have procedures in place for any potential incident, and we routinely perform drills. We have tabletop drills, unannounced drills and bomb search drills. We even run drills with other partner facilities, since we have customers connected to the pipeline. And while we have our own emergency response teams at the facilities, we also work closely with fire departments and first responders located along the INEOS pipeline system.

Salinski (MPL): MPL participates in annual drills, trainings and meetings with emergency officials in the communities where we operate to build relationships and to ensure emergency officials are properly trained on how to respond in the event of a pipeline emergency. In addition, through MPL's Earning Your Trust Program, we developed an Emergency Preparedness Program, where individual meetings with Facility Directors and MPL personnel are held for all places of congregation within 700 feet of our pipeline assets. The meeting includes how to identify signs of a pipeline emergency, how to safely evacuate, and a map with our pipeline location and an emergency checklist is given to Facility Directors to include in their emergency response plans. This program not only builds relationships but also ensures these places of congregation are prepared in an unlikely event of a pipeline incident.

Bowen (Monroe): We have an Emergency Spill Response Plan that we share with local emergency responders. We're fortunate to have a Volunteer Emergency Response Team comprised of about 50 employees, including eight full-time employees who work in rotating shifts at our refinery. We're also

part of the Delaware Bay and River Cooperative program, which has a vast array of spill response capabilities both inland and in waterways and are able to quickly and efficiently respond to refinery and pipeline incidents.

Cybersecurity and infrastructure – specifically pipelines – have been in the spotlight recently. How will the increasing focus on cyber vulnerabilities potentially impact the work you and your teams are doing with respect to pipeline safety?

Bowen (Monroe): We've always focused on strong cybersecurity practices and controls for our systems. Since the recently publicized cyberattacks on another pipeline, AFPM, the Association of Oil Pipe Lines and the Transportation Security Administration have issued additional guidance on IT/OT cybersecurity practices. We continue to participate in these conversations and review the recommendations provided, looking for opportunities to strengthen our cyber practices and keep our systems secure.

Chenevey (MPL): MPL will remain vigilant — the company monitors and controls its entire pipeline network 24 hours a day, 7 days a week from three pipeline operations centers across the U.S. We have in place cybersecurity protocols and governance to protect the company's information and operations. In light of the Colonial Pipeline cyberattack, we have taken additional steps specific to the recent situation to protect our networks.

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