In full swing

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– Ute Hillemacher, NDT Global

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COVER STORY
Baltic Pipe ready to cross land and sea
Proponents of Europe’s Baltic Pipe Project are continuing to check off the relevant boxes towards an operational gas pipeline. Cover: The 275 km offshore portion of the Baltic Pipe pipeline is now approved. Image courtesy of Baltic Pipe.

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COVID-19: The coronavirus. I had never heard of this, until this year. Now I know about it, we all know about it now, don’t we? And it has changed our world and that means the world of pipelines also.

These are very strange times for all of us, whatever industry we work in, and the virus pandemic has created new words and phrases such as ‘flattening the curve’ and social decisions such as ‘lockdown’, ‘social distancing’, and ‘buy at least 300 toilet rolls in the supermarket, or else our marriage is over.’ The latter is a particularly difficult decision.

The pipeline industry will change – no – has changed. In April 2020 we saw perhaps a glimpse of future changes with the first negative oil price in history. Some ask, a negative oil price? They pay you to buy their oil! That’s a bit like being paid to watch football or going to a pub and being paid to drink beer… Actually, I think that is a glimpse of heaven.

Past low oil prices and crises such as wars, etc., caused a slowdown and recession in our industry, but we have always ‘bounced’ back. The world needs energy and the world needs oil and gas for many more years.

The short-term future will be difficult for all industries with reduced revenues alongside many working and business practices changing, but we will recover. Our industry may have to be leaner and more efficient, and logistics.

Currently, our pipeline operators are focused on keeping their control rooms staffed, their emergency response teams fully operational and their maintenance continuing while fully protecting all staff. Operators have well-rehearsed crisis management and business continuity plans in place and most pipeline operations are now automated, so we can be confident our operators will function safely and efficiently throughout this crisis.

Pipelines need to be safe – some things cannot change. The current crisis will see change and we may see some things expand; for example, we need our information sources, such as Pipelines International, more than ever, as our travel and social interactions are restricted. The flood of webinars and online resources we are now witnessing is both welcome and essential.

When we are eventually allowed to gather in groups, we expect some limitations to be in place in terms of travel. This means our conferences and exhibitions will be critical for information transfer and business networking as it may well become one of the few justifiable reasons to travel in the future.

We may be at the start of big changes in our industry and this can be an exciting period if we embrace the changes. Change can be exceptional good, as it creates new experiences and opportunities, rewards innovation, and can clear away inefficient, redundant practices and products. The future – as always – is very exciting.

And, I hope you will remain in an ‘excited’ mood as you start to read this edition of Pipelines International. We have a regional feature (the Middle East), an article on ‘Women in the pipeline industry’, and the usual wide and varied technical content including: trenchers and earthmoving equipment; rehabilitation and repair; unpiggable pipelines; and transport and logistics.

Phil Hopkins
Editor-in-Chief

Letter from the editor

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Final abstracts due: October 15, 2020
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Report on Pipelines International July 2020
Canadian Inter Pipeline has entered a new $1 billion unsecured revolving credit facility with a syndicate of key lenders. The new measures aim to enhance financial flexibility for Inter Pipeline and allow access to additional financial resources, should it be required. The bank has an initial term of 16 months with other terms and conditions—including financial covenants—substantially similar with Inter Pipeline’s pre-existing $1.5 billion revolving credit facility that matures in December 2024. Additionally, Inter Pipeline has extended the maturity date of its $580 million term loan facility by two years until August 2023. Inter Pipeline Chief Financial Officer Brent Hewy says the current challenging market environment, driven by the COVID-19 pandemic, means it is critical the business maintains financial flexibility to maintain its ongoing activities. As a result of these new financial measures, the company’s debt maturities in 2020 have been significantly reduced with $500 million of medium-term notes maturing at the end of the year.

ONEOK Bakken Pipeline LLC has received permission to build its proposed 121 km gas pipeline in Williams County, North Dakota. With an estimated capacity of 30,000 bbl/d, the pipeline will transport a mixture of Grade natural gas liquids (NGL) including ethane, propane, butanes, isobutane mix, pentanes and natural gasoline. The pipeline will originate at the Hess Corporation’s Tioga Gas Processing Plant and end at an interconnection with ONEOK’s existing Saltline to Riverview NGL pipeline. After a public hearing in March, the North Dakota Public Service Commission has granted permission for ONEOK to build its Williams County NGL pipeline, which is estimated at a total project cost of $100 million.

The company has been awarded a five-year contract for the provision of vendor inspection services in the UK, involving several inspection activities to be performed at manufacturers’ facilities, including mechanical, hydraulic, welding, fabrication, electrical and instrumental inspections for all types of materials and equipment. Applus+ will work with local inspectors over the next five years and leverage its global network of offices and competent field inspectors who all work to a certified QHSE system. This single system allows inspectors to provide a consistently high level of vendor inspection experience to a multitude of clients, whether nationally or internationally. Applus+ says the knowledge gained from its extensive vendor inspection experience over the last 30 years, combined with its dynamic and advanced in-house online operation tool, AMIS, has enabled the company to become a leading global supplier, with this contract award strengthening its position in a very strategic market.

According to Reuters, China National Offshore Oil Corp (CNOOC) has signed the agreements with newly launched PipeChina for transferring management rights for oil and gas infrastructure projects. The company announced the agreement in a statement in April; however, the statement did not provide details on what specific projects had been handed over. In December 2019, China launched a long-awaited national oil and gas pipeline company to run pipeline infrastructure that had been controlled by China National Petroleum Corp (CNPC), Sinopec and CNOOC. Romulo says PipeChina—a joint arm of CNPC—had also emphasized it was trying for a deal with PipeChina on the transfer of pipeline assets, yet no agreement had been reached as of late-March.

McConnell Dowell will perform replacement works on a section of the Lyttelton to Woolston Pipeline, owned by ExxonMobil’s New Zealand subsidiary Mobil Oil New Zealand. Located in the country’s South Island, the pipeline supplies fuel from Lyttelton Port to be distributed around the region. The contract includes the construction and commissioning of a replacement section of the pipeline along Bridle Path Road and in Kiwirail land, beside the Heathcote Valley Primary School. McConnell Dowell will replace the pipeline running through the school with a larger buried DN150 pipeline and will replace 1,210 m of the line up the Bridle Path Road to a tie-in location just above the level of the main road. To limit disruptions, an offset will be employed so the existing pipe remains in service during installation, with the only shut down required to be for the two tie-ins at either end.

Tulsa Pipeline Services team was able to complete vital works in Jamaica before the COVID-19 pandemic changed working conditions. The team performed full mechanical and civil piping runs to swap excessive levels of debris from a new natural gas pipeline prior to the commissioning of a co-generation power plant, allowing the power facility to come online. TDW says Tulsa achieved the customer’s ‘ultra-clean’ specification as well as protecting the $360 million turbines. Headquartered in Tulsa, Oklahoma, TDW has a global portfolio of services that includes advanced isolation, integrated pigging and integrity-assessment solutions to service the gathering, transmission and distribution sectors of the pipeline industry.

Total acquires Tullow’s interest in Uganda project
Under the terms of the deal, Total will acquire Tullow’s existing 33.3 per cent stake in the Lake Albert project licenses EA1, EA1A, EA2, EA2A in addition to the proposed East African Crude Oil Pipeline (EACOP) system. The overall consideration paid by Total will be US$755 million, with an initial payment of US$500 million at the closing and the remaining US$255 million after the initial investment decision. Additional conditional payments will be made to Tullow linked to production and oil price. Total Chair and COO Patrick Pouyanne says the company is pleased with the acquisition of the Lake Albert project interests as it is in line with Total’s strategy of acquiring long-term resources at low cost. The terms of the agreement have been discussed with the relevant Ugandan Government and tax authorities and are subject to the approval of Tullow’s shareholders, customary regulatory and government approvals as well as Total’s partners – being China National Offshore Oil Corporation – right to exercise pre-emption on 50 per cent of the transaction.

Major inspection service contract for Applus+

CNOOC signs asset transfer agreement

$100m natural gas pipeline approved

Inter Pipeline enters $1b loan

McConnell Dowell wins pipeline improvement contract

Tulsa praised for Jamaican works

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The previous edition of Pipelines International is now available to be read online. A digital version of the magazine can be viewed on a tablet, computer or smartphone and contains bonus interactive content not available in the print version.

The April edition of Pipelines International contains:

• An overview of Mobil’s fourth-generation remote monitoring technology
• A feature on the first trenchless boring machine in Colombia, built by Zügler Trenchless
• A deep look into how hydrogen is building momentum around the globe
• And much more!

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Corinth Pipeworx goes carbon neutral

Corinth Pipeworx has signed an agreement with the Public Power Corporation (PPC) – a leading power generation and supply company in Greece – to ensure 100 per cent of its electricity needs originate from renewable, base-load energy.

The agreement concerns the year 2019 and its steel pipe manufacturing facility in Thivo, Greece, which supplies pipes to the oil and gas and construction sectors.

Additionally, Corinth Pipeworx will continue to improve its energy efficiency with an energy management system certified according to ISO 50001:2011. The company will also follow initiatives to reduce the remaining portion of its energy consumption to reduce and offset its carbon footprint.

Corinth Pipeworx says the pathway to being carbon neutral will include the implementation of management system for quantification and reporting of greenhouse gas (GHG) emissions according to international standard ISO 14064:2018, the planning and implementation of carbon reduction actions and, eventually, the “carbon neutral” certification (GHG scope 1 & 2).

Ritchie Bros. creates online marketplace

The company has temporarily shifted from live bidding to an equipment sales marketplace online during the COVID-19 pandemic.

Ritchie Bros. is known throughout the pipeline industry for its live heavy equipment auctions, attracting bidders from all over the world.

Due to the COVID-19 pandemic, the company has temporarily shifted all its equipment sales to solely online formats such as its electronic marketplace renamed Marketplace-E.

Ritchie Bros. says Marketplace-E offers a different way to buy and sell as it’s a fully online, always-on platform with two easy selling formats.

“Items are either listed to be sold in reserve price auctions with a closing date, or they’re open for offers and the system facilitates negotiation with the seller (Make Offer),” says the company, adding there are thousands of available items for all industries.

“Right now, there are dozens of used pipeline equipment items for sale on Marketplace-E, including pipelayers, crawler dozers, carriers, welding equipment, bending machines and more from top brands. This is a fully online, always-on platform with two easy selling formats.

“Items are either listed to be sold in reserve price auctions with a closing date, or they’re open for offers and the system facilitates negotiation with the seller (Make Offer).”

AGIG joins IFOCA

Australian Gas Infrastructure Group (AGIG) is now a Corresponding Member of the International Pipe Line and Offshore Contractors Association (IFOCA).

IFOCA has members in more than 40 countries around the world and said its mission is to “provide value to members through a forum for retaining and sharing knowledge globally, facilitating business opportunities, and promoting the highest standards in safety, innovation, quality, business ethics, and sustainability throughout the pipe line construction industry”.

AGIG is one of Australia’s largest pipeline operators, with more than 34,000 km of distribution networks around the country, with assets including the Dampier to Bunbury Pipeline (DBP).

Running 1,350 km across Western Australia, the DBP is Australia’s longest natural gas pipeline as well as one of its largest in terms of capacity.

IFOCA’s Corresponding Member list is made up of oil and gas onshore and offshore owners and operators who wish to work with the association and benefit from its technical guidance and briefings.

NDT Global achieves safety milestone

A leading supplier of ultrasonic inline inspection (ILI) and integrity services has completed one million hours without a recordable injury.

NDT Global says it developed a global safety culture by taking a proactive and preventative approach, encouraging its employees to identify and report potential hazards and implement a ‘stop work’ system if unsafe to continue.

NDT Global Head of HSE Will Walsh says the company is delighted to announce the significant safety milestone of achieving one million working hours globally without a recordable injury.

“This is equivalent to 17 months without a reportable injury and is a testament to our strong culture and continuous improvement in safety, which we believe are key elements to success,” says Mr Walsh.

“Our key objective is zero harm to people and the environment and we are committed to operating our facilities and delivering customer inspection projects safely, through our many safe work systems and programs such as the ‘9 Life-Saving Rules’, ‘See It, Own It, Share It’ and ‘Employee Safety Recognition’.

“We continue to identify key ways to improve our safety program and culture and encourage all employees go home healthy and safe every day.”

MOL Group adapts to ensure supply security

Due to the continuously changing situation, MOL has implemented varying actions and new solutions to reduce the likelihood of COVID-19 infection among employees and customers.

The company has been working to implement measures to mitigate the impact of the current situation and allow it to emerge from the crisis stronger than before, through a stronger focus on the health and safety of its employees and customers by adjusting operations and adapting its production volumes to the altered market demand.

These preventative measures include supporting social distancing, increasing hygiene awareness – including the provision of protective equipment, changing shift patterns throughout plants and exploration sites and the switch to home offices wherever possible.

COVID-19 emergency measures by governments in the countries of MOL’s operations have resulted in varying levels of lockdown, which has significantly slowed economic activity for the company’s core resulting in financial guidance updates.

MOL Chair and CEO Zsolt Hernadi says the health of the company and the entire industry, is facing an unprecedented challenge.

“The energy industry, while better positioned to weather the economic hardships than some others, enters a period of uncertainty it has probably never faced before, with scenarios ranging to extremes which were impossible to imagine even a few weeks ago,” says Mr Hernadi.

“MOL enters this difficult period in a good position and I am sure it will emerge from it even stronger, and certainly with important lessons learnt.”

The majority of crude oil processed by MOL Group refineries arrives through the Friendship Crude oil pipeline from Russia in addition to the Adria crude oil pipeline system in the Middle East and the Mediterranean.

NDT Global Head of HSE Will Walsh says: “Our key objective is zero harm to people and the environment and we are committed to operating our facilities and delivering customer inspection projects safely, through our many safe work systems and programs such as the ‘9 Life-Saving Rules’, ‘See It, Own It, Share It’ and ‘Employee Safety Recognition’.

“We continue to identify key ways to improve our safety program and culture and encourage all employees go home healthy and safe every day.”

Solving testing has been necessary all over the globe to identify people with the COVID-19 virus, and SSI has now entered a partnership to assist with the challenge.

The company is now conducting RT-PCR swab testing using its health protection specialists, with Source BioScience providing the testing from its accredited laboratories.

SSI says testing will help mitigate the risk of spreading person-to-person work if they have the virus and assists the company in preventing costly disruptions to operations.

All test kits used carry the CE IVD mark and have been assessed at 99.9 per cent accurate, with SSI providing skilled medics and technicians to the onshore and offshore energy industry.

New welding system available

CRC-Evans Pipeline International has released its newly developed Orthil™ Offshore Internal Welding System.

The company says it drew on its experience of creating an internally mechanised welding system for pipeline applications and paired that with knowledge with CIRA girls-welding experience to improve upon its pre-existing technology and virtually eliminate any previous challenges.

CRC-Evans Pipeline International experience with the new system will eventually allow companies to implement higher-strength carrier pipe in the design process.
COVID-19’s affect on women in the workforce

By Sophie Venz, Journalist, Great Southern Press

While the pandemic has been changing the way businesses operate all over the globe, one demographic that studies believe will be hardest hit by the changes is women in the science, technology, engineering and mathematics (STEM) workforce – especially those in pipelines.

In 2019, prior to the coronavirus pandemic, McKinsey released its ‘How women can help fill the oil and gas industry’s talent gap’ report that states companies with a significant share of female leaders often outperform their peers.

McKinsey says this is an insight that oil and gas (O&G) companies need to consider as they continue to struggle attracting, retaining and promoting women. Statistically, only one third of entry-level employees in O&G are female, while 41 per cent are across other STEM industries – ranking O&G the last in the percentage of female participation across the sector.

UNESCO attests to this research, with its own technology, engineering and mathematics (STEM) workforce ‘gap’ report that states companies with a significant share of female leaders often outperform their peers.

A DISRUPTION TO DIVERSITY

Energy pipelines are a critical infrastructure sector for many countries, providing liquid fuel for transportation and natural gas for consumer and industrial uses, on top of supporting national economies.

With emergency restrictions put in place to slow the spread of COVID-19, including public movement limits, social distancing requirements and the mandatory closure of businesses, the pipeline industry faces the challenge of maintaining safe and reliable operations of assets while abiding by these precautions.

However, where these precautions are not viable, industry workers have also been ordered to “stay at home” unless they are providing an essential service – which has remained a disparity across countries and even states as to whether pipeline workers fit this category.

In a report titled COVID-19: Response of the Oil and Gas Pipeline Sector, released in March 2020, the US Congressional Research Service says these orders mean some subcategories of pipeline industry workers, such as control room staff, could potentially be treated as essential while others may not – leaving a large proportion of staff working from home wherever possible.

While these actions are vital to slow the spread of the virus, research in the US by VOX CEPR has also shown COVID-19 has led to an increase in the hours of unpaid care work by mothers compared to fathers, even when both parents work full time.

VOX CEPR says the working woman is then struggling to combine a career with fulltime childcare needs, leading to working arrangements that lessen the percentage of fulltime female workers in the O&G industry and continue the larger fraction of men in the STEM workforce overall.

ESSENTIAL WORKER DISPARITIES

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A DISRUPTION TO DIVERSITY

These statistics are being discussed all over the globe, with Australia’s Minister for Industry, Science and Technology Karen Andrews MP asking the country’s Chief Scientist Dr Alan Finkel specifically what impact the pandemic is having on women in the STEM workforce.

Dr Finkel’s response – prepared by his Rapid Research Information Forum – discussed that there are already early signs the pandemic will result in greater disadvantages for women than men in this sector.

Dr Finkel’s response also agrees with the prior research, saying despite research facilities, laboratories and other STEM workplaces being shut down and working from home becoming the new norm for both genders, anecdotal observations have found women with children are bearing more of the burden with home-schooling, meal preparation and general housework while also managing their paid workload.

“Given the compounding effect of career breaks and gender-based discrimination on career progression, it is reasonable to assume the pandemic is likely to have more long-term negative implications for women in STEM than men,” the response says.

The Rapid Research Information Forum additionally says a conclusion found in a major US and German study states COVID-19’s impact on women are not only disproportionate to men in the STEM workforces, but are likely to outlast the actual pandemic itself for many years to come.

Therefore, while much work has been done and continues to further to address the gender imbalance across the globe, the pandemic may slow down this progress, with current and future women in the O&G pipeline sector must at risk.
World LPG Association aims for gender balance

WLPGA is changing the face of the industry by striving for gender balance throughout the LPG sector. With its unique position as a global network, WLPGA created ‘Women in LPG’ (WINLPG) to address this issue – an initiative that has continued to grow over the years.

In 2015, the World LPG Association (WLPGA), recognised an opportunity to take action and address the issue of improving diversity in the workforce. With a global voice for the LPG industry, WLPGA understood it was uniquely positioned to develop and implement such a network to drive change.

Soon after, WINLPG was born with a mission to support and help empower women in the LPG industry by leadership, coaching, mentoring, communication and promoting both role models and best practices.

THREE PILLARS OF OBJECTIVES

WINLPG has three pillars of objectives, the first being ‘Support and Retain’. This comprises setting up the global network, developing a social media presence, creating role models and building consistent knowledge exchange workshops. The second pillar, titled ‘Promotion and Advocacy’ focuses on gaining visibility for the network through continued partnerships, promoting case studies and role models and using the media to publicise advocates. The third pillar, ‘Educate and Attract’, focuses on gaining visibility for the network through continued partnerships, promoting case studies and role models and using the media to publicise advocates.

A CRITICAL DEVELOPMENT YEAR

WINLPG says 2020 will be a critical development year for the network with work focusing on expanding the major strides achieved in 2019 and keeping up the momentum.

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The ten outlined 2020 goals for WINLPG are:
1. Support all national chapters with regular outreach and establish a reporting structure.
2. Launch at least two new national chapters.
3. Launch and manage Woman of the Year and Young Woman of the Year awards.
4. Hold at least three knowledge exchange workshops or networking sessions.
5. Publish six additional role model profiles.
7. Continue to develop social media presence.
8. Publish a newsletter every six weeks.
9. Conduct a further audit to assess number of women in the industry.
10. Develop a strategy to include more men in the network.

WOMAN OF THE YEAR AWARDS

WINLPG first ran the successful initiative of the ‘Woman of the Year Award’ in 2018 and added the ‘Young Woman of the Year Award’ the following year.

In 2020, both awards will be repeated with the winners to be announced during the World LPG Forum in Dubai in November 2020.

Nominations for both awards are now open with nominations accepted for an individual themselves or a colleague. WINLPG says even if an individual has applied in previous years, they are encouraged to apply again.

The prestigious Woman of the Year Award is awarded each year to an outstanding woman working in the LPG industry. The award recognises an individual who has distinguished themselves within the sector, demonstrated leadership and successful influence in her community, epitomises WINLPG’s values and has made a significant contribution to the LPG industry or the cause of diversity.

The Young Woman of the Year Award is to recognise a woman under the age of 30 at 1 January 2020 who has joined the industry with a commitment to a long-term career. The award recipient will have demonstrated a significant level of motivation in the industry and her own personal development through facets such as pursuing additional training and knowledge expansion.

The deadline for applications is 31 August 2020 with submissions for nominations to be completed via a form available at www.wlpga.org/initiatives/women-in-lpg-2/.

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STRIVING TO DO BETTER
and create diverse leadership across the sector.

This is proving to be a catalyst for change, with the development of programs to help women rise to the top and create diverse leadership across the sector.

Women face a number of these obstacles when working towards leadership positions; a breakdown of different levels of leadership show women account for 25 per cent of entry level positions, 17 per cent of senior and executive roles, and just 1 per cent for CEOs. Much of this stems from the lack of female presence on the committees and expressed his desire to see a change going forward. Showing these were particularly susceptible to reinforcing masculine stereotypes, meaning women are forced to challenge these preconceptions as well as overcoming in their roles in order to progress their careers.

When it comes to career progression, as seniority increases so does the gender diversity.

Women need to create more diverse leadership and are associations and companies have recognised the need to create more diverse leadership and are beginning to invest in helping women progress their career into senior roles.

STRIVING TO DO BETTER
In the April 2019 edition American Gas, Pink Petro and Experience Energy CEO Katie Mehner wrote about the need to “boost energy’s pipeline for female talent”, the strategy required to attract women to the industry and the need to encourage them to stay. Her recommendations include:

• Building professional communities that are not necessarily about having fun, but about finding camaraderie through shared goals.
• Telling women’s stories at all levels, including how professional obstacles have been overcome.
• Making inclusion an integral part of company culture, rather than something that just ticks a box.

Further to the importance of encouraging women to build networks and develop professionally, it is equally important for men in the industry to support these goals and be a part of the cultural change.

At Australian Pipelines and Gas Association (APGA) Committee update, APGA CEO Steve Davies acknowledged the lack of female presence on the committees and expressed his desire to see a change going forward. Showing these were more than empty words, the association took action and engaged in the creation of an industry program to develop women’s leadership abilities and opportunities.

United Kingdom
In the UK, Oil and Gas UK (OGUK), a representative body for the region’s oil and gas industry – has been exploring what corporate strategies can be used to address these issues. Strategies identified include:

• Hiring programs – companies set goals for hiring and promoting a diverse range of people.
• Mentoring programs – pairing a junior staff member with more senior employees who can offer valuable insights, technical knowledge and career advice.
• Diversity training programs – aimed at increasing cultural sensitivity and reducing unconscious bias through educating employees.
• Networking programs – companies facilitate employees engaging with groups that share common traits or demographics that provides social support and an extended professional network.

In addition to these strategies, OGUK added the Diversity and Inclusiveness Award to its suite of annual industry awards to promote and recognize companies that “improved business results through recognition and promoting the value of diverse teams and inclusive behaviours”.

United States
In 2016, the American Gas Association (AGA) introduced the Next Level Leadership Women’s Program, specifically to provide leadership development opportunity for women. The program brings together 35 women from AGA members companies who are ready to take on leadership roles.

Next Level integrates leadership case studies related to pertinent issues affecting the natural gas industry with building leadership skills. Attendees benefit from opportunities to engage and network with their peers and natural gas utility executives from across the country and develop lasting relationships. The program includes skills training, panel discussions from industry as well as participation from congressional and administration representatives.

The program kicks off with a networking reception to meet other attendees and AGA staff before a two-day in-person program, after which a follow up webinar allows participants to continue to engage with each other and build their networks. The success of the program is reflected by its longevity, now taking place on an annual basis.

Australia
In 2019, APGA launched the inaugural edition of the APGA Women's Leadership Development Program. Based on the AGA program, the course takes place over a number of months, comprising an initial two-day program with the opportunity to engage in APGA’s broader social events; two virtual sessions with guest speakers; and a final two-day session. The cohort is encouraged to continue to engage with each other outside of the program, building their professional network.

Conducted by Grayson Consulting’s Gretchen Gagel, the content of the program is determined by the participants, with a focus on developing skills and knowledge in leadership and management, communication, strategising, mentoring and being mentored, personal branding and change management.

The second edition, launched in 2020, saw a rapid response that reflects its relevance and importance to women in the industry. The program, comprising 27 participants that are members of APGA, was filled by the end of the day on 28 January 2020 – the same day registrations opened – prompting APGA to run a third edition of the program, also in 2020.

POSITIVE OUTCOMES
The feedback for these types of programs has been overwhelmingly positive, with outcomes ranging from personal development to professional advancement. Participants reported benefits to the improved ability to provide successful strategies to profit the business, developing better team culture and communication, managing relationships with more efficiency, establishing successful mentorships, and negotiating promotions and career development opportunities.

These demonstrable achievements are a testament to the importance of programs like these, as well as the value promoting diversity at senior levels.

While true workforce diversity in the oil and gas industry is still a goal on the horizon, the continued development of programs and initiatives like these by industry associations and within companies themselves will slowly foster change.
Baltic Pipe ready to cross land and sea

Proponents of Europe’s Baltic Pipe Project are continuing to check off the relevant boxes towards an operational gas pipeline, with construction on new infrastructure beginning in 2020. The project is being developed to improve the competitiveness of natural gas and ensure energy security in the region.

Developed with the purpose of creating a new gas supply corridor in the European market, the Baltic Pipe Project will see the transport of gas from Norway to Denmark, Poland and neighbouring countries, as well as enabling supply from Poland to the Danish market and decreasing reliance on Russian gas.

SEVERAL MOVING PIECES

Polish gas pipeline operator GAZ-SYSTEM and Danish operator Energinet have formed a joint venture (JV) partnership to deliver the project, which has been endorsed by the European Union (EU) by appearing on its Projects of Common Interest (PCI) list. The Baltic Pipe Project has held this status since 2013 and the EU has since committed about €265 million (US$286 million) towards the project.

Innovation had issued a permit to allow sections of the project to run through the Swedish Exclusive Economic Zone, the final approval necessary after the pipeline to run through the Swedish Exclusive Economic Zone, the final approval necessary after the pipeline had been given the green light in Poland and Denmark. GAZ-SYSTEM President Tomasz Stępień says the company appreciated the swift process for becoming independent of natural gas among the EU member states and, perhaps most of all, for becoming independent of natural gas supplies from Russia,” he says.

Additionally, while already enlisted for manufacturing duties for the North Sea section of the pipeline in 2019, Corinth Pipeworks was awarded an onshore linepipe contract in May 2020 for the onshore Danish portion of the project. The order comprised 142 km of 32 inch (812 mm), 36 inch (914 mm) and 40 inch (1,016 mm) submerged arc welding length (SAWL) and 36 inch (914 mm) and 40 inch (1,016 mm) submerged arc welding helix (SAWH) steel pipes. The 47,000 t of pipe will be coated with three-layer anti-corrosion polyethylene, epoxy lining for flow assurance and bends.

The pipes will be manufactured and coated at Corinth Pipeworks’ facilities in Thess, Greece, with delivery anticipated to run for five months beginning at the start of 2021. While onshore construction works on the Baltic Pipe Project have already begun, vessels preparing to lay the seabed for pipeline installation will mobilise in the Baltic Sea in the first half of 2021.

The 47,000 t of pipe will be coated with three-layer anti-corrosion polyethylene, epoxy lining for flow assurance and bends.

The 36 inch (914 mm) diameter concrete-coated submerged arc welding helix (SAWH) steel pipes. The 47,000 t of pipe will be coated with three-layer anti-corrosion polyethylene, epoxy lining for flow assurance and bends.

For more information on this project visit www.baltic-pipe.eu

The Saipem Contract pipe laying vessel. Image courtesy of Saipem.

The Baltic Pipe Project route with Corinth Pipeworks’ contracted sections. Map courtesy of Corinth Pipeworks.
The start of 2020 has seen progress begin on the Keystone XL pipeline project, which aims to offer a reliable supply of crude oil to US markets and strengthen continental energy security.

The construction of the project did face delays after the federal judge ruled in favour of the environmental groups who argued the impact on endangered species in the area had not been correctly assessed; however, the Trump Administration appealed the ruling.

CONSTRUCTION COMMENCES AS PLANNED

Keystone XL was able to commence pre-construction activities in April 2020 as planned, with TC Energy President and CEO Russ Girling saying the company appreciates the ongoing backing of landowners, customers, Indigenous groups and numerous partners in North America who helped secure the project.

“During construction, we will continue to take guidance from all levels of government and health authorities to determine the most proactive and responsible actions in order to ensure the safety of our crews and community members during the current COVID-19 situation. “Construction will advance only after every consideration for health and safety of our people, their families and those in the surrounding communities has been taken into account.”

CEPA ANNOUNCES SUPPORT

Once TC Energy confirmed its final investment decision on the pipeline, the Canadian Energy Pipeline Association (CEPA) was quick to announce its support by saying the project will be a safe, reliable and environmentally responsible way to connect the American economy with Canadian energy.

“Using world leading safety measures and technologies, this project represents billions of dollars of capital investment and thousands of well-paying jobs,” said a CEPA statement.

“The most studied cross-border pipeline in North American history, it will provide the US with a secure source of crude oil from a trusted trading partner – Canada.”

CEPA has also commended both TC Energy and the Government of Alberta for their steadfast support of the Canadian energy industry.

BORDER CROSSING MAKES HISTORY

TC Energy says the crew working on the Keystone XL international border crossing witnessed history when the first 24 m joint of pipe was laid across the US-Canadian border in Montana and Saskatchewan in April.

“This was a significant milestone for the project that has been years in the making, involving hundreds of employees and contractors, and I want to thank the team on site in particular who sacrificed their time and effort remaining in place for the duration of the project,” says US Keystone XL Project Vice President Gary Salzman.

The 2/3 km border crossing faced its own challenges and complexities with the project team working with authorities at all levels to receive the necessary permits and approvals required to cross an international border.

The onset of COVID-19 also presented a significant challenge to the team. Crews began to arrive at the border part as both the US and Canadian federal governments were issuing social distancing guidelines and calling for containment measures to stem the pandemic.

The project team met the challenge by working closely with state and local authorities on developing a COVID-19 safety plan that ensured the safety of both the community and the workers.

“We had some difficult challenges, but we worked together as a team to come up with creative ideas and to find solutions,” says Keystone XL Border Crossing Project Manager Samantha Lunnis.

And, they did it all without compromising safety, whether they were working through heat, snow or 80 km/h winds.

“Safety really resonated with our team. They understood that safety came first even if it took them an extra day or several extra hours to get a job done,” says Mr. Lunnis. “They all bought into the safety mindset and everyone looked out for one another.”

The team hired additional health-care workers to take incoming workers’ temperatures and monitor for potential symptoms related to COVID-19. And, as restaurants closed, the project team provided locally catered meals to the work crew, using local businesses in the nearby communities.

“TC Energy’s presence has been an economic benefit during the COVID-19 crisis with their support of local motels, grocery stores, gas stations and other businesses,” says Mayor of Glasgow Becky Erleison.

ENVIRONMENTAL CHALLENGES

In December 2019, environmental groups asked US District Judge Brian Morris to block TC Energy’s Keystone XL pipeline construction, however, this request was denied as no work was immediately planned.

In January 2020, environmental groups again asked the judge to block any work on the project, saying clearing and tree felling along the route would destroy the bird and wildlife habitat.

Despite awaiting the judge’s ruling on this request to block any work, TC Energy commenced its US prep work with Senior Communications Specialist Sara Rabern saying the Calgary-based company was moving forward on environmental work along the pipeline route shortly after.

This preliminary work took place in Montana, South Dakota and Nebraska, with the company then aiming to commence construction in northern Montana in April.

BIDEN TRIES TO PUT ON THE BRAKES

Keystone XL has long been subject to presidential debate, with the pipeline rejected by former US President Barack Obama in 2015 over environmental concerns and then revived by President Donald Trump in 2017.

In May 2020, this debate continued, with US Democratic Party Presidential Candidate Joe Biden saying he will revoke the pipeline’s permit if elected president.

In a statement, Biden’s Campaign Policy Director Steil Feldman says Mr. Biden “strongly opposed” the pipeline during the previous administration and if elected president would “stop it for good” by revoking the pipeline permit.

The presidential election will occur on 3 November 2020, with TC Energy continuing its construction in the meantime while currently having federal support.

TC Energy is constructing the 1,974 km pipeline that will be capable of delivering 930,000 bbl of crude oil from Hardisty, Alberta to Steele City, Nebraska, where it will connect with existing facilities to reach US Gulf Coast refineries and meet critical needs for transportation fuel and manufactured products.

Following years of study, obtaining regulatory approvals – including a presidential permit – and the support of landowners, customers, Indigenous groups and numerous partners in the US and Canada, the pipeline commenced its pre-construction activities in 2020.

The pipe is part of the Keystone Pipeline System. Image courtesy of TC Energy.
Building stats in the Middle East

STATS Group has strengthened its presence throughout the Middle East by opening a new workshop, storage and testing facility in Muscat, Oman, and a larger workshop and office facility in the Mussafah district of Abu Dhabi.

Headquartered in Ayr, Scotland, STATS Group operates globally through a network of operational bases, branch offices and partners. Recently, the pipeline technology specialist secured a two-year extension to a Master Services Agreement with Petroleum Development Oman (PDO) to provide pipeline isolation and hydrostatic testing services.

STATS Middle East Director Angus Bowie says the PDO agreement is an important contract that will allow the company to continue to support this project and having a local presence gives us a platform to extend our footprint in the Sultanate.

“With our commitment in Oman and further expansion in Saudi Arabia, STATS Group has successfully delivered pilot isolation workscopes for both hot tap installed and launched installed product ranges on behalf of Saudi Aramco and are working closely with major EPC contractors to offer safe solutions on a number of projects. We believe [Saudi Arabia] could be a key market in the region which will make a significant contribution to the growth of our global business.”

As of April 2020, STATS Group says it has made longer-term plans to open a permanent base in Saudi Arabia in addition to its recent Middle Eastern expansions.

TAP supports COVID battle

The Trans Adriatic Pipeline is a major European energy project, integral to securing gas supply to areas of the continent; however, with the COVID-19 pandemic ravaging health and economies across the world, proponents of the project are helping provide assistance to those affected.

“We at TAP are closely monitoring developments and doing our part to help prevent the further spread of the virus, by following the latest guidance of public health authorities and implementing a wide range of measures. At the same time, we are also trying to support the needs of our host communities,” he says.

“The amount will support the supply of special hospital equipment, personal protective equipment and medicines, according to the needs of health authorities in all our host countries.”

Italy in particular was one of the worst-hit nations in the world in the early days of the virus, becoming the first nation in Europe to impose a lockdown on its citizens. While the virus seems to have peaked there for now, Italy has recorded significantly more than 200,000 cases of COVID-19 and more than 26,000 deaths.

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TAP Managing Director Luca Schepuzzi says the impacts of the virus were challenging everyone.
Middle East develops as a pipeline project hub

The Middle East is quickly expanding into a pipeline project hub with new developments being contracted, commissioned and completed all over the region.

A myriad of pipeline projects are taking place across the Middle East region with numerous international agreements being signed, long-anticipated pipelines becoming operational and construction completion approaching for other pipeline infrastructure works in the near future.

EASTMED PIPELINE SETS A TIMELY PACE

The IGI Poseidon S.A. – a 50/50 joint venture between Edison S.p.A and DEPA S.A. – says its EastMed pipeline development is gaining traction following the signing of an Intergovernmental Agreement (IGA) on the project by Cyprus, Greece and Israel.

Due to the signing, contracts can now be awarded, which the JV says will happen shortly to speed up the remaining steps prior to the Final Investment Decision (FID) and the commencement of construction works by 2023.

The contracts to be awarded concern the engineering details required for the project’s realization step by step.

IGI Poseidon S.A. Chair Mr. K. Xifaras says the IGA is the result of much hard work over the last few years to bring the EastMed pipeline’s realization as step closest.

“IGI Poseidon is now determined to honour the provisions of the IGA by accelerating further the project’s development. We shall be informing all stakeholders in Europe and beyond of the EastMed’s unique geopolitical and economic benefits,” says Mr Xifaras.

The IGA, which allows for additional future signatories, confirms the recognition of the EastMed project’s strategic importance as it enhances energy security and diversifies energy sources and routes of natural gas.

Together with the Poseidon pipeline – also operated by IGI Poseidon – the project will constitute the cluster of infrastructure bringing the Poseidon pipeline's realisation as step closer.

“In addition to the IGA signature on the EastMed project, the EastMed-Poseidon Pipeline Project has been designated a Project of National Importance and of Public Interest to Greece; a designation that includes the Poseidon pipeline’s onshore section from the Turkish-Greek border to Greece’s Ionian coast in Thiopeira. The landmark decision by the Greek Parliament follows the signing of the EastMed pipeline’s IGA and the 2005 Greece-Italy Agreement on the Poseidon pipeline.

The EastMed-Poseidon Project, in conjunction with IGI Poseidon’s interconnector Greece-Bulgaria IGB, will complete the southeast European energy system by broadening the Southern Gas Corridor with a new route to secure gas from the East Mediterranean region.

IGI Poseidon CEO Mr. P. Vergerio says the designation of the project as a national importance is an important recognition after many years and efforts made in its development.

“Now that the Interconnector Greece-Bulgaria (IGB) is under construction, the company is looking forward to further integrate the South East Europe gas system bringing the EastMed-Poseidon Project to the Final Investment Decision within the next two years targeting the completion of the development process in cooperation with all the involved countries,” says Mr Vergerio.

ABU DHABI TO COMPLETE MULTIBILLION-DOLLAR DEAL

The United Arab Emirates has also been keeping busy with pipeline activities, able to in Middle Eastern neighbours.

State-owned energy producer Abu Dhabi National Oil Co (ADNOC) is nearing completion of a multibillion-dollar stake sale in its natural gas pipelines, set to be one of the year’s biggest infrastructure deals for the region.

The buyers – an investor group backed by Global Infrastructure Partners (GIP), and Bechtel/Amec Management Inc. – could sign an agreement with ADNOC for a 49 per cent holding in the pipelines later this year at a value of more than US$15 billion.

The GIP consortium includes Italian infrastructure operator Snam SpA, Ontario Securities Co. The group is said to have been seeking money due to the slump in crude prices.

According to people with close knowledge of the matter, equity financing has been arranged and the buyers are negotiating the terms of a debt package with banks; however, while discussions are advanced and ongoing, the timing and valuation could still change.

This prospective deal comes after Abu Dhabi has been opening the operations of its state-owned oil producer to foreign partners as part of a push to diversify its economy and generate additional sources of funding.

ADNOC has already sold shares in its distribution unit and brought in international investors in its refining and oil field services business, while KKR and BlackRock Inc. agreed in 2019 to invest $14 billion into ADNOC’s oil pipeline network – with GIC also buying a stake in the business later.

However, the UAE is not the only Persian Gulf oil producer using its energy assets to bring new capital into the region. In Saudi Arabia, Aramco – the world’s largest oil producer – is also weighing the sale of a stake in its pipeline unit to raise money due to the slump in crude prices.

The Saudi Aramco-Mold Refinery (SAMREF), a joint venture (JV) between Aramco and a subsidary of US oil major ExxonMobil, will be the first company to use the Yuhain hydrogen grid.

Aramco acts on historic oil price rout

Aramco has reaffirmed its commitment to pay out US$75 billion in dividends this year, and needs to make the first instalment for its US$70 billion acquisition of a stake in chemicals producer Saudi Basic Industries Corp.

Due to the historic collapse in oil prices and its lot of spending obligations, Aramco may need to raise cash this year and is considering doing so by selling a stake in its pipeline unit.

People close to the matter say the company could raise more than US$10 billion from the sale, with Aramco already holding preliminary discussions with potential advisors on the deal.

However, since it is still at an early stage of discussions, Aramco may decide against the sale entirely.

Along with the prospective sale, the company has been kept busy with its refineries that has begun receiving pumped hydrogen from Air Liquide Arabia (ALAR).

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According to Reuters, Aramco has begun pumping hydrogen through its US$400 million pipeline network in Yanbu, Saudi Arabia and will supply a Saudi Aramco refinery as the region seeks to shift from oil to cleaner fuel. Pressure has mounted on large fossil fuel producers to reduce carbon emissions as concern mounts about its impact on climate change. Many in the industry are turning to hydrogen gas, which can be used to create vehicles and to store green energy.

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Risk reduction via leak detection

by W. Kent Muhlbauer, WKM Consulting, Austin, Texas, US

While detection of pipeline leaks is intuitively a way to reduce risks, some might not see how risk reduction occurs or how to measure it. Simply, leak detection can reduce risk by reducing consequences – it has no effect on failure prevention. So, of the two parts of risk – probability and consequence – it plays a role only in potentially reducing the level of damage after a spill or release has occurred.

A few years ago, this column discussed a guiding equation for understanding consequence potential: “Risk is PoF x Consequence” [1]. Where should the focus lie? September 2016. That article noted that this equation gives guidance on options to reduce consequence potential. Here is an excerpt:

Consequence of Fire (CoF) associated with any pipeline release can be efficiently understood as being comprised of four parts acting in a dependent relationship:

\[ CoF = P \times V \times D \times R \]

Where:
- \( P \) = product hazard (toxicity, flammability, etc)
- \( V \) = release quantity (quantity of the liquid or vapor release)
- \( D \) = dispersion (spread or range of the release, including early- and late-ignition scenarios)
- \( R \) = receptor(s) (all things that could be damaged by the release)

The dependent relationship is illustrated in the use of the multiplier in this equation. Each factor can have a dramatic impact on total CoF. Any directional change – higher or lower – in any of these four variables will generally forecast the change in consequence potential.

To reduce overall consequence potential, any single component can be reduced. If any goes to zero, then there are zero consequences. This helps us to understand the risk management options that focus on CoF. Consistent with this guiding equation, we can reduce CoF and, hence, risk, by actions targeting any of these four, such as:
- changing the product
- reducing product pressure or flowrate
- limiting dispersion (e.g. secondary containment, boom deployment, etc.)
- reducing spill quantities (e.g. leak detection, remotely operated equipment, etc.)
- relocating people, property, environment.

Of course, these have varying levels of practicality. Even the more practical opportunities may be of limited benefit. Their ability to reliably reduce CoF are highly location- and scenario-specific. Some, in instances, they play a significant and valuable role; in others, much less so.

Of the four key determinants of consequence potential, leak detection can reduce the spill quantity and, in some scenarios, the dispersion. But is it a good choice for efficient risk reduction?

US regulations give much latitude in what risk reduction actions an operator employs. However, leak detection is specifically mandated as a potential risk management option that must be evaluated. Regulatory auditors can and do insist on reviewing these evaluations. Some operators have difficulty assessing their current capabilities.

Then, as related regulatory mandates, a formal decision process determining the sufficiency of that capability is also required. So, additional pipeline operators are required to assess leak detection capabilities and have a process to consistently judge when that capability should be enhanced. Let’s examine each of these facets.

A leak detection capability analyst must recognize two important aspects. First, there are almost always multiple ‘leak detection systems’ in place and, second, each has varying abilities to find leaks of varying sizes. So, step one is to identify all the systems. System tops often include:
- SCADA based systems such as monitoring via alarms (pressure, flowrate, temperature, etc.), transient models, mass balances, etc.
- Field based systems such as staffing, patrol, sensors, ground water monitoring, and even passerby reporting.

At the other extreme, some small leak rates are undetectable until a certain volume has been released. Only a puddle, a sheen on water, released before detection. Only a puddle, a sheen on water, released before detection.

The volume reduction must be monetised to provide insight into the amount of consequence that could theoretically be impacted by improved leak detection capabilities. That’s the beginning of a cost/benefit analysis – the most defensible way to decide sufficiency [2].

Proposed leak detection enhancements will generate additional curves. Any proposed improvement to leak detection capabilities will generally focus on a specific part of the leak-rate vs time-to-detect curve. The difference between the current composite curve and the potential composite curve shows the amount of product loss that is avoided by the enhancement.

The volume reduction must be monitored to complete the cost/benefit analysis and for other products, a cost savings is readily assigned to this avoided volume loss. The savings realised may be simply the value of the lost product itself and cleanup or remediation expenses avoided, while for other products, scenarios involving ignition, fire, and thermal damages must be factored into potential consequence reduction.

A good risk assessment should be able to quantify the change in risk associated with any potential leak detection improvement. Ideally, this will be expressed in terms of expected loss in $/km-year.

Finally, the costs of the improvement in leak detection must be factored in. That cost must consider initial and ongoing expenses and apply those to the miles of pipeline and the time period for which the improvement provides benefits. So, total costs are expressed in the same $/km-year units as avoided loss ($/year).

Recognising the extent of the leak detection improvement, over the lengths and time periods reveals some interesting things. From a very expensive enhancement, such as a full, SCADA-based leak detection system, can be cost effective.

If such a computational system covers many kilometers of pipeline for many years, the per km-year cost could be a cost efficient way to reduce risk. On the other hand, a seemingly inexpensive solution applied very narrowly, in terms of lengths and time periods, may be hard to justify.

As with many issues in risk management, performing the calculations often results in new and interesting insights. This is, of course, the central intent of formal risk management – revealing the nuances that can optimise decision-making.

For more information visit www.pipelinerisk.net

[1] This is more of a conceptual equation rather than mathematical.
[2] As stated in Nov 2016 article “The $500 annually, a cost/benefit analysis as part of an ALARP (As Low As Reasonably Practical), is the most widely recognised method for the determination of ‘safe enough’.
Process Safety Management (PSM) focuses a designer’s attention in a way that any type of abnormal operation presenting a safety risk is contained. Said another way, PSM focuses on guaranteed safe shutdown upon process upset.

Comparatively, Alarm Management focuses on operating the facility in such a way that you never reach the abnormal operating condition. Again, said another way, Alarm Management focuses on designing a facility to be operated so the pipeline system moves to the process moving to abnormal and take appropriate corrective action to avoid a shutdown.

Alarm Management serves as a safeguard while PSM serves as a failsafe. The challenge for operators in this distinction can be quite subtle. Both PSM and Alarm Management require a thorough and thoughtful understanding of operations as a result, many of the questions asked to build context are the same, yet the conclusions are quite different.

Because both PSM and Alarm Management use the same understanding of context operations and because of the resulting similarity in questions that need to be answered, the process of performing Alarm Management analysis upfront with PSM. Why? PSM is trying to ensure you do not have a reasonable chance to shut down. Management attempts to give the operator the ability to continue operating without ever getting to the abnormal condition.

Without combining the efforts, PSM often drives the design to an “operate to shutdown then restart” model, while Alarm Management generally drives the operating model to “operate without shutdown.” Those different operating modes are aligned from the point of view of the point of view of the control room to the point of view of the process.

Without shutdown, the alarm operator performs activity to address the alarm, mobilizes other personnel and prevents an upset from occurring. If human intervention through alarm response cannot properly address the alarm, then PSM ensures mechanical devices will kick in to protect the system and potentially perform a shutdown.

In PSM analysis, the criteria in the system must not rely on human control to operate safely, therefore PSM requires more reliable, stringent and mechanical-and-or-safety systems. This leads to different conclusions about the automation and how to set up the system to take appropriate action to ensure safe operation.

Another important nuance is defining an effective alarm. The goal of Alarm Management is to never trip process safety shutdowns. Rather, Alarm Management looks at how to equip the pipeline operator to act before an upset or unplanned shutdown occurs.

PSM addresses what occurs when the pipeline operator’s alarm response fails to avoid the upset and requires the facility to self-mitigate the upset. Another way of looking at this nuance – and how to answer this question – is separating Alarm Management as a process to assist effective human intervention.

As an alarm comes into the system, a pipeline operator performs activity to address the alarm, mobilizes other personnel and prevents an upset from occurring. If human intervention through alarm response cannot properly address the alarm, then PSM ensures mechanical devices will kick in to protect the system and potentially perform a shutdown.

In PSM analysis, the criteria in the system must not rely on human control to operate safely, therefore PSM requires more reliable, stringent and mechanical-and-or-safety systems. This leads to different conclusions about the automation and how to set up the system to take appropriate action to ensure safe operation.

The IMPORTANCE OF CULTURE TO SUPPORT ALARM MANAGEMENT

If the operating philosophy is to operate without shutdown, then each alarm must be meaningful. If not, there is a risk the pipeline operator will begin to ignore alarms.

Over time, a pipeline operator may become conditioned to mentally separate or filter certain alarms in their mind. They might think “I’ve seen this alarm 100 times, and it’s never linked to an abnormal operating condition.”

What about that one time where there actually is an abnormal condition and the adverse impact needed to be contained?

This introduces the importance of control room culture reinforcing to pipeline operators to treat each alarm as it’s displayed on the HMI. It’s not up to the pipeline operator to determine or notify the alarm whether an alarm is actually critical or not. It’s effective alarm management vigilance that needs to identify which type of alarm and make appropriate modifications to improve the alarm system configuration.

One way to set the right culture is the taking the time to rationalise and re-rationalise the alarms, optimise the Alarm Management program, communicate updates and continue to provide training. This will give pipeline operators confidence in the quality of the alarms and confidence in the reality of what they’re seeing on the HMIs.

PUTTING IT ALL TOGETHER FOR PSM AND ALARM MANAGEMENT

For operators that are looking at cost efficiencies, pipeline safety improvements and alarm optimisation, there is another opportunity to approach PSM and Alarm Management as an integrated process.

Remember, though, that while the upfront questions, analysis and conversations are similar, the outcomes and conclusions you are working toward are different. Recognise that PSM is about trying to make the system mechanically safe, while Alarm Management is trying to operate without hitting the process safety shutdowns.

Begin in mind the importance of the operating philosophy dictating how alarms are handled in the system. Then, think about the business challenges associated with implementing and cultivating the right control room culture to support human intervention and response to alarms.

Ultimately, the design must support providing pipeline operators with notifications, graphics and data acquisition (SCADA) systems so that pipeline operators and support personnel can continue to operate safely in every type of abnormal operation, without shutdown. Alarm Management and PSM focus on achieving this. Alarm Management plans as an integral part of the Pipeline Safety Management (PSM) system and SCADA software for pipeline operators.

Mr. Treat is CEO of EnerSys Corporation, a provider of control room management and SCADA software for pipeline operators. Contact Mr. Treat at rtreat@enersyscorp.com.
An alternative solution for high-quality data in low-pressure gas pipelines

Pipelines come in all shapes and sizes, but they can also display a variety of operating conditions. One not-so-popular operating condition is low pressure, meaning a gas pipeline operates at pressures lower than ‘normal’ and often does not allow for standard ILI, so a solution must be found.

There are a few golden rules when addressing challenging pipelines, including:
1. What goes in must come out
2. The inline inspection must be worth it.

‘Worth it’ is not only meant from a high-quality data collection standpoint, which of course is arguably the sole purpose of an inspection, but also at a cost that makes sense—demonstrating how creating a solution for a low-pressure gas pipelines must take into consideration many factors.

In 2019, the ROSEN Group was challenged to create one of these unique solutions. The goal was to complete a full internal and external metal loss inspection of a 16 inch (406 mm), 17 km onshore pipeline, it is always best to make sure the full condition is low pressure, meaning solution experts

In this case, ROSEN experts chose nitrogen as the propulsion element. The conventional way of using nitrogen as a propellant is to use a nitrogen-pumping spread. This method requires a large amount of liquid nitrogen, which then must be converted to gas; the gas, in turn, is used to create the pressure needed for tool propulsion.

This is a major expense, which is why ROSEN experts initiated a feasibility study for using a so-called nitrogen membrane instead. This membrane is a generating unit that can separate oxygen from air and produce a continuous supply of N2 gas, ensuring a dependable supply of nitrogen without needing to rely on liquid nitrogen, therefore cutting operational cost significantly.

With the propulsion problem solved, the technology and tool challenge were to follow: Although the N2 membrane does allow for increased pressure, it also has its limitations. The pressure would not rise to 30 bar, which is the pressure standard tools need to perform best. Looking at the ROSEN technology portfolio, it was clear magnetic flux leakage (MFL) would be the best technology for the job. Widely known and used technology in ILI, MFL is robust and dependable, and is applied in both gas and liquid lines.

The technology choice was clear, but an additional concern would be the tool itself. It needed to be optimised to carry the MFL unit through the pipeline and still collect high-quality data. In the case of low-pressure pipelines, a dominant challenge is to overcome speed excursions, which normally occur during inspection runs because of passing bends, wall thickness variances, welds or the presence of debris.

In this case, the system was adapted by using the following elements:
- low-friction wheel magnetizer yokes
- enhanced cup design for reduced and constant friction
- customized yoke support system
- friction reducing eductor system
- ultra-compact and lightweight design.

The solution resulted in successful findings that met POF standards, and the data obtained from this inspection has helped the operator to decide on the next steps for further integrity management of the pipeline. This operation has achieved the main objective of completing the ILI with a cost-effective measure without compromising data quality. For more information visit www.roesen-group.com

CIRCOR PE beats the unpiippable

CIRCOR PE was contracted to develop a low flow pig and carry out subsequent low flow trials at the PE Aberdeen Service Centre to assess pig performance at flows as little as 0.015 m/s. After successfully executing the project, CIRCOR PE presented not one, but three new designs to be incorporated into a maintenance pig fleet.

In the North Sea, an aging 16 inch (417 mm) oil export pipeline running between two platforms via a subsea NPE to then combine flow from a third platform began causing concerns for its piggability due to its diminishing flow rates. To trial this asset, CIRCOR Pipeline Engineering (PE) was contracted to develop a pig capable of pigging these diminished flow rates.

LOW FLOW TRIALS

The low flow trials were conducted to determine the piggability using three different pig designs, including high seal, medium seal and low sealing pigs with data recordings for differential pressure (DP) and bypass rates of varying HPs.

The objective of the trials was to provide a pig design capable of pigging at a flow rate of 0.015 m/s with minimal bypass, as excessive bypass would result in the pig not completing its inspection.

CIRCOR PE manufactured the three different test pig designs using combinations of conical type cups, seal disks and support disks, with a housing for the DP-data logger. The test rig was set up to incorporate a client flow issue similar with the same nominal inner diameter to the pipeline. Pumping equipment was also set up using a high water pump, including a break tank to allow transit of the pigs through the rig. The pigs were then run through the test rig with a camera located on the open end to assess pigging performance.

PROJECT OUTCOMES

CIRCOR PE’s data logging determined its medium seal pig had the best suited drive DP and pigging performance for the low flows demonstrated in the ageing pipeline. Additionally, the trialling of the pig determined that at the drive DP there was little to no bypass past the pig. Therefore, three medium seals were mobilised to the launch platform with the first being officially launched in May 2019. CIRCOR PE now says its basic design principle of the pig is well proven and, in different guises, has performed well in the pipeline since its commissioning one year ago.

The anticipated no bypass has been proven in the pipeline with a run DP comparable to the trialling and almost zero bypass. Additionally, the calculated pig speed and actual pig speed were within ±1 mm/s, indicating the bypass in the actual run was negligible. CIRCOR PE says all three of its pig designs developed in the project have been incorporated into its maintenance pig fleet.
Important Anchor transportation deal struck

Williams has reached an agreement with the proponents of the Anchor field in the Gulf of Mexico to provide offshore natural gas transportation services for the project.

The deepest Anchor oil and gas field is located approximately 225 km offshore Louisiana in the US Gulf of Mexico. Operated by Chevron with a 62.86 per cent share and assistance from joint venture (JV) partner and remaining stake holder Total E&P, the project has an estimated recoverable resource of more than 640 million bbl. The field was first discovered in 2014 and appraisal drilling began in 2015 when significant hydrocarbon reserves were encountered. The field sits in a water depth of around 1,100 m and several prospects have been identified in the region. Chevron has been steadily progressing Anchor’s development in the last few years, engaging Wood Group to complete the preliminary front-end engineering and design (pre-FEED) and FEED work, with the project to use a semi-submersible floating production unit with a capacity of around 1,500 m and several prospects encountered. The field is located approximately 225 km offshore Louisiana in the US Gulf of Mexico, with asset synergies that are second to none in this active region, and we’re pleased to leverage and expand our existing infrastructure to serve the growing needs of deep-water producers,” he says.

“Discovery offers producers the full suite of midstream natural gas services to maximize value for its customers, who partner with Williams to help them complete their value chain by safely gathering, processing and delivering the energy that fuels our nation and drives a clean energy economy.”

Anchor is expected to come online by the end of 2024.

PRISMA adds key pipeline to marketplace

PRISMA European Capacity Platform GmbH and TAP AG have signed an agreement that will open the pipeline’s future transportation capacity marketing activities on the PRISMA platform.

PRISMA connects gas markets for 19 European countries and is the major marketplace on the continent for booking and trading gas capacity. Founded in 2013, the PRISMA platform, a crucial pathway has been added that will ensure the diversity of energy supplies in Europe.

PRISMA says the agreement is in line with its aim to establish a fair and transparent market by facilitating the integration and security of gas capacity trade. By making the European section of the Southern Gas Corridor available on the PRISMA platform, a crucial pathway has been added that will ensure the diversity of energy supplies in Europe.

PRISMA Managing Director Georg Lauske says the addition of TAP to the marketplace was an important step towards ensuring effective integration and competition at the European gas market through PRISMA’s well-established position at the heart of transnational markets,” he says.

TAP Managing Director Luca Schioppati adds the project is set to come online later in 2020, meaning the company is continuing to focus on operational readiness and the start of commercial operations.

“TAP will bring a new source of gas into Europe, contributing to a more diversified and secure energy mix and our collaboration with PRISMA is a key element in enabling our service offering,” he says.

PRISMA’s services include harmonised capacity products, auction and trading mechanisms and related products for transmission system operators and storage system operators.
Reaching 100 years in the pipeline

In 2020, T.D. Williamson is celebrating 100 years in business. Pipelines International sat down with Chairperson Emeritus Richard ‘Dick’ Williamson to discuss the company’s history and its incredible longevity in the pipeline industry.

“O ur history is less our history and more the history of the pipeline industry,” says Mr Williamson, grandson of the company’s founder. After 100 years in the business, it’s hard to deny the truth of this statement when it refers to T.D. Williamson Inc. (TDW), a global leader in pipeline services, equipment and services.

The company was first established as the Petroleum Electric Company by T.D. Williamson Sr in January 1920 to supply electric motors, generators and other equipment for oil fields. As the world and petroleum industry changed throughout the 1920s and into the Great Depression, Williamson Sr adapted to change with it.

“The American Society of Mechanical Engineers Petroleum Division had decided they needed to have a concept design for operating controls for crude oil pump stations. Before this you needed to have someone watching and operating it 24 hours a day,” says Mr Williamson.

“The oil companies knew that they had to manage flow control of the crude oil from well head to refinery on a more automated and real time basis.”

By 1932, with the oil industry’s drilling and well head operations in decline, Williamson Sr focused on the market gaps the petroleum industry was facing and expanded the scope of his business in Tulsa, Oklahoma.

In 1933, Williamson Sr reorganised the company under the name Petroleum Engineering and Equipment Company and moved its offices into his home. Because construction had stopped due to the Great Depression, the new company was a sales and service agency for electrical manufacturers, says Mr Williamson.

“The business model that my grandfather had developed is still used today. We reach out to the industry, understand the customers’ needs and develop solutions for those needs. We ask the customers to work with us as the design is being developed, encourage them to challenge our approach so that we can make the adjustments necessary for the solutions to meet their needs.”

World War II brought on further changes to the petroleum industry and pipelines really started to come of age, which led to a greater emphasis on maintenance and repair.

“The request to build better pipe scrapers got my grandfather thinking again – he said no one really focuses on the needs of the pipeline companies,” says Mr Williamson.

“With the completion of the War Emergency Pipeline project, which by that time was the largest diameter and longest crude oil pipeline in North America, the pipeline operators determined that they needed to have more robust scrapers. This was 1941–42 and the pipeline operators asked us to help develop a scraper that could travel long distances and do the necessary cleaning and removal of paraffin.”

“Once our new design of scraper had been in service for some time, one of our customers called it a pig because it was rooting and squealing in the bristles just like a pig would. From that point on we called all scrapers pigs.”

“By this time, pipelines were needed to be modified on a regular basis. To meet these ever expanding challenges that the industry was facing, my grandfather decided to expand the scope of his enterprise once again – forming T.D. Williamson, Inc. The founding of TDW was really about my grandfather’s journey, to intensify his efforts serve the energy industry – focusing more and more around pipeline companies.”

A PERSONAL JOURNEY

While the company continued to grow as the decades progressed, expanding overseas and diversifying its products and services, Mr Williamson was making his own journey through the industry. He remembers his first exposure to the pipeline pigging process during a trip to the crude oil storage centre in Cushing, Oklahoma with his father. But it wasn’t until high school that he really started to get a feel for the business.

“I had two summer jobs while in high school. The first assignment was to assemble casing seals and insulator components for excased pipeline crossings. The following summer I supported our rental equipment business by cleaning equipment that had been returned from field projects, noting areas requiring repairs and preparing the equipment for our next field service jobs.”

“I loved the jobs and I loved the people. In the years that followed when I was in college, I continued to learn more about TDW and the industry we serve.”

Mr Williamson didn’t move directly into the family business after high school. Instead he earned a degree in chemical engineering from the University of Oklahoma and an MBA from Northwestern University, Chicago. While pursuing his degrees, his summer work experiences were to better understand the industries that TDW served.

These work experiences included being a roustabout and gauge for the Mid-America Pipeline Company and shift operator at a Chemical Company pilot plant. The year following his MBA studies, he was with The Dow Chemical Co. supporting procurement, business systems and the company’s plastics operations. The following year he enlisted in the US Army during the Vietnam War and was assigned to the Chemical Corps.

Mr Williamson joined TDW in 1971 as a plastics engineer, later working on strategic planning, IT systems conversions, HTUP field services, manufacturing management and global operations. Now in 2020, with nearly 50 years with the company under his belt, almost half of TDW’s history, he still finds enjoyment and satisfaction in engaging with everyone involved in the pipeline industry – from engineers and manufacturers, to customers and local communities.

“It’s important for us to be engaged with the community while our primary job is to serve the pipeline industry,” says Mr Williamson.

“Looking back to the example created by my grandparents and parents and how they engaged with their community – Tulsa – we’ve carried the tradition forward so that our employees around the world may also choose to engage with and support their local communities.

“Whenever I visit the offices and field operations of pipeline companies, I make it a point to talk to them about what is important to them and the problems or challenges they are facing. Though every pipeline operator’s problems are not the same, they share common elements that through our own history we have seen before. We offer our insights and skills to address their specific needs.”

“This is the same role we carry out when participating in pipeline industry technical and operational associations. Together we pursue the development and sustaining of better operational practices.”

TDW now operates all over the world offering integrated pigging, integrity assessment and isolation and intervention pipeline solutions.
Hydrogen to heat UK homes

DNV GL has been investigating the minimum purity levels required for the use of hydrogen in UK homes and businesses through a study examining its feasibility as a low carbon and safe energy source.

In 2018, the UK consumed more than 215 million m³ with 22 million homes connected to the national gas grid. Now, the British government is working towards a net-zero carbon emissions target by 2050 and is increasing its investment in understanding low carbon energy sources. In doing so, the UK’s Department for Business, Energy and Industrial Strategy (BEIS) commissioned the Hy4Heat program which seeks to assess the feasibility of delivering hydrogen through the existing natural gas pipe network in the UK. The program aims to establish whether it is possible, safe and cost-effective to replace methane with hydrogen for heating, hot water and cooking applications. DNV GL is leading a consortium to investigate the hydrogen purity portion.

ENSURING SAFETY THROUGH CUTTING-EDGE RESEARCH

DNV GL Senior Principal Consultant Colin Heap says this purity study is necessary because delivering hydrogen through the existing natural gas transmission and distribution network may result in trace contamination. To combat the safety concerns around this, the new hydrogen purity specification will set out minimum component limits.

Through DNV GL’s extensive work across the oil and gas sectors, it has also spent considerable fundamental research in the development of hydrogen as an energy source.

“DNV GL issued its first report into the use of hydrogen in gas networks in 2007 and developed a methodology for the technology qualification of equipment and processes for hydrogen usage in the same year (called HYTREC),” says Mr Heap.

“Since then, DNV GL has initiated and supported cutting-edge research projects into hydrogen production and use, collaborating with industrial customers and global bodies such as the International Energy Agency (IEA) and European Commissioner.

A ROBUST METHODOLOGY

Mr Heap says the DNV GL consortium has been undertaking a robust methodology for the project, which commenced with a literature review of gathering background information from published literature sources, reporting on the quality requirements from all standards and applications, and sourcing data on the required hydrogen purity level for downstream applications.

DNV GL also contacted key stakeholders within the UK hydrogen industry to define the required features and factors of hydrogen purity specifications.

“We obtained their views on existing hydrogen purity standards, identified information on technical aspects omitted from current hydrogen standards and considered new applications where hydrogen purity standards did not exist,” says Mr Heap.

“Through involvement in hydrogen related projects, we determined the options for and costs of producing hydrogen to different purity levels and assessed the potential applications for hydrogen purity standards for a future GB hydrogen network.”

Following this, DNV GL identified impurities in hydrogen from different production processes and incorporated these findings into the literature review and stakeholder discussions, in addition to studying the probability of contaminant presence in hydrogen from currently available production and purification methods. Mr Heap says DNV GL then set out minimum hydrogen purity requirements and provided a hydrogen purity specification for downstream applications.

The “Hydrogen Purity Specification” was presented to key stakeholders to obtain their feedback, comments and most importantly so they could raise issues with any of the findings and recommendations as set out in the report,” says Mr Heap.

Lastly, DNV GL conducted a cost analysis to evaluate the practicality and high-level costs associated with the delivery of hydrogen purity to meet domestic and commercial needs. “We considered potential hydrogen purity levels delivered and examined the costs of producing a higher purity at point of production for several production methods. Where applicable we compared these to costs of on-site clean-up.”

“Additionally, we conducted a sensitivity analysis to different appliance work compositions, as this may alter the extent to which it is cost-effective to deliver hydrogen at a purity that requires on-site clean-up for certain technologies, versus achieving a higher purity at the point of production,” says Mr Heap.

DNV GL included data on the sensitivity analysis of appliance lifetime and operating costs to hydrogen purity in the analysis of the trade-off between gas clean-up costs and appliance costs, and undertook a detailed review of the literature to examine different approaches to achieving the purity standard.

ONGOING RESEARCH AND DEVELOPMENT

Mr Heap says the first two ‘work packs’ of the Hy4Heat program also incorporated hydrogen colourant and standard. The work commenced in October 2019 and was completed by February 2020.

The outputs from DNV GL’s Work Pack 2 will feed into the next phases of the Hy4Heat program that are planned to continue progressing until 2022, including the community trial.

The upcoming work packs include appliance certification, domestic appliances, commercial appliances, industrial appliances, safety assurance, demonstration facilities, community trial preparation and meters.

SUPPORT PARTNERS

For the Hy4Heat program, DNV GL led an informal consortium of companies put together explicitly for the development of a hydrogen purity specification and to address the issues around adding a colourant. The partners – who were selected by DNV GL – provided the Hy4Heat program with access to the leading expertise across the UK in this field.

These partners included the National Physical Laboratory (NPL), Gas and Particle Metallurgy Group, Elemental Energy, the Health and Safety Executive’s HSE Laboratory and the Low Carbon Technology group at Loughborough University. Additionally, for Work Pack 7 – Safety Assessment, DNV GL is engaged with the Spadeadam Research and Testing Centre in Cambridgeshire.

Spadeadam House of Section – Research and Innovation Dan Allason says the Hy4Heat facility consists of a set of three domestic houses and a number of gas grid where gas leakage, both inside and outside the property, can be investigated for comparative behaviour.

“Full scale methane and hydrogen releases were conducted into DNV GL’s HyStreet facility,” says Mr Allason.

Hy4Heat Work Pack 7, Lot 2 and 3 concerned leakage within the property at both room and property scale. Lot 4 from the same work package involved an investigation of the ignition potential of an array of domestic ignition sources with both methane and hydrogen.

“Devices tested ranged from tumble dryers to light switches and extractor fans. In total, over 200 gas leaks were performed during the latter parts of 2019 and early 2020 with the two fuels and the results are currently being led to the development of a comparative risk assessment by the project,” says Mr Allason.

ADDITIONAL POLICIES AND IMPLEMENTATION

DNV GL says alongside the Hy4Heat program, there are several other ongoing high-profile research and development projects looking into the feasibility of replacing natural gas with hydrogen throughout the UK, including:

- HyNet: Investigating the use of hydrogen in the industrial sector to decarbonise heavy energy users
- H100: Developing site specific evidence to support the construction of a 100 per cent hydrogen demonstration project
- DNV GL Collaborative gas network project to blend hydrogen with natural gas
- H21: To establish safety case evidence supporting the conversion of a distribution network to 100 per cent hydrogen.

Ongoing work is also underway to revise policies and procedures throughout the region – in particular, the Gas Safety and Management Regulations (GS&MR) – to allow the safe transport of hydrogen from an initial blend with natural gas to a 100 per cent hydrogen network by 2030.

The Hy4Heat program will see hydrogen be used for heating in homes and businesses across the country. DNV GL has also continued to make good use of the HyStreet facility with Spadeadam by conducting experiments involving leakage of hydrogen and methane upstream of the emergency control valve, that being the last valve on the distribution network ahead of the gas meter.

These experiments took place as part of the ORCEM UK-funded H21 project, led by Northern Gas Networks, and the results are currently being fed into a risk assessment of the relative risk of hydrogen use compared to natural gas as it is conveyed to customers.

The risk assessment for H21 is being conducted by experts from the DNV GL advisory team in Loughborough, consisting of those involved in the development of the risk tools used by the gas industry for the past several decades.
Out with the old in Canada

The Canadian Government has launched a billion-dollar oil and gas site rehabilitation program that will see orphaned and inactive pipeline, well and oil and gas sites cleaned up.

Although Canada is a nation at the forefront of the oil and gas industry, a crowded history of exploration and construction activity has resulted in a significant number of out of service assets in need of proper clean up.

With the COVID-19 pandemic causing economic hardship across the world, the energy industry has not remained immune, with job losses and project cancellations or postponements becoming a reality for many countries. The Canadian Government has enacted its emergency, inclusive COVID-19 Economic Response Plan to combat this and has pledged CA$1.72 billion (US$1.2 billion) in funding to support an oil and gas clean up program that will support the creation and sustainment of new industry jobs.

About CA$545 million (US$402.775 million) of the funding will go to the Government of Alberta to support clean work across the province, CA$480 million (US$359.2 million) will go to the Government of Saskatchewan for work in that region, CA$120 million (US$87 million) for the Government of British Columbia and CA$100 million (US$72.5 million) to the Alberta Orphan Wells Association (OWA) to support its work, although the group will fully repay the amount.

With approximately 91,000 inactive oil and gas wells in Alberta, the bulk of the work will be done in the province, with Alberta Energy MinisterSonya Savage saying the energy industry was one of Canada’s biggest job creators.

“We are creating almost 5,300 jobs for Alberta’s energy workers, while completing important work decommissioning and reclaiming abandoned pump jacks, pipelines and wells. This will ensure that impacts properly addressed, benefiting landowners and Albertans across the province,” she says.

The Alberta Government says the program’s goals are to immediately get the province’s oil and gas labour force back to work, accelerate site abandonment and reclamation efforts and quickly complete a high volume of environmentally significant work.

Funding was made available to contractors in two phases.

CA$100 million (US$72.5 million) was divided into two phases, the first being for projects that required 100 per cent government funding and contracts of up to CA$300,000 (US$220,000) per application, per closure activity.

The Alberta Government accepted applications in the second phase of CA$100 million of funding for oil and gas sites on land where the government was paying compensation to landowners, as well as those projects with no contract cost limit.

Future funding increments will be made available as the situation progresses and the government says these may focus on larger projects with larger contract values.

Eligible contractors for the work include those who can complete pipeline abandonment, pipeline segment removals, and website and facility abandonment, while contractors for environmental restoration and reclamation work will also be contracted.

Clean up costs per project can range from CA$100,000 (US$73,000) to several million dollars depending on the complexity and size of the job.

More information on the program can be found at www.alberta.ca

AN UPDATED APPROACH

Throughout the previous few months, Trans Mountain has continued to update and share its protocols with the wider community.

In March during the height of the pandemic’s growth, Trans Mountain Corporation President and CEO Ian Anderson said the rapid and changing global situation meant the company understood the questions and observations surfacing from communities and stakeholders surrounding the project.

“We are continuously assessing this unprecedented situation and remain focused and committed to ensuring health and safety,” says Mr Anderson.

“We are well underway with project construction in several areas of British Columbia and Alberta and we plan to continue construction as long as we can do so in a way that protects all of our people and the broader community.

“We are confident we have executed all the requirements of health authorities and governments and we are continuing to build on those safety measures at all our work and operations sites.”

Mr Anderson says he can assure all Canadians that Trans Mountain will do everything in its power to ensure that the work is completed in a safe and efficient manner during the COVID-19 pandemic.

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Trans Mountain outlines safety response

Trans Mountain has continued uninterrupted and safe operations of the Trans Mountain Pipeline as well as construction on the Trans Mountain Expansion Project during the COVID-19 pandemic.

With health and safety of its workforce, their families and the surrounding communities at the forefront of its operations, Trans Mountain says all personnel have been working diligently together to ensure this can remain.

In its response to the continually evolving COVID-19 pandemic, Trans Mountain and its construction contractors for the Trans Mountain Expansion Project say it has been working to ensure its operations and staff adhere to all advice and direction from government and health officials, both on a local and national level.

Pixabay © Shelton Keys Dunning

Trans Mountain personnel ensure they are social distancing even while working onsite.
to not put workers, communities and Indigenous peoples at any COVID-19 risk, and will initiate safe stand down work procedures if there is an escalation in health official’s guidance.

“The relationships and partnerships we have with our contractors, and the many Indigenous communities and businesses across the pipeline and project, are critical and all unique situations and concerns are being heard and responded to,” says Mr Anderson.

TANGIBLE ADJUSTMENTS

Trans Mountain says it is constantly monitoring the guidelines from health officials and some of the specific measures it and its construction contractors are taking on the construction sites include:

• staggering work shifts to minimise the number of people on any given site including adhering to the recommendations being provided by health authorities
• following physical distancing guidelines between workers – at on-site and in-site offices
• staggering lunch and coffee breaks to minimise number of people gathering
• ensuring that workers orientation includes COVID-19 expectations, awareness and prevention
• ensuring non-essential workforce members are not entering any work site or offices
• ensuring all individuals have access to appropriate safety equipment, and understand the expectation surrounding personal hygiene
• temperature testing people entering the sites for fever or illness
• ensuring non-essential workforce members are not entering any worksites or offices
• ensuring that workers orientation includes COVID-19 expectations, awareness and prevention
• ensuring non-essential workforce members are not entering any work site or offices
• ensuring all individuals have access to appropriate safety equipment, and understand the expectation surrounding personal hygiene
• temperature testing people entering the sites for fever or illness
• using health and safety personnel to monitor implementation of COVID-19 response guidelines on site.

While each Trans Mountain worksite is unique, each of the construction contractors are required to adopt government and company health and safety measures to ensure construction can safely continue, while ensuring the protection of the workforce on the ground.

Although certain protocols are difficult to adhere to in entirety on a worksite, Trans Mountain says it works with its in-house team and construction contractors to revisit and update plans and monitor implementation daily.

MONITORING POSSIBLE INTERRUPTIONS

While Trans Mountain says it is confident its operations will continue without interruption during the pandemic, it has continued to monitor any potential impacts on the project because of interruptions to its supply chain due to logistics issues.

During this time, Trans Mountain will continue tracking any directives or changes to ongoing regulatory processes from the Canada Energy Regulator to ensure not only the safety of its workforce during COVID-19, but the safety of its entire operation.

For more information visit www.transmountain.com

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Join the growing network of pipeliners that connect through social media. These platforms have become a place to network, discuss industry developments, and look for the latest job opportunities. Don’t miss your opportunity to stay closely connected to your colleagues and build your career through social networking.

How to connect

Visit the links below to connect with Pipelines International on social media.

LinkedIn: www.linkedin.com/showcase/pipelines-international
Facebook: www.facebook.com/PipelinesInternational
Twitter: www.twitter.com/Pipelines

www.pipelinesinternational.com
**Pipeline People: Kirsty McDermott**

Pipelines International speaks to National Grid UK Senior Engineer – Welding Kirsty McDermott, who was awarded the John Tiratsoo Award for Young Achievement at PPIM 2020, about her time in the industry and what’s to come.

**Can you tell me a bit about your background and how you got started in the pipeline industry?**

I left school at 15 to study at college, but soon realised this wasn’t for me. I carried out a career aptitude test, which then identified that I would be suited to a career in engineering, so I found a local college that matched interests with a career.

I then took an advanced apprenticeship in welding and fabrication and I attended college part-time and obtained qualifications in manufacturing engineering, whilst also developing skills in welding, sheet metal and machining.

In 2012, I secured a place on the Gas Transmission Engineers’ Training Program at National Grid, during which time I worked in the engineering team and started a foundation degree in gas transmission engineering. Those roles provided opportunities for me, including a technical lead role on National Grid’s first Network Innovation Competitions Project.

Following my degree, I was keen to continue my learning and become a specialist in an area which interested me. I started welding for National Grid, which led me to commence an MSc in welding engineering, which I am still studying to date.

I have had a range of roles, ranging from Project Management of Innovation Projects, to Quality Assurance on Construction Projects.

**What is your role at National Grid UK?**

I am a Senior Engineer – Welding, in the Engineering and Asset Management Team and I am responsible for the supply of the UK energy and transport are safe and reliable. National Grid is responsible for the supply of the UK’s energy and transport and managing the network. Having the opportunity to work with engineers from different businesses and looking at how we may be able to apply their technologies to better understand our network really interested me.

**What’s the most memorable project that you’ve been part of?**

The most memorable project for me was leading the project to trial the Halfwave ART tool in an inline inspection. This involved me working closely with our control room teams to get them onboard to the idea, as it meant operating the network differently to how we have done before. I had also the opportunity to work with field operations teams in Scotland and everyone was so supportive and really wanted to help make the project a success. It was on the back of this trial that we then looked to kick off other projects understanding different technologies allowing us to better understand our network condition.

**How has the industry changed since you entered your career in pipelines?**

There has been a big push on climate change, and I see that has changed outside of the industry too in recent years. Personally, I have seen the drive for innovation in the industry.

I felt like there needed to be a lot more “we’ve always done it this way” responses, instead of opening processes up to a challenge, becoming more efficient and finding better ways of working.

**Do you have any predictions for the future of the industry?**

The UK’s Net Zero by 2050 target has an increased focus and drive across the industry to look at how gas networks can support the energy transition. We will require significant acceleration of the UK’s approach to delivering infrastructure that can support decarbonisation of power, transport, domestic heat and industry.

**What excites you about being in the pipeline industry?**

I feel proud to work for a company such as National Grid, particularly with campaigns such as our recent ‘Building the net zero energy workforce’. The recently published report suggests to meet our industry needs there is a requirement for 800,000 jobs between now and 2050, all with a diversity of skills, to get the UK to net zero. This couldn’t be a more exciting time to be in this industry.

**PILOCA - Promoting the protection of the environment in the pipeline industry**

Supporting HSE & CSR Monitoring and Awards

With members in more than 40 countries, PILOCA represents some 250 of the key players in the onshore and offshore pipeline construction industry worldwide. Visit www.iploca.com to find out more

**How can people find out more about PILOCA?**

Many reports, including the Net Zero-The UK’s contribution to stopping global warming expert report in 2019 by the Committee on Climate Change, highlight that hydrogen will need to play a key role in meeting the UK’s environmental ambitions.

There is an opportunity to repurpose our existing natural gas pipelines and assets for hydrogen. To realise the potential of hydrogen in the energy mix, there is a greater need for cross-industry and cross-sector collaboration and innovation.

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YPAC provides a pipeline into the industry

Co-founders and long-term Young Pipeliners Association of Canada (YPAC) members Peter Tanchak and Kevin Tsang credit the community the association has built to helping each of them propel their careers. Mr Tsang and Mr Tanchak both found themselves working as civil engineers before becoming fascinated with the world of pipelines through myriad projects. Now, each of the men work as pipeline engineers at Enbridge where the mix of technical and soft skills continues to foster their curiosity of the pipeline industry.

In addition to moving through their Enbridge careers with further opportunities in planning and engineering, Mr Tsang and Mr Tanchak also co-founded YPAC to create a unique community that supports the growth and development for pipeliners in their early careers across Canada.

At YPAC Pipeline Conference 2019 - Shaping the Future of the Pipeline Industry, Mr Tsang and Mr Tanchak each received a YPAC Distinguished Young Pipeliner Award for their long service to both the association and the Canadian pipeline industry.

Upon receiving the award, Mr Tsang says YPAC has provided growth opportunities not only for himself, but for the next generation of leaders to network and get involved in the pipeline community through conferences such as the International Pipeline Conference, through societies such as ASME - Pipeline System Division, through codes and standards like CSA, and through research such as Pipeline Research Council International (PRCI).

"By creating these bonds across industry peers and across generations, it ensures that the community of practice for pipelines continue to expand and grow which will drive the improved performance and safety of our industry in the years to come."

A LEARNING EXPERIENCE AT EVERY LEVEL

Mr Tsang says he has learned a great deal about perseverance during his time with the association.

"Co-founding YPAC was an experience that provided the feel of a start-up where funding, marketing, and developing and executing strategy were necessary to build momentum to get the organisation off the ground," he says.

"In the early days, there were constant elevator pitches and meetings to drive sponsorship and membership and learning to be persistent through all the rejection paid off in growth for the organisation.

"I learned how to lead through influence, communicate across levels, and how to plan for success. I think the most important thing I learned was that if you empower your teams, they can and will do great things."

Mr Tanchak adds YPAC is securing the future of the pipeline industry – its younger generation – by not only providing learning opportunities, but also by facilitating technical and engineering knowledge transfer from mature to junior professionals.

"The long-term success of any industry depends upon fostering the interest and skills of all students and employees, ensuring that experiences and knowledge can be passed on from one generation to the next," says Mr Tanchak.

EXPERIENCING OPPORTUNITIES THROUGH NETWORKING

Mr Tanchak says he has appreciated the industry opportunities he has received through Enbridge, such as a securing the project in Peru where he was able to install solar panels in local villages as part of the ‘Energy4Everyone’ initiative.

Because of these opportunities, Mr Tanchak is extremely passionate about young pipeliners joining associations such as YPAC so they too can receive exciting career opportunities.

"I am a strong believer for providing more exciting opportunities for young people in the industry, and if they can learn something new at our events or establish a necessary connection to make that happen, I feel that YPAC’s goal is accomplished," says Mr Tanchak.

Mr Tsang says he believes his extremely important to be involved in industry groups like YPAC as the industry’s future is dependent on the continued interest and drive to make pipelines safer and operate better.

YPPE keeps the pipeline community connected

With social distancing measures continuing across the globe, Young Pipeline Professionals Europe (YPPE) has created a daily webinar series to keep the community connected.

As social distancing measures commenced in mid-March and many individuals found themselves working from home, YPPE saw themselves a challenge to host a technical webinar every day for the duration of the lockdown.

Dubbed the ‘YPF Fest’, the webinar series is open to everyone and has provided the opportunity for pipeliners across the globe to learn something new about the industry. YPPE says every person in the industry is faced with the necessity of adapting to this new situation, the exchange of knowledge is more critical than ever.

So far, 31 presentations have been conducted and attracted more than 230 participants. YPPE Fest has covered a broad range of pipeline topics from EPRS to inline inspection, pre-commissioning to intervention and reliability to technology.

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COVID-19 moves long-time event

For more than 45 years, the Gastech Exhibition and Conference has been at the forefront of the international gas, LNG and energy market – with the 2020 edition being no exception. Gastech was planned for June 2020; however, due to the COVID-19 pandemic, event organisers have rescheduled the event to September to ensure the safety of all participants.

Gastech has become a next generation energy event, hosting major national and international oil companies; integrated energy companies; global utilities; engineering, procurement and construction contractors; shipbuilders; pipeline companies; manufacturers; and technology providers and service companies that play an active role in the global energy value chain.

The conference is renowned for its quality, breadth and expertise, featuring an extensive range of both strategic and technical sessions, which advocate and advance the role for gas and LNG in the global energy mix. gastech2020

Annual congress plans for November

TOGC is an annual congress dedicated to oil and gas transportation via pipelines that includes major discussions surrounding pipeline automation and digitalisation, asset integrity, pipeline construction in challenging conditions, predictive analytics, cost-effectiveness of projects and much more. TOGC was created to exchange the most innovative practices and business approaches, bringing together pipeline operators, oil and gas majors, EPC contractors, solutions and technology providers to discuss the current state of the market and share ideas on the direction of future development.

Despite the COVID-19 pandemic, event organisers remain confident the annual event will be able to take place in November 2020. Currently, more than 100 companies, 200 delegates and 40 exhibitors are anticipated to attend with over 50 speakers and more than 80 business-to-business meetings locked in.

IPOLOCA stays in Prague

The annual IPOLOCA convention, where IPOLOCA members, media partners and guests can gather for business meetings in a culturally stimulating setting, had its 2020 edition cancelled due to COVID-19; however, event organisers say the event will now take place in September 2021 in the same location planned for this year.

The prominent gas event – organised by the Croatian Gas Association, a member of the International Gas Union (IGU), and the Croatian Gas Center Ltd. – will cover 12 thematic sessions, several interactive panel discussions, open general meetings, where speakers will tackle topics involving onshore and offshore pipelines; new technologies, health and safety precautions and the environment.

Event returns for 35th year

The 35th edition of the International Scientific & Expert Meeting of Gas Professionals will take place on 21–23 October, 2020 in Opatija, Croatia. More than 600 delegates, representing more than 200 companies and institutions, 60 respected speakers and 45 exhibitors from more than 20 countries are expected to attend.

The annual event is looking forward to taking place again in the new year. After a successful 2020 edition that took place prior to the COVID-19 outbreak, the annual event is looking forward to taking place again in the new year.

The anticipated event will see engineering management and field operating personnel from more than 200 companies and distribution companies gather to discuss improved operations and integrity management at the exhibition, conference and the numerous networking and social events.

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### UPCOMING EVENTS

- **UESI PIPELINES 2020 VIRTUAL CONFERENCE**
  - 9–12 August 2020
  - Texas, US
  - [www.pipelinesconference.org](http://www.pipelinesconference.org)

- **PIPELINE LEADERSHIP VIRTUAL CONFERENCE**
  - 10–19 November 2020
  - Online
  - [www.plconference.com](http://www.plconference.com)

- **CHINA INTERNATIONAL PIPELINE CONFERENCE AND EXHIBITION**
  - 15–17 September 2020
  - Langfang, China
  - [en.pipechina.net](http://en.pipechina.net)

- **THE INTERNATIONAL PIPELINE RISK MANAGEMENT FORUM**
  - 16–17 November 2020
  - TBC

- **ASME’S ROBOTICS FOR INSPECTION & MAINTENANCE**
  - 9–10 December 2020
  - Texas, US
  - [www.event.asme.org/Robotics](http://www.event.asme.org/Robotics)

- **INTERNATIONAL PIPELINE RISK MANAGEMENT FORUM**
  - 18–19 November 2020
  - Houston, US
  - [www.clarion.org](http://www.clarion.org)

### FEATURES AND DEADLINES

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