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The Year Ahead

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Noia News

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ON THE COVER: Noia's 2018 Industry Achievement Awards recipients Bill Fanning (L), recipient of the Outstanding Contribution Award and Steve Edwards (R), recipient of the Rising Star Award.

The Noia logo is located in the bottom right corner of the page. It features the word "NOIA" in a bold, white, sans-serif font. The letter "O" is stylized with a large, white, circular graphic element that partially encircles it, creating a sense of motion or a stylized '9' shape.



Husky Energy's Argentia graving dock following completion. Photo courtesy of Husky Energy.

Outlook 2018: The Year Ahead

White Rose

Construction activity on the West White Rose Project will continue in 2018. Construction of the living quarters module has begun at the Kiewit Offshore Services facility in Marystown.

Concrete pouring for the concrete base structure (CBS) is scheduled to commence at the purpose-built dry dock in Argentia during Q2, with completion anticipated in 2021. Two concrete batch plants are being assembled at the site and tower cranes will be installed in the next few months.

Activity for topsides construction is also increasing, with construction ramping up at the Kiewit yard in Ingleside, Texas, where they are receiving shipments of steel to be cut for assembly.

A total of 16 bid packages for the project – from steel supply to coatings to safety training – have been awarded, or will be during Q1 2018.

When complete, the project will access resources to the west of the White Rose field, using a fixed drilling rig tied back to the *SeaRose* FPSO. First oil is expected in 2022.

Meanwhile, production and development drilling continues on the *SeaRose* FPSO, with one exploration/delineation well planned for the first half of the year.

A three-week turnaround for *SeaRose* is planned for Q3.

Hebron

Things have quieted just a little on the Hebron platform, after it achieved first oil on November 27. Production is increasingly gradually in a phased approach, and the platform will ramp up to a capacity of 150,000 barrels per day as additional wells are brought online over the next several years. Hebron is expected to provide long-term employment for more than 600 personnel and support long-term economic development opportunities for various local supply and service companies.

Hibernia

After celebrating its 20th anniversary of first oil in 2017, Hibernia is a safe and reliable operation that continues to deliver beyond original production expectations. Hibernia will continue with its drilling and production operations in 2018.

Terra Nova

The *Terra Nova* FPSO was designed for a production life of 20 years. However, the *Terra Nova* Asset Life Extension (ALE) project has been exploring the possibility of extending the asset and field life for 10 or more years. That work continues, according to a

spokesperson for Suncor, the operator. "We anticipate finalizing the ALE project scope and working towards a go/no go decision by early 2019."

The *Terra Nova* drilling program, working with the semi-submersible Transocean Barents, will continue throughout 2018. The work scope includes maintenance of existing wells and drilling of new wells in the *Terra Nova* field.

A turnaround for planned maintenance on the *Terra Nova* FPSO is scheduled for the third quarter of 2018.

Flemish Pass Basin

Statoil has no current plans for further exploration or delineation drilling in the Flemish Pass, and there are no plans at this time to develop its Bay du Nord discovery.

"Statoil continues its work to further prove up a possible commercial development at the Bay du Nord discovery," said a Statoil spokesperson. "However, more work is required to support a project and it is too early to speculate on potential timing."

Effective January 15, the Canada-Newfoundland Offshore Petroleum Board (C-NLOPB) approved Statoil's application to consolidate two exploration licences (ELs) – 1112 and 1124 – into one, EL 1154. According to Statoil, this will allow flexibility as they further evaluate the licence area.

Environmental assessment

The opportunity for the general public and indigenous groups to submit comments to the Canadian Environmental Assessment Agency (CEAA) regarding



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the Newfoundland Orphan Basin Exploration Drilling Project closed February 8, 2018. BP Canada Energy Group is proposing the drilling project, which would have a duration of nine years on exploration licences (ELs) 1145, 1146, 1148 and 1149 in the basin. The project may involve drilling up to 20 exploration wells over the term of the ELs – up to 2026 – with an initial well proposed for drilling in 2019 or 2020, pending regulatory approval. The CEAA stated it would post a notice of its determination by March 5, 2018.

The comment period for two additional proposed drilling projects – one in the Flemish Pass (proposed by Statoil Canada) and one offshore Eastern Newfoundland (proposed by ExxonMobil Canada) – opened January 5 and closed February 12, 2018. CEAA is conducting federal environment assessments for both projects and invited the public and indigenous groups to comment on the potential environmental effects and measures to prevent or mitigate those effects.

On February 8, the federal government announced its long-awaited changes to Canada's environmental assessment process for natural resources projects. Further details on the announcement can be found on page 14 of this issue.

Western Newfoundland

NU-Oil & Gas PLC continues clean-up work on its onshore petroleum well at the Garden Hill site on the Port au Port Peninsula. The UK-based company is working on the first phase of PL220-01(A), which is to clean up a well at the site and remove obstructions that have been preventing it from flowing, in advance of an extended well test.

The company says no serious issues have arisen during the clean-up, only that the work program is taking longer than anticipated and has extended into 2018. So far, salt blockages have been removed and communication from the reservoir to the surface has been re-established, with strong pressure recovery. The company is confident that a well test will begin shortly.

The company says Garden Hill is estimated to contain between 83 and 341 million barrels of oil-in-place.

The unproven but high-potential Old Harry (EL 1153) offshore Western Newfoundland prospect continues to move forward, albeit gradually and not without challenges. The company is currently conducting a Controlled Source Electromagnetic (CSEM) survey on the formation to determine if the formation could potentially hold hydrocarbons. If the results are positive, Corridor will attempt to secure a joint venture partner to drill an exploratory well. EL 1153 is in effect until January 2021.

Ocean Supercluster

On February 15, the federal Minister of Innovation, Science and Economic Development announced that the Ocean Supercluster – a consortium of industry, research and development (R&D) and academic institutions across Atlantic Canada, spearheaded by Petroleum Research Newfoundland and Labrador (PRNL) – would be awarded millions of dollars in federal funding to boost innovation in ocean and digital technologies.

The Ocean Supercluster is one of five innovation hubs that will share in \$950 million in federal funding, which



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GALWAY Business CENTRE



The West White Rose project will consist of a wellhead platform supported by a concrete base structure (CGS). Topsides components will include drilling facilities, wellhead and support services (accommodations, utilities, flare boom, helideck, lifeboat stations). Diagram courtesy of Husky Energy.

will be matched by contributions from the private sector. It will set in motion a flurry of activity across many facets – public, private and not-for-profit – of the local R&D industry.

In the weeks to come, the Ocean Supercluster will work to finalize the terms of a contribution agreement with the federal government. It will formally establish a not-for-profit entity under the guidance of a board of directors drawn from the investing companies and partners.

Working groups and committees will be established to refine, scope, and prioritize objectives going forward. An initial annual business plan and five-year strategy will be put forward at the founding Annual General Meeting by early fall 2018.

Land tenure

On January 31, 2018, the C-NLOPB issued a Call for Nominations (Areas of Interest) for the Eastern Newfoundland Region of the Canada-Newfoundland and Labrador Offshore Area. The Board will consider

all nominations received and decide what sector will be posted for further exploration. According to the two-year cycle of Scheduled Land Tenure, the call will be open until April 2018, with a sector identification announcement in June 2018. The Call for Nominations (Parcels) will be issued in August 2019.

The C-NLOPB's "Timeline for Active Rounds" chart outlines the following additional land tenure activity planned this year:

- Calls for Bids for the mature Jeanne d'Arc and the high activity Eastern Newfoundland regions will open in March, with a November closing date.
- Calls for Nominations (Parcels) will be made for the low activity South Eastern Newfoundland and Labrador South regions in March, with a November closing date.

Maritimes oil & gas activity

In December, the Canada-Nova Scotia Offshore Petroleum Board announced the results of its Call for Bids NS17-1, which included three parcels located east of Cape Breton

Island in a geological region known as the Sydney Basin. However, no bids were received. The parcels are no longer up for bid and will remain as Crown Land.

The next Call for Bids (NS18-1), on a parcel extending west of the Sable Island area, will be issued in the spring of 2018.

In January 2018, the Nova Scotia government released the findings of its Onshore Petroleum Atlas project, which has been in the works since 2013. It is the province's first comprehensive examination of its onshore hydrocarbon potential, using available subsurface geological data and established methods of resource estimation.

The atlas reported potential natural gas reserves with a value between \$20 to \$60 billion (USD), coal bed methane potential between \$4 and \$13 billion, and shale gas potential in the \$13 to \$40 billion range. The government is sharing this information openly with the expectation that technical professionals will reproduce and verify the findings, resulting in a clearer understanding of the province's resource potential.

To summarize, that's a potential value of \$36 billion if you keep to the lowest end of projections and \$113 billion on the high end.

Complicating matters, however, is the province's moratorium on hydraulic fracturing, which would effectively forestall development of much of this resource potential. The province held firm on this ban even after the atlas was released, and after the Guysborough municipality called, on January 22, for the province to relax its ban.

BP is proposing an exploration drilling program on four exploration licences known as the Scotian Basin Exploration Project. Exploration is expected to begin in 2018, subject to comprehensive mitigation measures, as set out in the federal environmental assessment. The field is located approximately 300 kilometers offshore Nova Scotia. The company plans to drill up to seven exploration wells on the licences between 2018 and 2022. In 2014, BP conducted a seismic survey of the lease area.

The Alton Natural Gas Storage project near Stewiacke, Nova Scotia, has encountered stiff opposition from First



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Nations groups who claim that the project will cause environmental damage. The project plans to use river water to dissolve massive underground salt deposits, then use that cavernous space for natural gas storage, enabling the proponent—AltaGas of Alberta—to purchase gas while prices are low – such as during summertime – then sell it to market when prices rise. However, the plan to drain briny water into the Shubenacadie River has been challenged by the Sipekne’katik First Nation, who claim that the elevated salt content will damage the river’s ecosystem. This opposition could potentially delay project development during 2018.

Proponents for the Bear Head LNG project remain optimistic despite the demise of the Energy East pipeline. The company says a pipeline is not an essential source of supply, since liquid natural gas can also move by ship.

Heritage Gas, the natural gas franchise holder in Nova Scotia, has deferred its planned \$8.5 million expansion into Antigonish due to poor economics. The company said it is doing so because fewer customers are expected to convert to natural gas, as well as current market conditions in the area.

Decommissioning work is either underway or imminent on the Sable and Deep Panuke offshore fields, as they approach the end of their producing life. The process begins with plugging and abandonment of subsea wells, followed by removal and disposal of the offshore platforms. ExxonMobil has already initiated this process for the Sable development, and Encana issued an expression of interest for this work in June of 2017.

As Sable production dwindles, attention has turned to what will become of the Maritimes & Northeast Pipeline (M&NP), which carries gas across Nova Scotia to the United States border. In a proposal, M&NP suggested that the direction of flow be reversed, through a “load retention” service that would move more than 68,000 gigajoules per day of natural gas from the American border in St. Stephen, New Brunswick, to the Irving Oil Refinery in Saint John, at a discounted rate in return for a 13-year commitment. However, in a January 23 decision, the National Energy Board denied the application, saying it was premature and that the natural gas market in the Maritimes is facing a period of future uncertainty. ■



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The Rooms Provincial Archives Division, VA 171-8, Section of the Ocean Ranger's bow, 1982 / Lloyd Major: Ocean Ranger Collection

Remembering the Ocean Ranger: Lessons learned

February 15, 1982 is a date etched in the memory of most Newfoundlanders and Labradorians. It is the day that the province, no stranger to tragedy at sea, woke to news of another heartbreaking disaster. The Ocean Ranger, which had been conducting exploratory drilling on the Grand Banks, capsized and sank during a fierce Atlantic storm, taking the lives of all 84 men onboard.

As the causes of the accident began to be uncovered in the days and weeks after the tragedy, work began immediately to ensure that the Ocean Ranger's legacy would be a safer offshore for all in the future.

The 3rd Safety Workshop and Symposium presented in October by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and the Centre for Risk, Integrity and Safety Engineering (C-RISE) in St. John's looked at many aspects of safety and integrity management in harsh environments, including a panel discussion "Remembering the Ocean Ranger." The personal stories of those who experienced the disaster first-hand served as a moving reminder of the effort

needed to ensure that the mistakes of the past are not repeated.

Remembering the tragedy

Peter Noel started his offshore career in the Gulf of Mexico, working for what he described as authoritarian managers who emphasized production above all else. Noel, who later became a senior safety officer with the C-NLOPB (now retired), said that when accidents and injuries did occur, the priority was to "keep the drill bit turning to the right."

Brian Stacey, operations advisor for Suncor Energy, agreed that attitudes in the past were a stark contrast to today's standards.

"The culture was very different. The focus was on time and cost. Injuries were common and there was little to no investigation of incidents," Stacey said.

Noel's career saw him work on several rigs in the Gulf of Mexico and eastern Canada, including the Ocean

Ranger. He rode out a fierce storm onboard another Grand Banks rig just weeks before the disaster, but his decision to return to the Gulf of Mexico to be with his girlfriend meant that he was not onboard the Ocean Ranger on that February night.

"Had I not, I may not be here speaking with you today."

Seven of Noel's colleagues were not as fortunate.

Fate was also not kind to Oral Burry's family. Burry explained that, after many years of struggling with alcohol and leaving his family for several years to work as a welder in Alberta, his father returned to Newfoundland sober and ready to start over with his family. He reunited with his wife and four sons, and the family finally enjoyed some prosperity when he began work as an offshore welder. Burry's parents had been remarried for a year and a half when his father died on the Ocean Ranger. His mother was pregnant with their fifth child.

"My little brother never got to meet my father, but he certainly understands his legacy."

Burry said the lasting impact of the tragedy should never be forgotten, urging seminar attendees to work tirelessly in their efforts to improve safety.

"You have to remember that these were real people with real families and the impacts last a long time," Burry said. "When you are looking at making this industry safer through your work and studies, it's important because it's people. It's important to keep in mind that you're preventing future occurrences like this."

Ray Hawco, former communications director with the Newfoundland Petroleum Directorate, experienced the tragedy from a different perspective. He had the challenging role of trying to help the families who had lost loved ones.

"We were faced with how to try to address the stress of families," Hawco explained. "How could we lessen the stress? There was grief, horror and panic but there had to be some hope."

Unfortunately, there was no good news to come for the families of the crew members. Hawco said the recovery



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LEFT: The Rooms Provincial Archives Division, VA 171-17, Desk onboard the Ocean Ranger, 1982 / Lloyd Major: Ocean Ranger Collection. RIGHT: The Rooms Provincial Archives Division, VA 167-7, Ocean Ranger worksite, exterior shot, 1982 / David Boutcher Memorial Collection.

phase was equally important as there would be some degree of closure for families if bodies were found. In the end, only 22 bodies were recovered.

Max Ruelokke, former vice-president of Hydospace Marine Services and former chair of the C-NLOPB had the grim task of informing the families of the men his company lost, as well as helping to identify the bodies of those recovered. His diving company lost five people on the Ocean Ranger.

"It was a tough task. One employee was the only child of a single parent family," Ruelokke said. "That was my situation as well. It was a difficult conversation."

The aftermath

Ruelokke was involved with the aftermath of the tragedy for many weeks as his diving company was tasked with finding the rig and assessing its condition for the operator, Mobil. They also conducted the underwater survey for the Royal Commission on the Ocean Ranger Marine Disaster in the summer of 1982, collecting the evidence needed to piece together what happened.

Howard Pike, former director of safety and chief safety officer with the C-NLOPB, said the tragedy impacted his career greatly. With no survivors or eye witnesses, he said investigators were left with some technical evidence, as well as assumptions derived from established patterns of behavior and practice.

Pike explained that the Ocean Ranger was the largest semi-submersible mobile offshore drilling unit (MODU) of its day. At 120 metres long, 80 metres wide and 91 metres from the keel to the top of the derrick, it

was rated by the American Bureau of Shipping for unrestricted ocean operations. Prior to the February 14 storm, the Ocean Ranger had weathered over 50 significant storms on two oceans. It was designed for winds up to 155 miles per hour and waves up to 110 feet.

The rig's structure was similar to many other MODUs drilling around the world at the time, with one notable difference, the location of the ballast control room, just 8.5 metres above mean sea level.

Pike said there are many theories of what could have happened to the Ocean Ranger after a portlight was first shattered in the ballast control room during the storm, but the Royal Commission concluded that a sequence of events related to rig design flaws, lack of sound emergency procedures, poor training of the crew and inadequate lifesaving equipment all contributed to the accident and total loss of life.

Lessons learned

The tragedy brought about radical change.

"The deaths of 84 people on the Ocean Ranger marked the beginning of significant changes in the industry and a more robust offshore regulatory regime for Canada, particularly in terms of offshore safety," Pike said.

Stacey said the Ocean Ranger tragedy has resulted in a positive change in offshore safety culture and improved practices that continue to evolve with the industry today.

"We have learned and are continuing to learn from past incidents. The Royal Commission on the Ocean Ranger is a fantastic example of that, and if you look at

the regulatory framework under which we work today in Canada, much of that stems from that inquiry.”

Stacey said that increased communication has also contributed to significant improvements, with information being solicited from everyone to mitigate risk. He said that technology can be used to help manage the volume of data being collected to ensure that information is reaching the workforce in a timely manner.

“Communication and mitigating hazards can take many forms, from an individual observing and moving a hose in a walkway, to design teams eliminating issues like shallow gas that can threaten an entire crew,” Stacey said. “Opening the door for two-way communication has really resulted in a fundamental change in the workplace and it is a much better and safer place to work because of that.”

Pike said communication must always be top of mind.

“The key piece is communication. It’s tough to keep going sometimes but we have to keep working on

it— regulator to operator, operator to workers. When communication breaks down you go backwards in safety.”

The willingness of companies to share information in the interest of improved safety was also noted. Ruelokke highlighted the need for increased use of simulators to allow workers to train for real life situations.

Stacey said there is always more that can be done to mitigate risk, particularly in the area of process safety.

“I see evidence of a lot of change, but I also see the persistence of risk. This conference is talking about how we quantify and measure risk, which I think is fantastic,” Stacey noted.

“We need to support and challenge the workforce to deliver on the safety expectations of working offshore and raise opportunities they identify for further improvements,” Stacey concluded. “The bar is being set higher each day and we need to understand and address all these challenges being faced by the workforce.” ■

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Canadian environmental assessment changes announced

Federal environment minister Catherine McKenna announced long awaited changes to Canadian environmental assessment legislation February 8.

The new proposed legislation, Bill C-69, repeals the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), creates the *Impact Assessment Act* and the *Canadian Energy Regulator Act*, amends the *Navigation Protection Act* and makes “consequential amendments” to 30 other Acts, including the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, the *Hibernia Development Project Act*, the *Canada Oil and Gas Operations Act* and the *Canada Petroleum Resources Act*.

The proposed legislation names a new Impact Assessment Agency (IAA) to replace the Canadian Environmental Assessment Agency. The IAA would become the authority responsible for impact assessments and would consider – along with environmental impacts – social and health aspects, Indigenous peoples, jobs and the economy.

Bill C-69 also replaces the National Energy Board with a new body, the Canadian Energy Regulator (CER), which would regulate pipelines and power lines, as well as facilities, equipment or systems related to offshore renewable energy projects, as well as ensure exploration and exploitation of oil & gas takes place in a safe and secure manner, protecting people, property and the environment.

Noia’s advocacy stance

During the consultation period leading up to the environmental review process overhaul, Noia had strongly advocated for the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) to be designated the Responsible Authority (RA) for these assessments.

“The C-NLOPB’s excellent track record proves it has the expertise and experience required to conduct these assessments and should be designated RA, as it was previously,” said Noia CEO Charlene Johnson. “The C-NLOPB is a reputable, arms length regulator that employs more than 85 experienced policy and operational experts dedicated to ensuring environmental protection. Located in close physical proximity to our offshore operations, they know the industry, have hands-on experience in the province’s harsh offshore environment and are best placed to take the lead role in environmental assessments.”

Noia had also asked the federal government to avoid unnecessary duplication in the new legislation. For example, the C-NLOPB currently conducts Strategic Environmental Assessments (SEAs) using reputable environmental firms. Having another federal agency duplicate this work would only add unnecessary time to an already thorough process performed by experts located right here in our province and closest to the resource.

Noia also requested that duplication with regard to exploration wells be avoided. Under CEAA (2012), exploration wells in the first drilling program in an area set out in one or more exploration licenses required an environmental assessment. Noia believes that the C-NLOPB should be the RA for this, but also that exploration drilling programs that are adjacent to or overlapping each other should not require separate environmental assessments as this is another example of unnecessary duplication.

Further, Noia emphasized the importance of upholding what is clearly stated in the Atlantic Accord around management of the province’s oil & gas industry.

“The Atlantic Accords Acts have enabled the C-NLOPB to effectively regulate the offshore industry for over 30 years.

Section 4 of the Accord Implementation Act specifically states that it takes precedence over any other act of parliament that applies to the offshore area or any regulations under the Act," said Johnson. "The Atlantic Accord gave Newfoundland and Labrador equality with the federal government in the joint management of our resources and we firmly believe this principle should be upheld."

Noia feels that increasing bureaucracy does not enhance environmental protection – it only adds more time and uncertainty and reduces Newfoundland and Labrador's ability to attract global investment. The livelihood of thousands of Newfoundlanders and Labradorians depends on a well-regulated offshore industry that is supported by a robust environmental assessment process and includes appropriate consultation with directly impacted groups.

Significant questions remain unanswered

Noia greeted the announcement with trepidation.

"After a lengthy consultation process we are no further ahead and are left with far more questions than answers," said Charlene Johnson. "The federal government referenced the new Impact Assessment Agency working jointly with the C-NLOPB but how remains to be seen. The biggest question and cause for concern is, does jointly mean equally as it was previously? Let's not forget there is already a joint process in place – it's called the C-NLOPB. The federal government seems to want a joint process with an already joint process."

Johnson also noted that the role of the C-NLOPB with respect to environmental assessments going forward is unclear.


"What will be the role of the C-NLOPB? What will be the role of the new Impact Assessment Agency office? How and when will the new regional assessments be conducted? These are only a few of the many questions we need answers to. The last thing needed now is the unknown and uncertainty this new process brings and the potential slow down in exploration because of added bureaucracy. We must remain globally competitive."

Many questions remain around centralization of the process and the potential for unnecessary duplication and it appears that it will take some time before those answers are forthcoming.

Meanwhile, the federal government has invited the public, Indigenous groups, governments and other interested groups to provide feedback to help inform development of two regulations supporting the proposed Impact Assessment Act. Deadline for comment through the website www.impactassessmentregulations.ca is April 15, 2018.

Johnson noted that Noia will participate fully in this public consultation process and will remain involved in the development of the regulations.

"Our primary goal is the continued exploration of our offshore and we will hold governments' feet to the fire to ensure just that." ■



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Provincial government releases plan to grow the oil & gas industry

Premier Dwight Ball and natural resources minister, Siobhan Coady, were joined by members of the Oil & Gas Industry Development Council February 19 for the release of *Advance 2030*, the government's plan for growth in the provincial oil & gas industry.

As part of *The Way Forward*, government committed to work with industry to position the province globally as a preferred location for oil & gas development. As part of that commitment, an Oil & Gas Industry Development Council was established to create a long-term vision for the province's oil & gas industry, with a focus on promoting development, competitiveness and sustainability.

The council began work in January 2017, with a vision for "Newfoundland and Labrador to be an internationally preferred location for oil & gas exploration and development driven by an innovative, sustainable, local industry that is globally competitive, environmentally responsible and maximizes benefits to the people of the province." *Advance 2030* is the outcome of that work.

Government has accepted the 17 focus areas recommended by the council, which include areas of immediate, mid-term and long-term actions.

By working collaboratively, by 2030 the provincial government envisions:

- Over 100 new exploration wells drilled;
- Multiple basins producing over 650,000 barrels of oil equivalent per day;
- Shortened time from prospectivity to production;
- Direct employment of more than 7,500 people in operations;
- A robust, innovative global supply and service sector;
- Commercial gas production; and

- Renewables and oil & gas integrated in a world-class energy cluster.

"Newfoundland and Labrador has tremendous opportunity in offshore oil & gas," said Minister Siobhan Coady. "By focusing on our competitiveness, driving exploration, ensuring innovation and working together we will achieve the vision we all want of a thriving, growing oil and gas industry."

Noia recommended the formation of an industry council in its 2015 *Redefining Oil* strategy, the association's vision for the continuous development and growth of a competitive, local oil & gas industry. *Redefining Oil* states that government and industry must work together to develop a long-term vision and a strategy for the further development of a competitive and competent local supply and service community and recommended the creation of an industry council to formulate the vision and strategy.

"Advance 2030 – an aggressive, long-term strategy for the industry – is a solid step in the right direction," said Charlene Johnson, Noia CEO. "All stakeholders –

industry and both levels of government – have a role to play, especially in the short-term, to ensure that the great level of interest shown in our industry by global players over the past few years continues. There will no doubt be challenges, but Noia is committed to working with both levels of government and all stakeholders to ensure we are globally competitive and that we maximize development."

The council structure and founding appointees were announced in December 2016. Government specified that the natural resources minister would chair the committee, with Noia and CAPP serving as fixed members. Appointees, chosen through a merit-based appointment process, represented a diverse mix of skills and experience in a variety of areas, such as business development and supply chain management, industry specific skills and training requirements, labour relations, resource development, regulatory environment, gender equity and diversity, and research, development and innovation. The founding members appointed to the council were Raymond Collins (Noia representative), Gisle Stjern (CAPP representative), Robert Crosbie, Gus Doyle, William (Bill) Fanning, Stephanie Hickman, Kimberly Keating, Malcolm Maclean and Sean Power. ■



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C-CORE research team approaching a medium-sized iceberg to begin LIDAR and SONAR sensor measurements to obtain a 3-D profile.

C-CORE's rapid **iceberg profiling**: Threat assessment in under an hour

The east coast Canada offshore oil & gas industry has come a long way in dealing with icebergs. For decades scientists and engineers have worked with industry to optimize design for operations in iceberg-prone environments, reduce risk and avoid production downtime.

Previous management methods

In the 1970s, one of the initial iceberg management solutions during drilling campaigns on the Grand Banks and offshore Labrador was the use of single line tow ropes which tended to slip if bergs were small and seas were high.

In the 1980s, nets were tried with very limited success. Vessel-mounted water cannons were then developed for blasting and pushing smaller icebergs to change their course.

The 1990s saw Hibernia's gravity-base structure incorporate a massive concrete wall with jagged iceberg-deflecting teeth to protect the platform from potential impacts.

The *Terra Nova* and *White Rose* FPSOs' rapid disconnect capabilities followed in the early 2000s, accompanied by aerial surveillance to detect and monitor icebergs, as well as iceberg nets to tow threatening bergs.

Understanding is key

In planning ice management, the Newfoundland and Labrador offshore industry is continually looking for ways to make facilities and operations safer, more environmentally responsible and more cost-effective. The key to this is in better understanding icebergs – where exactly they are, where they're going, and if and when they might drift too near an offshore structure. Pinpoint tracking and forecasting is very difficult, however, due to the vast array of variables, such as current, wind, waves, and equally important, the shape of the iceberg above and below the water.

Think of an iceberg as a massive sailboat, says C-CORE Chief Operating Officer Dr. Freeman Ralph. Like an America's Cup yacht, a subtle change in the shape or volume of the keel and sail can dramatically change the



C-CORE researchers Rob Briggs, Peter McGuire and Jon Bruce having completed their survey of a medium-sized blocky iceberg near Cape Bonavista.

behaviour of the berg moving through the water. Unlike sailboats, however, iceberg shapes are jagged, irregular and ever-changing, creating an extremely complex object that, until now, has been almost impossible to measure.

While oceanographic information has long been available, the industry has lacked detailed, up-to-date profiles of bergs below the waterline, and more importantly, the ability to manage all that data and predict an extended trajectory in a timely manner.

Iceberg management today

Now, C-CORE has an important addition to help industry manage icebergs – new rapid iceberg profiling technology, which complements existing capabilities like PAL's aerial reconnaissance, Rutter's ice radar and C-CORE's own satellite monitoring.

Prior to 2010, iceberg profiles were largely unavailable. Rough estimates of the above water portion were made using digital photographs. The underwater portion was often represented by scaling a generic acorn shape to align with the above water portion. Today, using a light imaging, detection, and ranging (LIDAR) sensor mounted above the waterline and a multibeam SONAR sensor below the waterline, C-CORE can provide industry with technology that gives a much more accurate picture of what a berg looks like both above and below the surface.

"Now we can circle the iceberg with a new sensor suite that gives us a much more accurate 3D profile underwater, far better than the old acorn shape," says Ralph. "Before we analysed the threat using digital photographs to estimate iceberg size and mass. Now we can measure the shape and estimate the volume as well as mass. And do it in a fraction of the time."

The collected profiling data can be run through C-CORE software to anticipate how and where the berg is likely to drift and to analyse the threat. That information can help the offshore ice management team decide if the iceberg warrants towing.



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"Within an hour, we can profile the iceberg, process the data in the computer to generate the 3D shape, predict the drift, assess the threat, develop detailed towing plans and minimize threat and downtime," said Ralph.

How it works

C-CORE's Towing Decision Support Tool kit ingests information about the iceberg profile/mass and metocean conditions such as current, wind and waves, and makes recommendations on the need for tow, rope or net deployment, and towing direction and speed for optimal success.

"With C-CORE's Rapid Iceberg Profiling, C-CORE can then use its iceberg loading software to model a specific berg and determine the potential threat it would pose to a particular installation," said Ralph.

Detailed iceberg profiles available in under one hour

A C-CORE team led by Ice Engineering Director Tony King and including senior ice engineers Rob Briggs, Peter McGuire and research scientist Yahui Wang, ran successful field tests on the new equipment in 2017, and as of the 2018 iceberg season, will introduce the Rapid Iceberg Profiling System, which can deliver a detailed iceberg profile directly to an iceberg management vessel in under one hour.

If the berg is deemed a threat, C-CORE's Rapid Iceberg Profiling and Towing Decision Support systems can be used to recommend the best configuration of equipment to put in the water to safely and effectively carry out the tow.

Specially-designed net

A specially-designed net, developed by Ralph, who grew up in a long-established fishing family in Port de Grave,

Conception Bay, creates a pocket that captures the iceberg like a ball in a baseball glove, making slippage less likely, success more likely and the operation safer overall. One gentle tug can alter the course of the berg to eliminate the threat to an offshore asset. With new knowledge of the iceberg shape, modifying the net configuration to enhance towing is possible.

C-CORE's ultimate goal is to provide a turnkey automated system that can be operated by any trained offshore crew.

The vision of the C-CORE team is to further improve iceberg management and towing efficiencies, including accuracy in drift forecasting. This will improve considerably when more detailed real-time measurements of localized currents are available to input into drift prediction software.

Analysing future threats in deeper waters

Accurate individual iceberg profiles also enable operators to better estimate the loads that could be imposed on an installation if an impact were to occur and help engineers optimize the design of future structures.

C-CORE's iceberg loading software, for example, is used to estimate forces exerted by a particular size/shape of iceberg on any offshore structure.

"With accurate iceberg profiles representing the bergs that typically frequent a particular development area, industry can also design a platform better configured to resist impact from a berg of a particular mass and shape," said Ralph.

It's hard to say what future designs will look like, but one thing is certain, C-CORE's team of engineers will be diligently working alongside industry to make the offshore a safer place. ■



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Noia welcomes CEO Charlene Johnson

Charlene Johnson assumed duties as Noia's Chief Executive Officer (CEO) January 9.

In announcing the appointment November 23, Andrew Bell, chair of Noia's Board of Directors said, "With a promising future ahead for the industry, Charlene will guide Noia through the next exciting phase of exploration and development. Her strategic thinking, proven leadership skills and ability to build collaborative partnerships will make her an excellent ambassador for our members."

Charlene has more than 11 years of experience representing not only her own constituents as a Member of the House of Assembly, but all residents of the province as a cabinet minister for seven of those years. This experience honed her ability to forge and manage complex relationships with a wide range of stakeholders and to represent their best interests. These skills are critical to speaking on behalf of Noia's core membership – the supply and service sector – as well as working with all parties – including operators, the regulator, trade associations, educational institutions and government bodies – to advance timely development of the industry.

"While these have been challenging times in the oil & gas industry, the prospects for our offshore look very bright and with greater collaboration with industry stakeholders, opportunities abound," said Charlene Johnson. "I am both excited and enthusiastic to work with the Noia membership to spearhead that collaboration in order to advance our shared goals. Working together we will be well positioned to face the current and future challenges and poised to take advantage of the many potential opportunities both at home and abroad."

Originally from Gull Island, NL, Charlene has spent the past three-plus years in Brunei. During her time overseas, she completed a Master of Business Administration (with Distinction) from Heriot Watt University, Edinburgh, Scotland. This complements her Bachelor of Science in forest engineering from the University of New Brunswick (2000) and Master of Applied Science in environmental engineering from Memorial University (2001). ■



Noia presents its 2018 Industry Achievement Awards

Noia presented its annual Industry Achievement Awards during a luncheon event at the Delta St. John's Hotel March 9.

Bill Fanning of Kvaerner Canada received the Outstanding Contribution Award and Stephen Edwards of ExxonMobil Canada received the Rising Star Award.

The Outstanding Contribution Award recognizes exemplary individuals who have influenced the development of our local oil & gas industry and who have demonstrated qualities of vision, integrity and leadership through their work and lives. Noia was pleased to award this honour to Bill Fanning, president and country manager for Kvaerner Canada.

Bill is a senior oil & gas executive with over 30 years of international upstream oil & gas experience who has held many management positions throughout his career. For most of the first two decades, he worked with Mobil Oil Canada in western and east coast Canada. He moved on to work with HMDC and the Hibernia Project for 10 years, and since then has served as director of Atlantic XL Inc. (which he also co-founded), president and CEO of Spectrol Group and senior vice president and GM with SNC Lavalin. For the past six years, Bill has held his current position with Kvaerner Canada. Bill has also served six years on Noia's Board of Directors and was a key leader in the development of Noia's *Redefining Oil* strategy. He currently sits on Newfoundland and Labrador's Oil & Gas Industry Development Council.

The Rising Star Award was launched in 2014 to recognize the talents of an impressive individual who is 40 years old or younger and has made remarkable strides in their role in the local oil & gas industry.

This year's recipient is Stephen (Steve) Edwards, engineering & HUC manager for the Hebron project with ExxonMobil Canada. Steve has been working in the oil & gas industry since graduating from Memorial University with a Bachelor of Engineering (electrical) degree in 2004 and achieved his professional engineer designation in 2008. He has been directly involved in the Hebron project since joining the project team in 2010. His work over the past seven years has significantly and directly impacted design and operational decisions taken on the project and contributed to the project's success, culminating in first oil on November 27, 2017.

The event also acknowledged organizations marking 30 or more years as Noia members and contributors to the local oil & gas industry. This year, six companies achieved this milestone:

- Department of Natural Resources
- Oceanex
- Pro-Dive Marine Services
- Puddister Trading Company
- Stantec
- Stewart McKelvey





(L – R) Matthew Hynes, Oceanex; Gerry Puddister, Puddister Trading Company; Bill Fanning, Outstanding Contribution Award recipient; Liam O'Shea, Noia Board President; Charlene Johnson, Noia CEO; Steve Edwards, Rising Star Award recipient; Gordon McIntosh, Department of Natural Resources; Lee Shinkle, Stantec. Missing from photo: Pro-Dive Marine Services



Outstanding Contribution Award recipient Bill Fanning with his family, wife Kim and daughters Lesley and Lindsay

Rising Star Award recipient Steve Edwards and his wife Angela



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Noia Fall Seminar panelists (L-R) Jason Muise, TechnipFMC; Bill Fanning, Kvaerner Canada; Kris Drodge, Transocean.

Prospectivity to prosperity for the province's offshore

Noia's Fall Seminar **NL Offshore: Prospectivity to Prosperity** focused on what makes the oil & gas industry essential to Newfoundland and Labrador and what is needed to remain competitive within the global industry.

Regulatory efficiency and clarity, fiscal attractiveness and the need for all players to work together to make Newfoundland and Labrador competitive within the global oil & gas industry were key themes of the day.

Regulatory clarity

Terry Abel, executive vice president of the Canadian Association of Petroleum Producers (CAPP), told seminar delegates that Newfoundland and Labrador competes with 160 other jurisdictions for onshore and offshore investment. With the global trend toward shorter project cycles for a quicker return on investment, more can be done to incent drilling with regulatory clarity.

"Nobody's going to go through a seven-year process to get a project approved when they can go somewhere else and get through it in a timespan comparative to what it takes to construct something," Abel said. "We need regulatory clarity as soon as possible without adding unnecessary cost burdens to our industry."

Newfoundland and Labrador's federal cabinet minister, Seamus O'Regan, Minister of Veteran's Affairs, who

provided videotaped opening remarks for the seminar, was encouraging regarding the (then) ongoing overhaul of Canadian environmental assessment regulations.

"Newfoundland and Labrador – indeed, Canada – needs a healthy, profitable offshore oil & gas industry," the minister said. "We know this is a highly competitive international oil & gas industry. We know that getting the environmental assessment process right is crucial to the process."

Noia has been actively lobbying the federal government to consider the negative impacts to industry, should some proposed environmental assessment changes proceed. These changes could deter investment, delay development, increase uncertainty and add a layer of duplication to the already robust process without improving environmental oversight. The chair of Noia's Board of Directors, Andrew Bell, told the audience the industry is too important to the province and country to risk hampering future development.

"To the people of NL, stand up and be heard. A big part of this is our future and our kids' future," Bell said. "That (federal government) decision and their future is in our hands. They did it in the eighties, they stepped up and they made a difference and I think it's our turn to do the same. We need to get together and make a difference."

Prospectivity and fiscal attractiveness

Jim Keating, Nalcor Energy's executive vice president for offshore development and corporate services, connected the province's prospectivity with global competitiveness.

"There are structural opportunities and advantages that make us competitive. We need to work together to make sure these opportunities are realized," he said.

With the crowded investment market, operators look at a myriad of factors about where to invest, including cost, licensing terms and regulations, Keating said. No matter how companies weight each aspect, it is always important to have the right geology, the right opportunity, a pathway to development and the ability for companies to earn a fair economic share.

Keating highlighted how Newfoundland and Labrador fares globally in terms of prospectivity and fiscal attractiveness. He said Brazil is the panacea when it comes to both elements, while the United Kingdom has worked to enhance its fiscal attractiveness as prospectivity has declined. Newfoundland and Labrador's 500 – 600 leads and prospects make it very attractive for investors and the focus needs to be on removing the complexity for entry for oil & gas companies and offering attractive fiscal terms.

Abel also voiced an opinion that this province is an attractive place for oil & gas investment.

"Newfoundland and Labrador is highly prospective, but it's underexplored. It can be an attractive place to invest. We all need to work together," he said.

Regulatory efficiency and speed of process

During the panel discussion, "Opportunities to move from prospectivity to prosperity," panelists outlined the need for consistent rig regulations and speeding up development.

Kris Drodge, offshore installation manager for Transocean, focused on some of the outdated occupational health and safety regulations that make Newfoundland and Labrador one of the most challenging jurisdictions for rig entry.

While it is encouraging that everyone is at the table working to move from prescriptive to goal-oriented standards, he said there is still a "hesitant" acceptance of international standards.

"That can hinder acceptance of rigs, the manpower and the cost associated with the intake of installations such as ours," he stated.

Drodge said that Canadian rig intake for a rig with no history is usually 12 months, compared to three to four months in the United States and United Kingdom and four to five months in Norway.

Bill Fanning, president and country manager for Kvaerner Canada, pointed out that Newfoundland and Labrador's industry started about the same time as that of the United Kingdom and Norway, yet for every 100 exploration wells drilled in those countries, Newfoundland has drilled just seven. Further troubling is that approximately 70 per cent of Newfoundland and Labrador's offshore wells were drilled prior to 1998.

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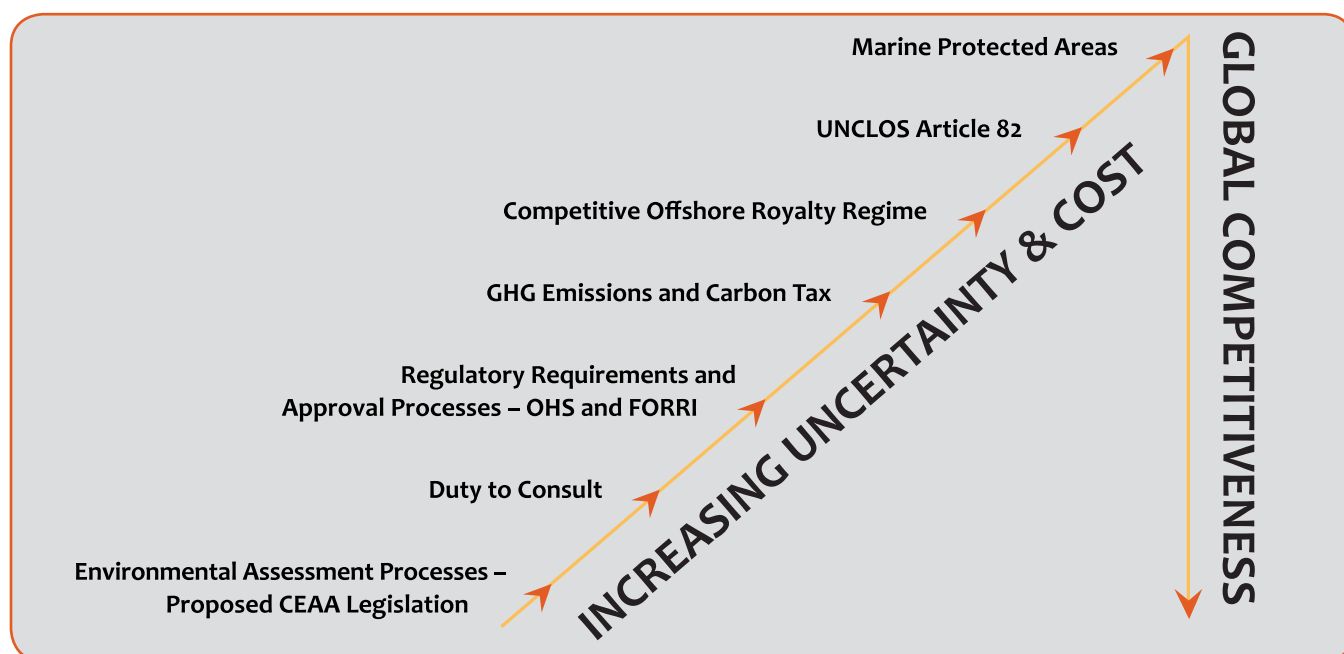
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Regulatory issues that are increasing uncertainty and costs while reducing our global competitiveness.

"Yet the number of development wells per exploration well for each commercial discovery offshore Newfoundland is better than either the U.K. or Norway, which means our prospectivity is very good," Fanning noted.

Fanning pointed to the development of the Liza field in Guyana as an example of how efficiently fields can be developed. Guyana is on track to go from discovery to development in approximately five years.

"We are one of very few frontiers in the world with reservoirs at scale. We have high quality crude and high-quality reservoirs, but if we continue on our current track and drill less than three exploration wells per year, and it takes 20 years to flip the switch on production, we are going to leave a lot of value in the ground."

Jason Muise, managing director for TechnipFMC, discussed the competitive oil & gas landscape and pointed to the need for continued investment in education and training, along with strategic investment in R&D and a pragmatic approach to local benefits.

"We have to recognize the importance of industry and recognize that we have to reduce red tape. And that can be done without compromising safety and integrity," Muise said. "Time is a killer. It's our enemy."

Disruption through innovation

Fanning also highlighted the need to innovate. He pointed to his company's efforts to improve

competitiveness by investing in digitalization and robotization. The result has been the ability to offer different solutions to expand its business, while reducing its cost base for new topsides and jackets.

Fanning said there needs to be a continued recognition of the industry's value.

"We need a strong focus and commitment to our oil & gas industry. We need to be disruptive, but in a fact-based, positive way, to reduce red tape, eliminate waste, standardize, simplify and industrialize our industry. We need a specific program for exploration attraction that incents industry and all stakeholders to drill more wells in a three to five-year period than we've done in the last 20 years."

Muise pointed out that the low oil prices of recent years have driven technology and innovation.

"The subsea industry is being transformational. It's a challenge to keep abreast of technology but technology will drive opportunities," he said.

Carman Mullins, ExxonMobil president and luncheon keynote speaker, echoed this sentiment during her address.

She said disruption and technology can help us move forward and pointed to some local examples, such as the unprecedented realism of locally-made offshore helicopter simulators, the use of hand-held devices by

field technicians to manage operations in real time, as well as the Hebron fibre optic cable that connects the offshore installation to its St. John's shore support in real time. Technologies such as these enhance safety, reliability, efficiency and effectiveness.

"Disruption is all around us. There have been radical changes in the computer age. We've seen great productivity gains," she said.

Industry benefits the economy

Mark Shrimpton, principal of socio-economic services for Stantec, discussed the socio-economic value of the industry to our province.

He outlined some findings of a report he authored for Petroleum Research Newfoundland and Labrador regarding the socio-economic benefits of the petroleum industry in Newfoundland and Labrador from 2011–2014.

Accounting for 34.4 to 37 per cent of the province's GDP in that time period, Shrimpton highlighted many other benefits that flow from the oil & gas industry, including employment, housing starts, infrastructure, education, training and research and development (R&D).

Given the industry's great importance, he said, all stakeholders must work together.

"We have this economic sector that has transformed and will transform and diversify our economy," Shrimpton stated. "But we have to increase efficiency and competitiveness. We need to support further diversification into other markets and jurisdictions, and

we must avoid unwarranted increases in regulatory burden and the costs associated with it that would frustrate the economy going forward."

Keating reiterated the sentiment of Shrimpton and other speakers who highlighted the importance of the industry to Newfoundland and Labrador.

"Nothing comes close to oil & gas in terms of contribution to Newfoundland and Labrador's GDP. It needs the most care and attention that a sector can have," he said. "The opportunities are staggering, the prospectivity is clear. We just need to get at it."

Working together

Carman Mullins suggested that all parties, working cooperatively, would provide valuable results.

"To attract investment away from other destinations it takes us all working together – supply and service communities being efficient and creative, regulations that are fit for purpose, clear and consistent government policies that encourage investment, operators integrating all of these components together to bring a successful development," she said.

Despite the challenges, there was optimism about the future.

"On a positive note, in the last six to nine months I've seen greater industry collaboration to tackle some tough issues facing our industry," said Bill Fanning. "It does make me feel a little more optimistic that we can work together and overcome these challenges, but it will require a sense of urgency as well as bold and decisive leadership." ■

Congratulations to the recipients of the Noia Industry Achievement Awards for their outstanding contributions to the oil and gas industry in Newfoundland and Labrador. We are pleased to be recognized by Noia for our longstanding membership and commitment of over 30 years to this industry, the province and beyond.

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Meet Noia's newest Board members

Noia's membership elected its 2018 Board of Directors at the Annual General Meeting held February 13. The following individuals were elected to their first Board terms.



Ian Arbuckle

Business Development Manager, Rothlochston Subsea

Ian was raised in Bay d'Espoir, Newfoundland and Labrador. He graduated from Memorial University in 2004 with a Bachelor of Mechanical Engineering. That year he began his career with RothLochston (formerly Bowringer Engineering Limited) as a project engineer. Throughout his career, Ian has held many management positions within the company and is currently business development manager.

Ian has participated in growing the company from 25 employees to over 1000 in recent years. His commitment to safety, quality and operational excellence has guided his team to complete some of RothLochston's biggest projects. Ian has an in-depth knowledge of all industry sectors within Newfoundland and Labrador.

As RothLochston's business development manager, Ian has developed a deeper interest in Noia and how the association advocates, facilitates networking and generates opportunities for their members. Having worked for a local company all of his professional career, Ian has seen first-hand the challenges and opportunities that face companies operating in the local oil & gas industry.

His diverse project experience, from interacting with smaller suppliers to major EPC contractors, gives him valuable knowledge that will allow him to engage Noia members and to facilitate discussions on how we can continue to "Redefine Oil".



David Billard

Vice President & General Manager, Aker Solutions Canada

David has over 30 years experience in the engineering and project management field within Newfoundland & Labrador. He started his career with Newfoundland and Labrador Hydro in the transmission and rural operations division. He then joined ShawMont and remained through its Monenco – Agra – AMEC evolution during the building of Bull Arm, followed by involvement with the execution of Hibernia, EPCM assignments with the Terra Nova FPSO, leadership positions with Husky Energy's White Rose project and involvement in the Hebron project as a member of the WorleyParsons topsides team.

David recently spent a five-month stint on the Tengiz-Chevron Oil (TCO) \$39.4 billion project in England. He assumed his current role with Aker Solutions Canada in Q3 2017, where he is responsible for offices in St. John's and Edmonton.

David's experience on both the proponent and service side of the offshore oil & gas business gives him a wide range of insight into the needs of the industry. He

understands the range of products and services required and intimately knows the Newfoundland yards. As a Noia board director, David will work with the association's membership in forecasting future requirements around the extensive drilling programs, subsea developments and potential major projects, so that the support industries in the province are well-positioned to complement the proponents' objectives.



Jason Muise

General Manager – Subsea, TechnipFMC

A native Newfoundlander, Jason completed his undergraduate degree at Memorial University in 1997 and a master's degree in structural engineering from the University of Toronto.

His career with TechnipFMC started in 2000 when he was hired as a project engineer working on the Terra Nova development. Following international placements within TechnipFMC centres in Paris, Aberdeen and Malaysia, Jason was promoted to his current position in July 2012.

Although this is Jason's first term on Noia's Board of Directors, he has been a member of planning committees for several Noia conferences and Fall Seminars and served on Noia's R & D subcommittee. ■

A large red offshore supply vessel, the Atlantic Heron, is shown at sea during sunset or sunrise. The ship has "ATLANTIC HERON" written on its side. The background shows a coastline with hills and a small town.

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Celebrating Puddister Trading Company's 30-year membership

Puddister Trading Company Limited, a long-standing Newfoundland and Labrador business, is this year marking 30 years as a Noia member. Incorporated in 1965, the company maintains its historic involvement in coastal, cargo and passenger shipping around the coast of Newfoundland and Labrador, while continuing to pursue opportunities in the offshore oil & gas industry.

Gerry Puddister, the company's manager of fleet operations, personnel and safety, said the company, started by his father, still has its head office in downtown St. John's. It currently employs 25 – 30 people.

Puddister Trading Company has a wealth of experience as ship owners and in the areas of freighting, chartering, passenger vessels and survey work. It pioneered the ferry service from St. Barbe on the Northern Peninsula to Blanc Sablon, Quebec, and at one time supplied ships for work in the Canadian Arctic. It also began sending vessels to the seal fishery in 1977.

The company currently operates four passenger/ freight vessels, three on the south coast of Newfoundland and one in southern Labrador (*Challenge One*, *Terra Nova*, *Marine Voyager* and *Marine Eagle*). Each service has its unique demands and each vessel has proven to be successful in satisfying the needs of these communities.

A fifth vessel, *Marine Coaster III*, is available for contract work and for use as a spare when another member of the fleet is in need of refit work. The *Gesmer I*, very active in the offshore from 2000-2012, is currently for sale.



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INSIDE NOIA | Celebrating Puddister Trading Company's 30-year membership

Puddister Trading's sister company, Seaguard Offshore Services, was created in 2000 to serve the offshore oil & gas industry. From 2000-2012 the *Gesmer I* provided chase guard support services for many seismic programs. This work involved accompanying seismic vessels and coordinating between the seismic and fishing activity in the area, as well as providing emergency personnel transfer.

During this time, the *Gesmer I* was chartered by companies such as Schlumberger, Western Geco, PGS and TGS for seismic programs offshore Nova Scotia. It also worked in several basins offshore Newfoundland for Veritas/ Chevron Texaco, GSI/ Connoco Phillips, CGGVeritas, GSI, PGS and WesternGeco.

Puddister Trading has also conducted offshore survey work and provided standby vessels and crewing for the oil & gas sector. For example, the *Gesmer 1* operated as a survey vessel for Canadian Seabed Research Ltd. for two projects in 2005 and 2008 and has also undertaken survey work for Fugro.

"We're able to provide any type of offshore service," Puddister stated. "We also have the ability to manage any type of marine operation. So if a company comes here with any kind of a ship and they need marine managers or operators, we can do it."

Puddister Trading Company Limited further serves the offshore through its subsidiary company, Puddister Engineering Limited, which refits and repairs ships. This company includes a fully-equipped machine shop with qualified welders, electricians and machinists. It employs shore engineers to do refits afloat.

Puddister said joining Noia 30 years ago made sense for a local business like his, looking for opportunities in the oil & gas industry.

"You need to have representation. You need to have some kind of organization that creates a common ground to create opportunities," he said.

He also believes that advocating for local involvement in the industry is more important now than ever, given the changing face of the industry.

"There has been a movement by members who are Newfoundland and Labrador owned and operated businesses to create more opportunities for home grown companies, with history here, with head offices here, in the spirit of the Atlantic Accord. We want to see that continue."

Puddister said that local companies such as his have a lot to offer. With a long history of offshore performance and an impeccable safety record, he said they will continue to seek opportunities in the oil & gas industry while maintaining their coastal ferry service.

"Noia can be a springboard for discussions with the oil companies to get into exactly what their needs are and seek out what kind of vessels they require and who we can partner with," he stated. "We're quite happy to work with any company to meet their needs, as we've done in the past." ■



Stantec marks 30 years of Noia membership

Stantec is being recognized this year for its 30 years as a Noia member.

With approximately 22,000 employees in 23 countries, working in over 400 locations across six continents, Stantec's global services include engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, construction services, project management and project economics. Services range from initial project concept and planning through to design, construction, commissioning, maintenance, decommissioning and remediation.

Lee Shinkle, business development leader for Stantec in St. John's, said that being a large, multi-faceted consulting company means that when they go looking for an answer to a question or challenge, there is always someone within the company who is a subject matter expert in that area. He said each region focuses on the services pertinent to the area.

In Newfoundland and Labrador, and Atlantic Canada, the oil & gas industry, mining sector and government services, particularly infrastructure, are front and center.

Stantec's association with Noia came through the acquisition of a well-established environmental consulting firm, Jacques Whitford, in 2009. Seeing the many opportunities in the province, Stantec continued to grow its Newfoundland and Labrador operation to become a full service Stantec office. It subsequently purchased QuadraTec, a buildings, engineering,

mechanical and electrical engineering company, as well as the architectural firm, PHB Group. Over time, the enterprises (with the exception of its concrete testing lab) came together under one roof, in a state-of-the art facility on Kelsey Drive in St. John's.

"Now we're roughly 120-150 people in the province with offices in St. John's, Corner Brook and Happy Valley – Goose Bay. We also have two Aboriginal relationships, one with the Innu and one with the Inuit," Shinkle explained.

Shinkle said the company's diverse service offerings mean that it has had a hand in just about all of the province's major projects. He said Stantec has been involved in the vast majority of environmental assessments, socio-economic assessments and overall permitting programs in the province, largely in a management role working with other contractors. Most of the company's offshore engineering work is in the area of heating, ventilation and cooling (HVAC), while on the geotechnical materials side, Stantec is a leader in concrete mix design and concrete testing.

"We are recognized as being at the top of this game in concrete mix design globally because of the work we've done on Hibernia and Hebron. We're quite proud of that."

Stantec has also been involved in environmental effects monitoring of subsurface and air quality since the Hibernia project came onstream.

"We are well ensconced here. Stantec is one of the major players and we've been involved in the offshore oil & gas industry since the very beginning, since the drilling days in both environmental services and geotechnical engineering, and then subsequently in offshore oil & gas engineering."

Stantec has also been involved in several prominent architecture and building engineering projects in St. John's, including The Rooms, the St. John's Convention Centre, 351 Water Street, Memorial University's Faculty of Medicine, as well as engineering services for the new Health Sciences Centre Nuclear and Molecular Medicine facility. The company has also completed many high-end interior design projects for a broad range of operators and contractors.

Shinkle said that 351 Water Street, certified LEED® Gold, has won many awards for its innovative design and green solutions, which include the first seawater heating and cooling system in the province.

"The client has reported that they are saving a minimum of 30 per cent on their heating and cooling costs based

on the innovative systems our engineers employed in the design. So we're very proud of it."

Shinkle said that the company has been very involved with Noia over the years. Senior employees have served as members of Noia's Board of Directors and committees, have been speakers at Noia conferences and participants in Noia educational and networking events. He added that Noia's Daily Barrel – its daily e-newsletter – is a valuable resource for companies wanting to keep abreast of contract opportunities.

"Noia acts as a good meeting place. You take away from Noia what you put into it," Shinkle stated. "We're active in Noia and we get a lot out of Noia."

Shinkle said Stantec plans to continue its involvement with all the industries that are growing in the region. He said the company takes pride in a long history of being part of the communities it serves.

"We live in the communities we work in," Shinkle said. "We're generalists, we're diversified, we're here and we will continue to be here." "■



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Hebron, Newfoundland and Labrador's fourth offshore development, produced first oil on November 27, 2017, a month ahead of schedule. The platform departed its deepwater construction site in Bull Arm June 3 and was installed at its offshore location June 14. Drilling activities began over the summer and its production licence was issued by the C-NLOPB August 28. At peak, in September 2014, the Hebron project employed more than 7500 people, with over 5000 at Bull Arm. Forty million hours of work were completed with no lost-time injuries.



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The Port of St. John's is expanding to meet the emerging needs of the offshore industry.

The Port of St. John's plays a critical role in ensuring the ongoing support of the offshore energy supply and service industry. There are great opportunities ahead and the potential of future offshore energy projects remains promising. The Port of St. John's and its cluster of businesses and people that operate here are ready for new developments. Port infrastructure is expanding to improve the overall berthing capacity of the entire port, thereby improving efficiency and operational capability to meet current and future industry needs.



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