Petroleum news

page 2 88 Energy refines Icewine prospects, says new 3-D providing new insights

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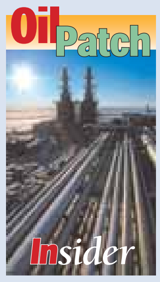
Conoco OKs GMT-2 project; Hilcorp Anchor Point lease proposed



NORTH SLOPE LEASING NEWS: A ConocoPhillips Securities and Exchange Commission filing the morning of Oct. 25, said the company has sanctioned the Greater Mooses Tooth-2 development in the northeastern National Petroleum Reserve-Alaska, noting GMT-2 leverages existing infrastructure to lower its cost of supply and minimize the environmental footprint. GMT-1 recently started producing oil on Oct. 5. Both are Alpine satellites.

An Oct. 16, Bureau of Land Management joint record of decision with the U.S. Army Corps of Engineers for GMT-2

see **INSIDER** *page 19*

BOEM issues ROD for Hilcorp's Liberty project in federal waters

It's been decades coming, but development of the Liberty discovery in federal waters off the North Slope now has a record of decision from the U.S. Department of Interior's Bureau of Ocean Energy Management.

Oil was discovered by Shell in the area between 1982 and 1987, and BP confirmed the existence of the field with its Liberty No. 1 exploration well in 1997.

But development has been a challenge.

BP proposed development from an artificial gravel island in 1998, then changed the plan to one using ultra-extended reach drilling, but technical issues — and the Deepwater Horizon disaster — resulted in cancellation of the project in 2012.

When Hilcorp took over a number of BP's North Slope

see **LIBERTY DECISION** *page 15*

Hilcorp has put new Cook Inlet subsea pipelines into operation

Hilcorp Alaska's new oil and gas transportation arrangements, enabling the movement of oil by pipeline west to east under Cook Inlet, have gone into operation. The new pipeline arrangements come as a result of what Hilcorp calls its cross-inlet pipeline project, a project that has also involved extending the Tyonek subsea gas pipeline. According to Regulatory Commission of Alaska filings, gas transportation services on the modified Tyonek gas line began on Oct. 3, thus enabling the shipment of gas across the inlet through that line. Another filing said that oil transportation services under the inlet on the oil line began on Oct. 16.

Initial oil actually began to flow east to west, using the new pipeline arrangements, on Oct. 18, Hilcorp has told Petroleum

see **INLET PIPELINES** *page 18*

Mental Health Trust asks more time from AOGCC to P&A Northern Dancer

On Oct. 17 the Alaska Oil and Gas Conservation Commission held a public hearing for the reconsideration of a commission notice of violation regarding the need to plug and abandon the Northern Dancer exploration well. The well is in Alaska Mental Health Trust land near Big Lake in the Matanuska-Susitna Borough.

Canadian company Storm Cat Energy drilled the Northern Dancer well in 2006 and at that time told Petroleum News that it had "found gas throughout the section." But the well was never tested and Storm Cat ultimately became bankrupt without plugging and abandoning the well — responsibility for plugging and abandonment reverted to the Mental Health

see **NORTHERN DANCER** *page 14*

GOVERNMENT

A new bond proposal

AOGCC issues revised version of proposed new regulations for well bonding

By ALAN BAILEY
Petroleum News

Following a public hearing over proposed new regulations for the surety bonding of oil and gas wells in Alaska, the Alaska Oil and Gas Conservation Commission has published a revised version of its proposal. The bonding is designed to ensure that a well operator has the financial resources to plug and abandon a defunct well.

The new proposal sets a minimum bond level of $400,000 per well for one to 10 wells; a $6 million bond for 11 to 40 wells; a $10 million bond for 41 to 100 wells; a $20 million bond for 100 to 1,000 wells; and a $30 million bond for more than 1,000 wells.

At the request of the well operator, the commission can increase or decrease the bonding amount, if there is evidence that warrants an adjustment.

At the request of the well operator, the commission can increase or decrease the bonding amount, if there is evidence that warrants an adjustment. And an operator with an existing bond will be allowed to increase the amount of this bond to the new required level in four installments over a period of three years.

The previous version proposed by AOGCC had set a minimum bond of $500,000 for one or two

see **BOND PROPOSAL** *page 17*

UTILITIES

Taking next steps

Railbelt utilities have assembled team to start process of forming RRC

By ALAN BAILEY
Petroleum News

The six Alaska Railbelt electricity utilities are taking the first steps towards the formation of a Railbelt Reliability Council, a governing body for the Railbelt electrical system. The RRC forms a critical component of moves to establish a more unified approach to the management and operation of the system, which is owned and operated by six independent utilities.

During an Oct. 24 public meeting of the Regulatory Commission of Alaska utility executives said that the RRC would adopt and enforce reliability and operational standards for the system. The RRC would also adopt and enforce system-

The commission has been conducting a series of public meetings, to determine the status of voluntary efforts by the utilities to address the unification issues.

wide interconnection protocols for the grid; would conduct system-wide integrated resource planning; and would evaluate the use of security constrained economic dispatch of power generation in the system, the executives said.

RCA recommendations

Tasked by the Alaska Legislature to conduct a

see **RELIABILITY COUNCIL** *page 12*

NATURAL GAS

One done, more to come

LNG Canada reinforces hope that hurdles can be cleared for more projects to coasts

By GARY PARK
For Petroleum News

Final approval of the massive LNG Canada project has spread an upbeat mood through the rest of the Pacific and Atlantic LNG sector.

Final approval by the Shell-led consortium and its four Asian partners to proceed with the C$40 billion LNG Canada plan to ship up to 3.4 billion cubic feet of LNG across the Pacific by the mid-2020s has, in the view of pro-industry leaders, set the stage for the next investment cycle.

Two more ventures are on the verge of proceeding in the next six months — Pieridae Energy's C$10 billion Goldboro project in Nova Scotia and Woodfibre's C$1.6 billion operation in British Columbia

Energy consulting firm IHS Markit said the decision by Shell and its partners could be the "starting gun" for other project backers to go ahead.

Pieridae Chief Executive Officer Alfred Sorenson told the Financial Post his company expects to close its merger with Calgary-based natural gas producer Ikkuma Resources within the next month and make a final investment decision "shortly after" allowing the first export of gas from Western Canada to Europe.

He said LNG Canada has restored some confidence in the marketplace "giving our project more credibility. If the economics work for one, they

see **LNG CANADA** *page 11*

● EXPLORATION & PRODUCTION

88 Energy refining Icewine prospects

Processing of new 3-D seismic is providing new insights into the locations of rock bodies with reservoir potential, company says

By ALAN BAILEY
Petroleum News

Australia-based company 88 Energy has issued a report, saying that the company is in the final stages of interpreting new 3-D seismic data for its Icewine project on the North Slope south of Prudhoe Bay. The company says the processing and interpretation of the seismic data are providing new insights into the locations within potential reservoir strata of discrete "geobodies" that appear to have favorable oil reservoir characteristics.

Prospects and leads

Within the Icewine project area, which straddles the Dalton Highway, the company had already identified a series of prospects and leads, a couple of which are known from previous drilling to hold oil. The refinement of prospect delineation using the seismic data is now enabling the company to adjust its estimates of potential oil resources in the prospects. The prospects lie in a range of rock formations, including the upper Cretaceous Schrader Bluff formation, the upper Cretaceous Seabee formation and the lower Cretaceous Torok formation.

The company says that it is now completing further evaluation of the results, prior to the launch of a farm-out process in early 2019, to seek funding for additional work.

The report says that results from rock trending models and the seismic processing suggest that the Torok may have better than expected reservoir quality — one concern has been the potential degradation of reservoir quality in the more deeply buried rocks, including the Torok.

As a consequence of the insights obtained from the seismic data 88 Energy has increased its estimate of oil resources in the Icewine project area to a mean of 2,896 million barrels.

Icewine wells

Burgundy Xploration is partnering with 88 Energy in the Icewine project. And Accumulate Energy Alaska is 88 Energy's operating company in Alaska. The partnership, which is pursuing both conventional and unconventional oil resources, drilled the Icewine 1 well in 2015 and the Icewine 2 well in 2017, with both wells being drilled from the Franklin Bluff gravel pad off the Dalton Highway.

Rock core from the Icewine 1 well demonstrated a "liquids rich resource play" in the HRZ, a prolific North Slope oil source rock, 88 Energy said. Icewine 2, designed as a follow-up appraisal well, was fracture stimulated and flow tested. The company says that it is now completing further evaluation of the results, prior to the launch of a farm-out process in early 2019, to seek funding for additional work.

The western blocks

The company is also participating in a drilling project

see ICEWINE PROSPECTS page 3

contents

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EXPLORATION & PRODUCTION

National drilling rig count up 4 to 1,067

The number of rigs drilling for oil and natural gas in the U.S. was up by four the week ending Oct. 19 to 1,067.

At this time last year there were 913 active rigs.

Houston oilfield services company Baker Hughes reported that 873 rigs targeted oil (up by four from the previous week) and 194 targeted natural gas (up one). There were no rigs listed as miscellaneous (down one).

Among major oil and gas producing states, Texas was up eight rigs and California was up two.

Alaska and New Mexico were each down two rigs; Oklahoma and Pennsylvania were each down one.

Colorado, Louisiana, North Dakota and Wyoming were unchanged.

Baker Hughes shows Alaska with three active rigs, down one from a year ago.

The U.S. rig count peaked at 4,530 in 1981. It bottomed out in May 2016 at 404.

—PETROLEUM NEWS

State to release exploration well data

The Alaska Department of Natural Resources, Division of Oil and Gas, said in an Oct. 22 statement that within 30 days it will release the following exploration well data and information:

Anadarko Petroleum Corp., Jacob's Ladder C-A, section 11-township 8 north-range 17 east, Umiat Meridian;

Repsol E&P USA, Kachemach 1, section 31-township 8N-range 8E, UM;

Brooks Range Petroleum, Mustang 1, section 1-2, township 10N-range 7E, UM;

Brooks Range Petroleum, North Tarn 1, section 2-township 10N-range 7E, UM;

Brooks Range Petroleum, North Tarn 1A, section 2-township 10N-range 7E, UM:

BP Alaska Exploration Inc., Pesado 1, section 18-township 13N-range 10E, UM;

BP Alaska Exploration Inc., Pesado 1A, section 18-township 13N-range 10E, UM;

Repsol E&P USA, Qugruk 6, section 24-25, township 13N-range 5E, UM; and

Repsol E&P USA, Qugruk 6PH, section 25-township 13N-range 5E, UM.

The release is available on the division's website at http://dog.dnr.alaska.gov/Home/Newsroom; accompanying maps show the location of the wells.

—PETROLEUM NEWS

continued from page 2

ICEWINE PROSPECTS

planned for the coming winter in what are termed the "western blocks," a set of four leases close to the Pikka/Horseshoe or Narwhal trend, where there have been major oil discoveries in the Nanushuk formation. 88 Energy says that it and its partners, Otto Energy Ltd. and Red Emperor Resources, are funding the well and that the companies have posted a $3 million performance bond for the project with the state of Alaska.

Yukon Gold

As previously reported in Petroleum News, Great Bear Petroleum Operating LLC, holder of a 10 percent interest in the leases, has filed a plan of operations for drilling the Winx No.1 well, targeting a Nanushuk prospect in the leases.

88 Energy has also acquired a 100 percent interest in 14,194 acres of leases, referred to as Yukon Gold, on state land adjacent the border of the Arctic National Wildlife Refuge. The company is evaluating the findings from an historic discovery well, the Yukon Gold No. 1, in the area, 88 Energy said. The company acquired 3-D seismic on the leases in early 2018 and expects results from this in the fourth quarter of this year. ●

Contact Alan Bailey at abailey@petroleumnews.com

GOVERNMENT

Suit filed over shutdown during pipeline protest

By BLAKE NICHOLSON

Associated Press

Two members of the Standing Rock Sioux tribe and a reservation priest are suing over a five-month shutdown of a North Dakota highway during protests against the Dakota Access oil pipeline, saying the closure violated their and others' constitutional rights.

The lawsuit filed Oct. 19 in U.S. District Court seeks unspecified monetary damages from the state, Morton County and TigerSwan, a North Carolina-based company that oversaw private security for the Texas-based pipeline developer, Energy Transfer Partners. It also asks the judge to implement stricter rules for road closures in such instances and seeks class-action status, meaning it would apply to all affected people if granted.

Protests against the pipeline that moves North Dakota oil to Illinois drew thousands of people to southern North Dakota during construction in 2016 and 2017. ETP maintains that the pipeline, which began operating in June 2017, is safe, but opponents fear it will harm the environment. They camped just north of the Standing Rock reservation and many clashed with police, resulting in 761 arrests during a six-month span.

Highway blocked in 2016

State officials blocked off a stretch of state Highway 1806 just north of the camps in October 2016 after a bridge was damaged by fires during one clash. The bridge was deemed structurally sound in January 2017, but authorities didn't reopen it for two more months, after initial repairs were completed and the protest camps were shut down.

The highway is the main route between the reservation and Bismarck, the nearest large city. Plaintiffs allege that the shutdown was targeted directly at them and did not apply to pipeline workers.

"Defendants intentionally made travel to and from the Standing Rock Sioux Reservation and the camps near the Cannonball River as unnecessarily unpleasant and dangerous as possible so as to deter (pipeline opponents), with whom they disagree, from lawfully pursuing their constitutional rights to travel, assemble, pray and express their viewpoints," plaintiffs' attorney Noah Smith-Drelich said in court documents.

Officials with the state attorney general's office and the governor's office said they hadn't yet been served with the lawsuit and weren't aware of it. Morton County declined to comment through its spokeswoman, citing the open case.

TigerSwan spokesman Wesley Fricks said the lawsuit's claims that the company helped enforce the highway closure are "baseless" because "only the state and local authorities have the authority to close a road."

"We further note the fact that Highway 1806 was first closed by the protesters themselves when they illegally constructed a blockade across the road," he said.

The three plaintiffs are reservation businesswoman Cissy Thunderhawk, pipeline opponent Waste'Win Young and the Rev. John Floberg, priest at St. James' Episcopal Church in Cannon Ball. They're suing Morton County, its sheriff, the state's governor and the governor at the time of the shutdown, and the heads of the state Transportation Department and the Highway Patrol. ●

GOVERNMENT

Dakota Access protester sentenced

The fourth of seven people charged with federal crimes stemming from protests against the Dakota Access oil pipeline in North Dakota has been sentenced to a year and four months in prison. Twenty-two-year-old Dion Ortiz, who is from the San Felipe Pueblo reservation in New Mexico, was indicted with several others in February 2017 for a fire set on a country road bridge in October 2016.

The Bismarck Tribune reports that Ortiz reached a deal with prosecutors under which he pleaded guilty to civil disorder and the government dropped a more serious charge of using fire to commit a federal felony.

Ortiz was given credit for time served and could be released from prison in April.

—ASSOCIATED PRESS

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Kay Cashman	PUBLISHER & FOUNDER
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Judy Patrick Photography	CONTRACT PHOTOGRAPHER
Forrest Crane	CONTRACT PHOTOGRAPHER
Renee Garbutt	CIRCULATION MANAGER

ADDRESS
P.O. Box 231647
Anchorage, AK 99523-1647

NEWS
907.522.9469
publisher@petroleumnews.com

CIRCULATION
907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

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● EXPLORATION & PRODUCTION

Conoco: metering for GMT2 same as GMT1

Greater Mooses Tooth crude processed at Alpine Central Facility; Arctic Slope Regional Corp. supports plan, as does state, BLM

By KRISTEN NELSON
Petroleum News

Metering for production from GMT2 at Greater Mooses Tooth in the National Petroleum Reserve-Alaska would be based on that previously approved for GMT1, representatives of ConocoPhillips Alaska told the Alaska Oil and Gas Conservation Commission at an Oct. 23 hearing.

The company's request for a waiver from AOGCC metering requirements is in connection with the company's proposal to develop GMT2, as it developed GMT1, without standalone processing facilities, instead sending crude oil to Alpine Central Facility for processing into sales grade crude. Because of that, final custody transfer metering for GMT2 would be at the Colville River unit, rather than at Greater Mooses Tooth.

ConocoPhillips also requested approval of the conceptual design of the metering system.

Brian Viator, ConocoPhillips' project integration manager for the Greater Mooses Tooth unit, said the application to AOGCC is the same as that approved by the commission for GMT1. He said there is a concurrent application with the federal Bureau of Land Management, the NPR-A land manager. Viator said royalty interest owners are affected because of the production split between the Colville River unit and GMT2. The Arctic Slope Regional Corp. provided a letter of support, as did the Alaska Department of Natural Resources, Division of Oil and Gas.

Viator said both the Alaska Department of Revenue and BLM are expected to provide letters of support but said those letters had not yet been obtained. Commission Chair Hollis French said the record would be held open for receipt of the BLM and Department of Revenue letters.

Any effect on state royalty through the CRU allocation methodology "will be minimal and will be offset by the benefit of having more gas delivery to the CRU from GMT2 for enhanced oil recovery efficiency," Imm said.

GMT1

Viator said GMT1 was not economic with a standalone processing facility and said processing crude from GMT1 at the Alpine facilities resulted in a smaller footprint and made GMT1 economic.

GMT1 came online Oct. 5, Viator said in response to a question from French, and is still ramping up at 7,000-8,000 barrels per day and expected to reach 20,000-25,000 bpd early next year.

Jodie Hosak, ConocoPhillips's instrumental and flow measurement technical authority, said there had been some early commissioning issues with the metering system at GMT1, but that it is now functioning.

In overheads for the presentation the company described the issue as "measurement of live fluids for custody transfer." Three-phase separation and measurement occur at GMT1 — the same system proposed for GMT2 — and then fluids are recombined for shipment to Alpine, where final separation of sales oil, natural gas and water occurs.

GMT2

GMT2 will be the second development at the Greater Mooses Tooth unit, Viator told the commission, the last of the original Alpine satellite developments, originally designated as drill site 7. With the joint record of decision received earlier in October, project sanction is expected in the fourth quarter, he said, with development over three construction seasons, beginning in the fourth quarter of this year and concluding in the fourth quarter of 2021. Drilling is scheduled to begin in the second quarter of 2021, with first oil in December 2021.

Viator said the proposed measurement design is the same as approved for GMT1 and consistent with the 2012 NPR-A integrated activity plan environmental impact statement which called for sharing facilities with existing developments to minimize the project footprint.

Asked by French about the ability of the Alpine Central Facility to handle crude from both GMT1 and GMT2, Viator said GMT2 production would cause some backout of Colville River unit volumes when it comes online.

He noted that ConocoPhillips was not requesting specific metering equipment approval now. That application would be submitted a year before startup to allow time for approval.

Under the proposal, oil, gas and water would be measured at the GMT2 three-phase separator, then recombined and sent to the Alpine Central Facility at the Colville River unit for processing along with GMT1 production.

If standalone processing facilities were required at GMT2, Viator said, there would be a four-year delay for reengineering, an increase of some $800 million in production facility costs and $40 million per year in annual operating costs. In response to a question from Commissioner Cathy Foerster, Viator said that the project wouldn't make the cut for corporate approval under those conditions.

ASRC, division

In a letter to the commission supporting ConocoPhillips' proposal for metering at Greater Mooses Tooth, Teresa Imm, executive vice president, regional and resource development for Arctic Slope Regional Corp., told the commission that ASRC urges AOGCC approval of ConocoPhillips' proposal. ASRC is a mineral owner at GMT2, Imm said, "and has considerable economic interest in the GMT2 development."

She said ASRC has been involved in technical discussions on BLM's metering requirements for GMT1, has continued to participate in technical discussions on GMT2 and feels ConocoPhillips "has adequately presented its justification and methodology to BLM."

Imm said ASRC understands the allocation proposed is different from that at the Colville River unit and is "comfortable with the high-pressure separator and

see GMT2 METERING page 6

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GMT2 METERING

continuous metering approach proposed from GMT2," and the fact that under the proposal, the recombined fluids would have an effective allocation factor of 1.0 at the Colville lease automatic custody transfer — the LACT meter.

Allocation factor

When it approved GMT1 metering in October 2016, the commission said an allocation factor of 1.0 for GMT1 assumes that the GMT1 metering system is 100 percent accurate. "Any error in that system would be applied to CRU production," the commission said, resulting in one unit over reporting production while the other unit under reported.

Imm said in the ASRC letter that production measurements for Colville wells "are much less accurate as they are based on monthly well tests to allocate the Alpine Central Facility LACT meter volumes back to individual wells."

ASRC receives royalty from Colville River production and will receive royalty from GMT2, she said, while the state receives royalty from Colville production and is entitled to 50 percent of federal royalty from GMT2.

Any effect on state royalty through the CRU allocation methodology "will be minimal and will be offset by the benefit of having more gas delivery to the CRU from GMT2 for enhanced oil recovery efficiency," Imm said.

Division of Oil and Gas Director Chantal Walsh said the division considers the metering tools and procedures proposed by ConocoPhillips "to be sufficient to accurately differentiate between production originating from GMT2 and production originating from the Colville River Unit for royalty accounting and reservoir surveillance purposes," and does not object to the proposed metering system. ●

Contact Kristen Nelson at knelson@petroleumnews.com

EXPLORATION & PRODUCTION

BP starts Thunder Horse expansion

Energy giant BP says it's added the equivalent of 30,000 barrels of oil a day to production at its largest Gulf of Mexico platform, called Thunder Horse.

A news release Oct. 18 from Houston-based BP United States says that brings the field's gross output to more than 200,000 barrels of oil equivalent a day. The field is about 150 miles southeast of New Orleans, in more than 6,000 feet of water.

BP says the expansion started four months ahead of schedule and 15 percent under budget.

The company did not give the cost of adding a new subsea manifold and two wells tied into existing lines.

BP operates the platform and has a 75 percent working interest in it. ExxonMobil holds the other 25 percent.

—ASSOCIATED PRESS

$150M processing plant to start operating

Oasis Midstream Partners has completed a natural gas processing plant that will help reduce the wasteful flaring of excess natural gas in North Dakota's Bakken oil patch.

The $150 million Oasis Wild Basin II plant near Watford City will add 200 million cubic feet per day of natural gas processing capacity. The first major plant completed in recent years in the Bakken is to begin operating in November.

Oasis began operating the first Wild Basin plant in 2016 to process 80 million cubic feet of gas per day.

"We figured out pretty quickly we were going to fill up that plant pretty fast," CEO Taylor Reid told The Bismarck Tribune.

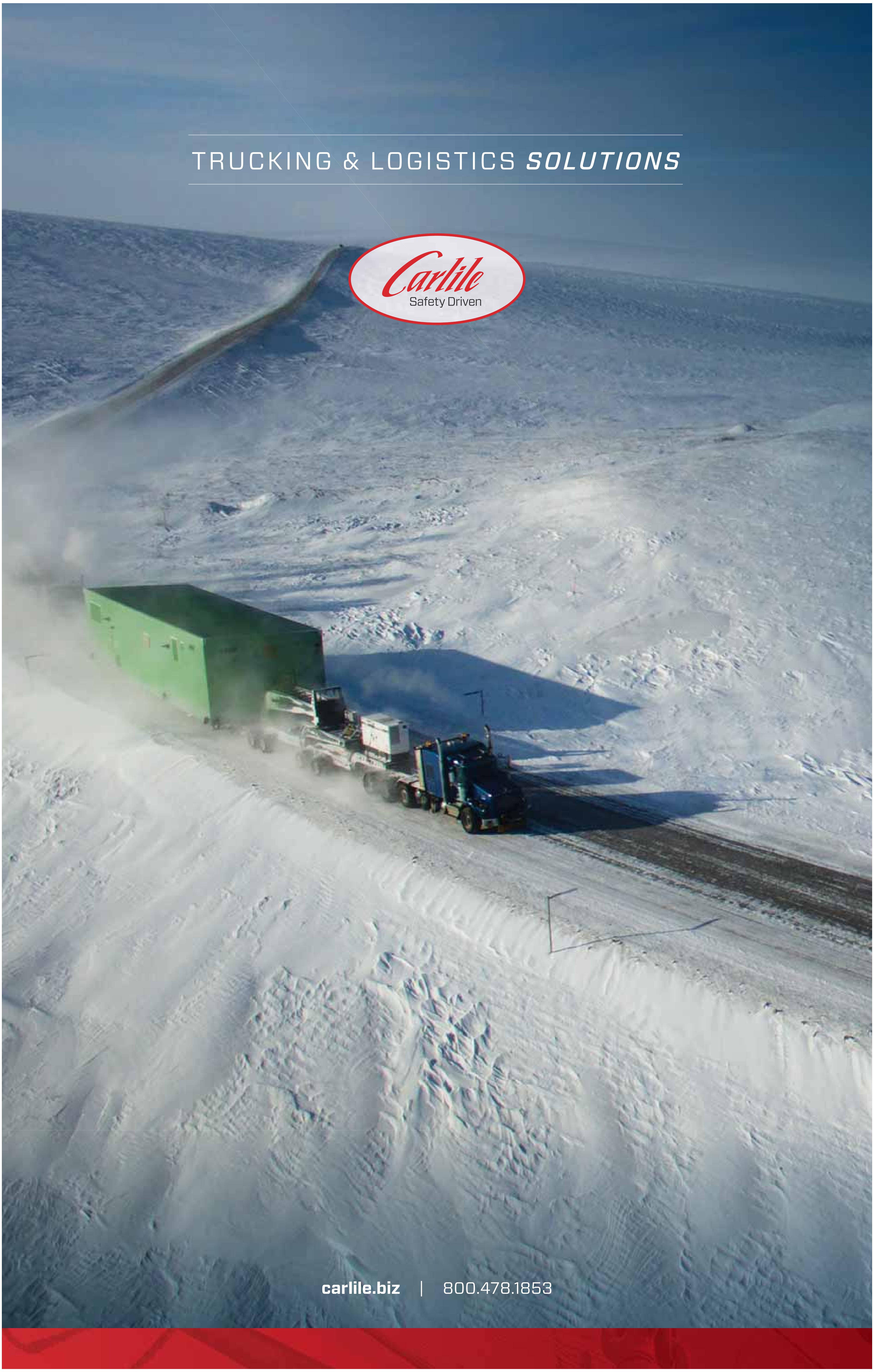
Oasis built the new plant to support its own gas production, but it also plans to process gas from other companies. Reid projects the new plant will be full in late 2019 or 2020, depending on the level of contracts from others.

"If we're able to sign enough opportunities up, there's a pretty good chance we could fill it up by next year," he said.

North Dakota produced a record 2.4 billion cubic feet of natural gas daily in July, exceeding the amount of processing capacity available in the state. North Dakota Pipeline Authority Director Justin Kringstad projects that the state's natural gas production eventually will exceed 4 billion cubic feet per day.

The new plant will increase the state's processing capacity by about 10 percent. The entire Wild Basin facility, including gathering pipeline infrastructure and other associated facilities, was a $600 million investment, Reid said.

—ASSOCIATED PRESS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● INTERNATIONAL

Saudi's oil threats against US loom large

By DAVID KOENIG

AP Business Writer

Saudi Arabia's status as the biggest oil exporter gives it the power to jolt the global economy — if it wants.

That was the kingdom's message when it warned Washington and President Donald Trump against imposing sanctions over the disappearance of Saudi journalist Jamal Khashoggi, a U.S. resident.

Trump, who bragged at rallies about his business dealings with rich Saudis, said over the Oct. 13-14 weekend there would be "severe punishment" if evidence points to Saudi responsibility for Khashoggi's disappearance. On Oct. 14, the Saudi government threatened to retaliate against any punishment such as economic sanctions, outside political pressure or even "repeated false accusations."

Trump tempered his comments Oct. 15 after talking to Saudi King Salman and suggested "rogue killers" may be to blame. He dispatched Secretary of State Mike Pompeo to visit the king. And Saudi Arabia's energy minister seemed to walk back Riyadh's threat the next day.

The Saudis have suffered what they considered indignities from the U.S. without using oil as a weapon in the past. In 2013, the Riyadh government took the rare step of rejecting a U.N. Security Council seat in what was widely seen as anger over a muted international response to violence in Syria and a nuclear deal with Iran.

Some demand sanctions

But if the United States were to follow through with sanctions — as some lawmakers such as Republican Sens. Mark Rubio of Florida and Jeff Flake of Arizona have urged — the Saudis could react by reducing oil exports. That would lead to a steep increase in prices, perhaps to $100 a barrel, in the view of some analysts.

Globally, the kingdom wields enormous influence over prices. It is the de facto leader of the Organization of the Petroleum Exporting Countries, which together account for about one-third of global crude production. The Saudis have more spare production capacity than anyone else; no other producer appears able to fill the void if Saudi oil were to disappear from the market.

That means Saudi Arabia could cause trouble for Trump ahead of November's elections, in which the Republican party is trying to avoid losing control of the House of Representatives. Just announcing a production cut would cause an immediate price spike — a prospect that would deter significant U.S. sanctions.

"From Trump's point of view, given the mid-term elections are lurking, that could have an impact," said Paul Stevens, an oil expert at the Chatham House, a London think tank. "Simply stating that — threatening it — might be enough to tip the balance."

Saudi economy oil dependent

The Saudis have reason to step back from the precipice. Their economy still depends on oil, and the U.S. is the third-biggest destination for Saudi crude, according to ClipperData. Crown Prince Mohammed bin Salman has laid out an ambitious vision of diversifying the economy, but it is only a vision.

Energy analyst Phil Flynn said that if Saudi Arabia did anything to cause a price surge, "they would be shooting themselves in the foot. If they cut off supplies, it could put the world into a recession and that would lower the demand for oil."

Other analysts said an oil shock would accelerate efforts in consuming countries to switch to other forms of energy.

U.S. reliance on Saudi oil has declined as domestic production soared during the shale-drilling boom of the past decade. America has likely already passed Russia and Saudi Arabia to become the world's biggest oil producer, according to U.S. government estimates.

In July, about 11 percent of U.S. imports came from Saudi Arabia, compared with 45 percent from Canada, according to the U.S. Energy Information Administration.

Still, any disruption would hurt both U.S. and Saudi interests, and leaders of both countries want to ensure that the relationship survives, said Kevin Book, an analyst with ClearView Energy Partners. The U.S. views Saudi Arabia as a key ally in fighting Islamic terrorism and serving as a counterweight to Iran.

Relationship not just oil

"Oil is part of the story, but the U.S.-Saudi relationship is forged on bigger things," Book said. "The relationship has had its ups and downs, but I don't think anybody in any administration would want to throw the baby out with the bath water, and certainly not throw out the oil."

For decades, Saudi Arabia has sent oil to the United States and the U.S. has sent fighter planes and other weapons to the kingdom. Trump has said repeatedly that he does not want to stop a proposed $110 billion arms sale to the Saudis — even though some in Congress say he should — because it would cost jobs in the U.S.

"We would be punishing ourselves," said Trump, whose first foreign trip as president was to Saudi Arabia.

The Saudis have suffered what they considered indignities from the U.S. without using oil as a weapon in the past. In 2013, the Riyadh government took the rare step of rejecting a U.N. Security Council seat in what was widely seen as anger over a muted international response to violence in Syria and a nuclear deal with Iran.

Three years later, the Saudis were unhappy but took no action when Congress — over President Barack Obama's veto — passed a law making it easier for families of people killed in the Sept. 11, 2001, terror attacks to sue Saudi Arabia.

In instances where the Saudi government has carried out its threats, the impact has been felt globally but without the desired outcome. The Saudis took part in the 1973-74 oil embargo against Western countries for supporting Israel and although that boosted global prices, it failed to achieve its goal of effecting political changes in the Middle East. ●

Congratulations

Congratulations ConocoPhillips!

Joe Marushack, President
ConocoPhillips Alaska

Well done ConocoPhillips Alaska top executive and team on the early start-up of the Greater Mooses Tooth 1, or GMT-1, development, which began producing oil Oct. 5. Production is expected to peak at 25,000 to 30,000 barrels of oil per day, representing the first production from federal lands in NPR-A.

And congratulations on the Oct. 15 joint record of decision from the Bureau of Land Management and U.S. Army Corps of Engineers for ConocoPhillips' Greater Mooses Tooth 2, or GMT-2, project in NPR-A.

Both events are very good news for Alaska's economy and job market.

Afognak Leasing LLC
Air Liquide
Alaska Energy Services, LLC
Alaska Dreams
Alaska Frac Consulting LLC
Alaska Frontier Constructors (AFC)
Alaska Gasline Development Corp.
Alaska Marine Lines
Alaska Materials
Alaska Railroad
Alaska Rubber & Rigging Supply Inc.
Alaska Steel Co.
Alaska Textiles
Alaska West Express
Alpha Seismic Compressors
American Marine
Arctic Catering & Support Services
Arctic Controls
Arctic Fox Environmental
Arctic Slope Telephone
Assoc. Coop (ASTAC)
Arctic Wire Rope & Supply
ARCTOS Alaska, Division of NORTECH
Armstrong
ASRC Energy Services
AT&T
Avalon Development
Aviator Hotel
Bombay Deluxe
BP
BrandSafway Services
Brooks Range Supply
Calista Corp.
Carlile Transportation
Chosen Construction
Colville Inc.
Computing Alternatives
CONAM Construction
Cruz Construction
Denali Universal Services (DUS)
Dowland-Bach Corp.
Doyon Anvil
Doyon Associated
Doyon Drilling
Doyon, Limited
exp Energy Services
F. R. Bell & Associates, Inc.
Fairweather
Flowline Alaska
Fluor
Foss Maritime
Fugro
Geotemps
Golder
GMW Fire Protection
Greer Tank & Welding
Guess & Rudd, PC
HDR, Inc.
Inspirations
Judy Patrick Photography
Kuukpik Arctic Services
Last Frontier Air Ventures
Little Red Services, Inc. (LRS)
Lounsbury & Associates
Lynden Air Cargo
Lynden Air Freight
Lynden Inc.
Lynden International
Lynden Logistics
Lynden Transport
Mapmakers of Alaska
MAPPA Testlab
Maritime Helicopters
Motion & Flow Control Products
Nabors Alaska Drilling
Nalco Champion
NANA
NANA WorleyParsons
NEI Fluid Technology
Nordic Calista
North Slope Telecom
Northern Air Cargo
Northern Solutions LLC
NRC Alaska
Oil Search
Opti Staffing
PENCO
Petro Star Lubricants
Petroleum Equipment & Services, Inc.
PND Engineers, Inc.
PRA (Petrotechnical Resources of Alaska)
Price Gregory International
Resource Development Council
Royal Alaskan Movers, LLC
SAExploration
Security Aviation
Sourdough Express
Strategic Action Associates
Tanks-A-Lot
The Local Pages
Udelhoven Oilfield System Services Inc.
Unique Machine
Volant Products
Waste Management
Weston Solutions

continued from page 1

LNG CANADA

work for others."

Mark Brown, vice president of business development for Pieridae, said LNG Canada is good for the entire industry.

"Given the global nature of the industry, it sends a positive message to the world that Canada" has again rolled out the welcome mat to capital investment in its resource sector, he said.

Viability of stranded resources

Micah Hirschfield, an executive with Bear Head LNG (which could export 1.6 bcf per day) said the Shell consortium's spending on a terminal at Kitimat raises the viability of exporting Canada's stranded gas resources from both the West Coast to Asia and the East Coast to Europe.

"The amount of gas being used by LNG Canada barely scratches the surface of more than 300 years of stranded gas," he said.

"Both Western Canadian producers and European customers recognize the importance of being able to export Canadian gas from both coasts."

Ray Ritcey, chief executive officer of the Maritimes Energy Association, said the "greatest news is that some of our resources are going to find new ways to market. It's a really positive decision for all of Canada."

BC projects

Of the five projects that remain active in British Columbia, the Chevron-operated Kitimat LNG (target at exports of 1.3 bcf per day) and Woodfibre LNG, with capacity of a modest 300 million cubic feet per day, are also poised to come on stream.

Kitimat is still re-evaluating its project design in an effort to drive down costs from the original C$3.5 billion estimate.

Woodfibre received a 40-year export license in 2016 for its standalone liquefaction facility and continues to target the first shipments to Asia in 2020.

Company President David Keane said Woodfibre hopes for a "notice to proceed to construction" in the first quarter of 2019.

He said the final touches include an impacts-benefits agreement with the Squamish First Nation and a deal to gain relief from Canadian government anti-dumping tariffs for fabricated industrial components imported from Asia.

The company is also working on an engineering, procurement and construction contract with Houston-based KBR Inc.

Otherwise, Woodfibre carries the added advantage of planning to use electric drives, powered from the BC Hydro grid, to make the LNG. The switch to electric drive means an 80 percent reduction in emissions.

Merger with Ikkuma

Goldboro's hopes of an early green light were bolstered by a recent transaction to merge with Ikkuma, reinforced by a 20-year agreement with Uniper, a German energy firm, to buy half of the project's permitted output — a contract that comes with a German government-based debt guarantee.

Goldboro might also have access to estimated shale resources of 80 trillion cubic feet in New Brunswick and 69 tcf in Nova Scotia if it can convince the two provincial governments to remove hydraulic fracturing bans.

New Brunswick's Bear Head LNG project has authorization to export up to 8 million metric tons per year and hopes to gain expanded authority to raise production to 12 million metric tons before it makes a final investment decision in 2019 to meet its timeline to have a terminal up and running by 2023.

Of the five projects that remain active in British Columbia, the Chevron-operated Kitimat LNG (target at exports of 1.3 bcf per day) and Woodfibre LNG, with capacity of a modest 300 million cubic feet per day, are also poised to come on stream.

Still hanging around the edges is Chevron's Kitimat LNG proposal, with design capacity of 1.3 bcf per day, and Steelhead LNG, which hopes to build a facility on the west coast of Vancouver Island, though investors are remaining tight lipped on their hopes.

Steelhead President Victor Ojeda said LNG Canada has given international investors and buyers reason to believe that exporting LNG from Canada "is do-able, if it's done the right way. But it takes a long time to get the first project out of the gate in any new jurisdiction. It is really a survival-of-the-fittest sort of process."

Possible 'starting gun'

Energy consulting firm IHS Markit said the decision by Shell and its partners could be the "starting gun" for other project backers to go ahead.

"We will see a renewal in liquefaction projects being approved globally," said Ian Archer, IHS's associate director of North American natural gas. "Whether or not Canada gets these projects is still a bit of an open question."

Andy Calitz, chief executive officer of LNG Canada, reminded an energy conference in Calgary earlier in October of the "long and winding road" facing any LNG proponents, such as the two-year delay it took for his partners to whittle down their costs.

But, unlike other players, LNG Canada is located exclusively in British Columbia, allowing the development of a long-term relationship with affected First Nations and local communities, making the project cost-competitive and the chance to use power from BC Hydro to lower its greenhouse gas emissions.

"Energy projects have so many hurdles to clear," he said. "We got it in the golden spot of taking" a final invest decision.

Frank Cassulo, president of Chevron Canada, said LNG Canada's progress is "good for investor confidence. It resonates very strongly across the corporation." ●

Contact Gary Park through publisher@petroleumnews.com

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RELIABILITY COUNCIL

study into the operation of the Railbelt electrical system, in 2015 the RCA recommended a more unified approach to the management of the system, including the formation of an entity that would oversee the manner in which the system operates. The commission has been conducting a series of public meetings, to determine the status of voluntary efforts by the utilities to address the unification issues. The commission plans to send a status report to the Legislature around the turn of the year.

The way in which the Railbelt electrical system is currently organized is a product of the way in which the system has evolved, based on separate utilities serving different population centers. Moving it now towards a more unified arrangement is a far from trivial task. But, connected by a common transmission network, the electrical system operates, in effect, as a single electrical mechanism. And, while encompassing a large geographic area, the Railbelt system serves a small population of consumers compared with a typical utility elsewhere in North America.

The overall objective of unification efforts is to have that Railbelt electrical mechanism operate as efficiently as possible, to minimize the cost of electricity while maintaining an acceptable level of supply reliability. There are also issues relating to the cost-effective availability of power from renewable energy sources.

Three stage process

During the Oct. 24 meeting the executives outlined a three-stage process for putting the RRC into operation: the signing by the utilities of a memorandum of understanding for the formation of the RRC; the operation of an organizational development team to create an RRC implementation team; and the operation of the implementation team to establish the RRC.

At this point four of the six utilities have signed the MOU. Homer Electric Association and Municipal Light & Power have not yet signed but say that they fully support the RRC formation. The organizational development team has already moved into action, communicating with stakeholders in the electrical system. The team hopes to identify members of the implementation team in November, with a view to having an initial meeting of that team in November or December, Julie Estey, Matanuska Electric Association director of public relations, told the commission. Once the implementation team has formed, the organizational development team will disband.

"We've been communicating with stakeholders and trying to facilitate as much engagement as possible," Estey said.

The implementation team, in conjunction with the RCA and the utilities, will then develop the foundational documents for the RRC, including specifications of the RRC governance, organizational structure and funding mechanism.

The utilities hope to complete this RRC development process in six months, Larry Jorgensen from Homer Electric Association, told the commission.

The MOU is a foundational document for the RRC formation, expressing an agreement between the utilities on what the organization will do and how it will be governed. The document is a stepping stone, putting into motion the voluntary formation of an RRC without placing limitations on the eventual organization, said John Foutz, utility manager, electric department, in the City of Seward.

The governance structure

Perhaps the most critical (and potentially contentious) component of the RRC concept is the governance structure of the organization, in particular the composition of the organization's governing board. While the utilities, with a duty to their ratepayers and a high level of expertise in the way in which the electrical system works, want a say in board decisions, other stakeholders in the electrical system, such as independent power producers and government entities, also want to be involved. The idea is to create a level playing field for all users of the system, in terms of access to the system, how the system operates and how it is developed.

As conceived in the MOU, the governing board will have six utility and six non-utility members, John Burns, vice president and general counsel for Golden Valley Electric Association, told the commission.

"The composition is consciously intended to be balanced," he said.

The RRC, a not-for-profit organization, will be subject to RCA jurisdiction. Utilities will be bound by RRC decisions, but with the option to appeal to the RCA in the event of an unresolved dispute.

And the idea is that the implementation team for the RRC will have a broadly similar composition to the eventual board, thus ensuring balance between different interests in the way in which the RRC is formed.

Economic dispatch

Another area of contention around the RRC formation has been the question of whether the organization should be responsible for the implementation of merit ordered economic dispatch across the Railbelt grid. Economic dispatch involves the continuous dispatch of the cheapest available power on the system. The RRC, as envisaged, would evaluate the implementation of economic dispatch, rather than enforcing or operating the use of this protocol.

This topic came up during the Oct. 24 RCA meeting.

The utilities have been operating what they call economy energy sales, a protocol whereby they reduce the cost of power by selling each other relatively cheap power. Economic dispatch would take this arrangement further, by enabling the continuous use of the cheapest power.

The three Southcentral utilities, Chugach Electric Association, Municipal Light & Power and Matanuska Electric Association, have an agreement to implement economic dispatch in Southcentral. However, on Oct. 5 Chugach Electric and ML&P, announced that they were placing economic dispatch implementation on hold, pending completion of the proposed acquisition of ML&P by Chugach Electric.

Modeling the system

During the Oct. 24 meeting, in response to a question by Commissioner Jan Wilson, Brian Hickey, vice president of systems operations for Chugach Electric, commented that RRC evaluation of system-wide economic dispatch would involve engaging electricity system stakeholders in new modeling of the use of economic dispatch across the Railbelt. The idea would be to determine whether the benefits derived from economic dispatch would exceed the implementation costs. The utilities have previously conducted modeling of this type, but the idea now is to engage a broad cross-section of utility and non-utility stakeholders in agreeing on a set of assumptions that the modeling would use — different sets of assumptions generate different modeling results.

The modeling study might take six months to complete, although gaining agreement on what assumptions to use might take at least as long as that, Hickey said.

Commissioner Antony Scott questioned whether another study is needed, given that the three Southcentral utilities already appeared to have agreed that there would be a net benefit from the use of economic dispatch. Hickey responded that he sees the Southcentral pool as a stepping stone towards a wider economic dispatch implementation. And, once the utilities "undo the pause button" on the Southcentral arrangement, implementation of the Southcentral power pool will continue apace, he said.

Lee Thibert, CEO of Chugach Electric, said that, given the time needed to deal with parallel initiatives, it had appeared prudent to delay Southcentral economic dispatch until after the ML&P acquisition had been taken care of. Chugach Electric then wants to investigate, not just the power pool with Matanuska Electric, but also the extension of that pool to include GVEA and Homer Electric Association, he said.

Continuing evolution of the system

And Tony Izzo, CEO and general manager of Matanuska Electric Association, commented that he continues to be excited about what has been happening in terms of the continuing evolution of the Railbelt electrical system.

"I'm seeing the evolution continue and be positive," Izzo said.

Izzo said that GDS Associates, the con-

see RELIABILITY COUNCIL *page 14*

Congratulations

Hats off BP, Conoco & ExxonMobil

Congratulations Prudhoe Bay operator BP (26%) and your primary partners ExxonMobil at 36% and ConocoPhillips with 36% on two 2017-2018 anniversaries: the discovery of oil 50 years ago and first production 41 years ago from the giant Prudhoe Bay field on Alaska's North Slope.

Not only have BP and partners arrested the field's production decline, but as part of their commitment, BP is conducting a new 3-D seismic survey across the unit during the coming winter to search for new oil pockets to develop and bringing in two new drilling rigs in 2019.

Janet Weiss, BP Alaska Regional President

Afognak Leasing LLC
Air Liquide
Alaska Energy Services, LLC
Alaska Dreams
Alaska Frac Consulting LLC
Alaska Frontier Constructors (AFC)
Alaska Gasline Development Corp.
Alaska Marine Lines
Alaska Materials
Alaska Railroad
Alaska Rubber & Rigging Supply Inc.
Alaska Steel Co.
Alaska Textiles
Alaska West Express
Alpha Seismic Compressors
American Marine
Arctic Catering & Support Services
Arctic Controls
Arctic Fox Environmental
Arctic Slope Telephone Assoc. Coop (ASTAC)
Arctic Wire Rope & Supply
ARCTOS Alaska, Division of NORTECH
Armstrong
ASRC Energy Services
AT&T
Avalon Development
Aviator Hotel
Bombay Deluxe
BP
BrandSafway Services
Brooks Range Supply
Calista Corp.
Carlile Transportation
Chosen Construction
Colville Inc.
Computing Alternatives
CONAM Construction
Cruz Construction
Denali Universal Services (DUS)
Dowland-Bach Corp.
Doyon Anvil
Doyon Associated
Doyon Drilling
Doyon, Limited
exp Energy Services
F. R. Bell & Associates, Inc.
Fairweather
Flowline Alaska
Fluor
Foss Maritime
Fugro
Geotemps
Golder
GMW Fire Protection
Greer Tank & Welding
Guess & Rudd, PC
HDR, Inc.
Inspirations
Judy Patrick Photography
Kuukpik Arctic Services
Last Frontier Air Ventures
Little Red Services, Inc. (LRS)
Lounsbury & Associates
Lynden Air Cargo
Lynden Air Freight
Lynden Inc.
Lynden International
Lynden Logistics
Lynden Transport
Mapmakers of Alaska
MAPPA Testlab
Maritime Helicopters
Motion & Flow Control Products
Nabors Alaska Drilling
Nalco Champion
NANA
NANA WorleyParsons
NEI Fluid Technology
Nordic Calista
North Slope Telecom
Northern Air Cargo
Northern Solutions LLC
NRC Alaska
Oil Search
Opti Staffing
PENCO
Petro Star Lubricants
Petroleum Equipment & Services, Inc.
PND Engineers, Inc.
PRA (Petrotechnical Resources of Alaska)
Price Gregory International
Resource Development Council
Royal Alaskan Movers, LLC
SAExploration
Security Aviation
Sourdough Express
Strategic Action Associates
Tanks-A-Lot
The Local Pages
Udelhoven Oilfield System Services Inc.
Unique Machine
Volant Products
Waste Management
Weston Solutions

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NORTHERN DANCER

Trust, the landowner. The lease in which the well was drilled expired several years ago, but the commission requires a well that is not in use to be plugged and abandoned before the lease on which it was drilled terminates. Hence the commission's notice of violation, which was served on the Land Trust.

The Mental Health Land Trust petitioned for the Oct. 17 hearing, saying that the well likely penetrates a gas resource and that there is potential for having another company lease the land tract and test the well. In that way the potential gas resource could be evaluated without the need to drill another well. The Alaska Mental Health Trust seeks revenue from the land that it owns, as a means of providing financial support for mental health programs in Alaska.

Drilled but not tested

During the Oct. 17 hearing Mike Franger, senior land manager for the Mental Health Trust Land Office, told the commission that Storm Cat had drilled the Northern Dancer well to a depth of 6,233 feet. The well is cased to the bottom, was not perforated and is cemented from the surface to total depth. Storm Cat demobilized the drilling rig but indicated that it planned to return during the term of the lease to test several prospective sands that the well had encountered. In the event, however, Storm Cat went bankrupt before it was able to conduct any testing Franger said.

The lease with Storm Cat expired on Jan. 31, 2011. Subsequently in 2014 the tract with the well was leased to MetGas Industries (USA) Ltd., a company that had expressed interest in testing the Northern Dancer well for conventional and unconventional gas resources. But MetGas was unable to raise funds to conduct the testing and the new lease terminated on May 31, 2015, after the company had failed to make rental payments.

The Trust Land Office believes that there is untested potential for a gas resource in the well and is actively engaged in discussions with a potential lessee for the tract, with the intent of having the well tested — a lease would require financial assurance from the lessee for the ability to plug and abandon the well during the lease term, Franger said.

Safe condition

And the well remains safe, Franger assured the commission. In August of this year a visual inspection of the well, coupled with pressure testing, in the presence of an AOGCC well inspector had shown the well to be in good condition, with zero pressure in the well bore. The pad is in good shape, with a perimeter fence and locked access.

Franger said that the timeframe for plugging and abandonment contained within the notice of violation would preclude the land tract from being leased for the purposes of testing the well. And that would reduce the viability of leasing the tract. Meanwhile there is no health and safety issue that requires urgency over the well plugging and abandonment. Hence, the Trust Land Office is requesting deferral of the plugging and abandonment requirement for an indeterminate time, provided that the well is periodically tested to ensure that it remains safe, Franger said.

Commission Chair Hollis French told Franger that the commission needs to decide how long it is reasonable to wait for someone to invest money into perforating and testing the well.

"It's been sitting in place now for over 10 years," French said. "There has to be an end to this. That's what we're trying to balance out this morning."

—ALAN BAILEY

Contact Alan Bailey at abailey@petroleumnews.com

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RELIABILITY COUNCIL

sulting firm that had recommended to the utilities the formation and functions of the RRC, had raised questions over whether the cost of implementing a full-scale system operator, managing the regional electricity market, as is done in the Lower 48, could be justified, given the small size and relative simplicity of the Railbelt system. So, a foundation concept behind the RRC is to determine whether economic dispatch should be expanded to involve a full-blown unified or independent system operator. Meanwhile, the pooling concepts already in the works constitute a separate evolutionary track from that broader economic dispatch question, Izzo said.

Cory Borgeson, president and CEO of GVEA, concurred with Izzo's comments. He said that GVEA would be willing to participate in a new economic dispatch study. However, he wondered whether, given the relative simplicity of the Railbelt electrical system, economic dispatch would create much greater benefits than the use of economy energy sales. ●

Contact Alan Bailey at abailey@petroleumnews.com

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LIBERTY DECISION

properties in 2014, that acquisition included a 50 percent interest in Liberty and Hilcorp moved ahead with a plan similar to BP's original concept.

Final EIS

BOEM issued a final environmental impact statement for Hilcorp Alaska's Liberty project in late August, confirming a preferred alternative of Hilcorp's proposed gravel island development.

Hilcorp has previously said it hoped to start building the 9.3-acre gravel island in late 2019, followed by a subsea pipeline in the winter of 2020 and first oil perhaps by 2022. There will be 16 wells at the field, with production likely starting at 10,000 to 15,000 barrels per day, and peaking at 60,000-70,000 bpd after about two years, with peak gas production at some 120 million cubic feet per day.

Hilcorp has said it thinks the field holds some 120 million barrels of recoverable oil and field life is anticipated at 15 to 20 years.

Conditional approval

In what the department called in an Oct. 24 press release a conditional approval, Interior Secretary Ryan Zinke said that if developed, Hilcorp Alaska's Liberty project "would be the first oil and gas production facility in federal waters off Alaska."

Interior said Liberty would be "similar to the four oil-and-gas-producing artificial islands currently operating in the area's state waters: Spy Island, Northstar Island, Endicott Island and Oooguruk Island."

"There are already four other gravel-island facilities off the North Slope, and we consider Hilcorp's plan to represent a relatively conservative, time-tested approach toward offshore oil and gas development," Joe Balash, Interior's assistant secretary for land and minerals management, said in Interior's statement. "Using input from North Slope communities, tribal organizations, and the public, we have developed a robust set of environmental mitigation measures and safety practices that will be applied to this project," he said.

Hilcorp pleased

"We are pleased with today's announcement," Hilcorp Alaska Senior Vice President David Wilkins said in a statement. "The Record of Decision is the result of years of study and due diligence by multiple federal, state and local agencies and the project team. If granted final approvals, the Liberty Project will provide decades of responsible resource development and strengthen the energy future of Alaska and the United States."

The company's plans for Liberty development include a small artificial gravel island in 19 feet of water in the Beaufort Sea, some five miles offshore, about 15 miles east of Prudhoe Bay, with a buried subsea pipeline to carry sales grade crude oil to shore, connecting with the existing Badami pipeline.

Liberty oil is relatively light, which will benefit overall North Slope oil production and operation of the trans-Alaska oil pipeline, given the recent tendency for North Slope oil to become heavier, Wilkins said in describing the project in a Resource Development Council presentation on Sept. 20.

He characterized the reservoir rock, in the Kekiktuk formation, as excellent. The reservoir is equivalent to the Endicott field, and will enable high production rates, peaking at 60,000 barrels per day. The field has proven reserves of 80 million to 130 million barrels of oil, with an anticipated operational life in excess of 20 years, Wilkins said. Hilcorp's Liberty project manager Mike Dunn said at the RDC presentation that following the ROD, the federal Pipeline and Hazardous Materials Safety Administration permit for the pipeline system should come by the end of the year or early next year. Approval of the oil spill response plan is expected to come in the first or second quarter of 2019.

At that point Hilcorp and its partners will take another look at the economics of the development and decide whether to move forward.

Dunn said the design for Liberty involves the use of modules small enough to be trucked to the North Slope and delivered to the island by barge. Most of the modules would be fabricated in Alaska, he said, with the exception of the power generation units and separation trains.

Construction of the island would take place in the winter of 2020-21, with subsea pipeline construction in the winter of 2021-22. Modules would be moved to the island the following summer, along with the drilling rig.

Drilling would begin that fall with a disposal well, followed by a gas injector and then a production well.

Facilities startup is planned for May 2023.

Approval conditions

Interior said BOEM used a rigorous evaluation process and conditionally approved the project "only after incorporating input from the public, and from North Slope communities and tribal organizations."

Approval conditions include drilling into the hydrocarbon-bearing zone only during solid ice conditions, defined as at least 18 inches of ice within 500 feet of the Liberty development island and no pipe-driving or pile-driving activities at the island and no marine vessel traffic seaward of the barrier islands from Aug. 1 through the end of the Cross Island subsistence whale hunt.

Hilcorp also is required to complete development on numerous work plans including wildlife interaction, bird lighting and others.

—KRISTEN NELSON

Contact Kristen Nelson
at knelson@petroleumnews.com

Petroleum news

Oil Patch Bits

Safety milestone at the Deadhorse Aviation Center

COURTESY FAIRWEATHER

The Deadhorse Aviation Center said Oct. 16 that it would like to formally recognize the DAC staff for the outstanding achievement of working well over 100,000 incident free hours since it became operational in 2012. The achievement is even greater when you consider that the DAC, our clients and contractors have been incident free since its initial construction in 2009, the center said.

Located in Prudhoe Bay on the North Slope of Alaska, the DAC operates in a harsh and relentless Arctic environment, and serves as the main hub for ConocoPhillips and BP's crew changes. Shared Services Aviation safely brings approximately 1,000 passengers per operational day with their Boeing 737, Casa and Otter aircraft commuting between Anchorage, Deadhorse, Kuparuk and Alpine.

The DAC also supports various other operations on the North Slope serving as full service home base for short- and long-term projects. We want to recognize the companies currently performing work in the DAC; NAMS, ConocoPhillips, BP, ICE Services, GCI and the US Military; your safety leadership has been vital to this milestone, the center said.

"I attribute DAC's success and strong safety culture, in large part, to the collaboration between our team and DAC's great contractors and clients," says Rick Fox, CEO of Fairweather LLC who is part owner and operates the DAC, "as well as our shared commitment to operational performance without compromise, to the safety and well-being of people and/or assets."

For more information visit www.deadhorseaviation.com.

Arctic Slope Regional Corp. announces leadership change

Arctic Slope Regional Corp. said Oct. 17 that after two years as president and CEO of ASRC Energy Services, Doug Smith has resigned from his position. AES is a wholly owned subsidiary of Arctic Slope Regional Corp.

CHRISTINE RESLER

"On behalf of ASRC's board of directors, I thank Doug for his service to the corporation and wish him all the best in his future endeavors as he pursues options to provide benefit to Alaskans and give back to the state that has provided great benefit to his family," said Rex A. Rock Sr., president and CEO of ASRC.

Christine Resler, senior vice president and chief operating officer of AES, will assume the role of president and CEO of AES. Prior to joining AES, Resler spent more than 11 years at Schlumberger Ltd., where she most recently served as geomarket manager-Alaska, managing Schlumberger's Alaska operations, which included more than 800 Alaska employees. She brings substantial Alaska and Lower 48 oilfield service and management experience to the AES team, and will support immediate sustainment as well as future growth and expansion efforts for AES.

"I believe Christine has the skills to lead AES as it sustains and grows its operations in the Alaska market in pursuit of the goals established by our strategic plan," added Crawford Patkotak, ASRC board chair.

Stork awarded UK Offshore contract extension by Chrysaor

Fluor Corp. said Oct. 18 that Stork, part of Fluor's diversified services segment, was awarded a two-year contract extension by Chrysaor to deliver integrated specialist asset integrity services for its Armada, Everest and Lomond offshore production platforms in the Central North Sea. Fluor booked the undisclosed contract value in the third quarter of 2018.

"Stork looks forward to strengthening our collaborative relationship with Chrysaor as we work to optimize the performance of these important UK offshore assets," said Taco de Haan, Stork's president. "Utilizing our full portfolio of professional solutions will provide significant opportunities to support Chrysaor's goal to maximize efficiency and achieve reliable operations across its North Sea portfolio."

"Stork has provided specialist asset integrity solutions for these platforms since 2014, so we are delighted to have been awarded this contract extension," said Erik-Jan Bijvank, Stork's international vice president.

Under this contract, Stork will continue to deliver an inclusive range of solutions and capabilities to extend the offshore assets' life cycle. Through proven methodologies and Stork's integrity corrective action teams. Stork will assess and optimize work, delivering an inspection process to meet the operational strategy for each asset and undertaking any necessary repairs. This integrated capability reduces failures while extending the asset's life.

ICAT is Stork's process-led, multi-disciplined approach which identifies and rapidly remedies integrity anomalies before they require repair or replacement.

Lynden International ships Russian aircraft parts

Lynden International said Oct. 18 that S7 Airlines is the second largest airline in Russia and its long-time customer. Over the years, the carrier has called upon Lynden for a variety of projects. A project toward the start of this year involved disassembling an Embraer E-190 aircraft in Madrid, stripping it to the wings and fuselage and shipping the spare parts to S7 subsidiary Nelson Parts in Bend, Oregon.

According to Sergey Buchumov, Russia sales and marketing director, Lynden was handling about one shipment a week ranging from an auxiliary power unit to a fuel thruster weighing 2,000 pounds. "This project required many of our services," Sergey said, "such as brokerage and hazardous freight transport for aviation batteries." The first shipment of 8,000 small parts required 8,000 line items with all the necessary documentation for each. This inaugural shipment also included a freak snowstorm in Madrid that shut down roads leading into and out of the area.

Lynden provided customs and import services to the U.S. and door-to-door delivery to the Bend airport and the airport hangar where the parts were consolidated and stored. When the aircraft parts were eventually sold to domestic and international buyers, Lynden handled that as well, which included ocean and air transport. "We are often moving the same parts twice; from Russia to the U.S. and then again from Oregon to a new destination," Sergey explained.

In addition to S7, Lynden serves nine other Russian aerospace customers from its offices in Moscow and St. Petersburg. For those producing aircraft, Lynden moves production parts and

see **OIL PATCH BITS** *page 17*

All of the companies listed above advertise on a regular basis with Petroleum News

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BOND PROPOSAL

wells, $800,000 for three or four wells, $1.1 million for five or six wells, with the bonding amount steadily increasing through multiple steps to a maximum of $30 million for 3,500 to 3,999 wells.

Comments on the new proposal need to be filed with the commission by 4:30 pm on Nov. 27.

Statutory requirements

State statutes require bonding of not less than $100,000 for a single well and not less than $200,000 for blanket coverage of all of an operator's wells in the state. And traditionally the commission has only required bonding at these minimum levels, other than in situations where there have been regulatory violations.

But the commission has become concerned that these minimum bonding levels can fall far short of the realistic cost of plugging and abandoning a well. A well that has not been effectively plugged presents an environmental and safety hazard. And, if an operator does not have the financial wherewithal to conduct the plugging, or perhaps goes bankrupt, the plugging and abandonment liability falls on the landowner. In many cases the landowner is the state of Alaska.

Although, by statute, the commission can set bonding requirements at whatever level it deems appropriate, the commission has elected to set bonding levels by regulation, presumably to provide some clarity over bonding expectations.

A problem for small companies

But obtaining a large bond may prove difficult for a company with relatively small financial resources. Thus, setting high bond rates may, in effect, preclude some small companies from developing Alaska oil and gas resources. During the recent hearing on the previous iteration of the bonding proposals, Amaroq Resources LLC, operator of six wells in the Nicolai Creek gas field on the west side of the Cook Inlet, told the commission that it is questionable whether the company would be able to obtain bonding at the required level. Without bonding, the company would go out of business and would not then be able continue to produce gas, or to plug and abandon its wells, the company said.

State statutes require bonding of not less than $100,000 for a single well and not less than $200,000 for blanket coverage of all of an operator's wells in the state.

Questions raised

During the hearing the Alaska Oil and Gas Association, representing a number of oil and gas producers in the state, expressed objection to the proposed major rise in bonding levels, saying that the increases were unprecedented and unreasonable. ConocoPhillips suggested reducing the number of bonding levels in the previous proposal: With the number of wells that a company operates liable to change continuously, the potential to frequently switch between one bond level and another would present a high burden in keeping the bonding up to date, the company suggested.

Other suggestions included the possibility of have a more unified state bonding procedure, combining the bonding requirements of different state agencies.

Environmental organizations and some Alaska citizens have expressed support for the AOGCC efforts to raise the bonding. Supporters argue that higher levels of bonding will reduce the risk of environmental damage from abandoned wells, as well as indemnifying the state against well abandonment costs. Opponents of the bond increases say that the result will be less development of Alaska's oil and gas resources. ●

Contact Alan Bailey at abailey@petroleumnews.com

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OIL PATCH BITS

for those already in operation, repair parts for aircraft on the ground situations and other needs. Parts are often sourced from Boeing and other U.S.-based suppliers allowing Lynden to call upon its network of service centers for expedited service. For more information visit www.lynden.com.

Nabors realigns unsecured revolving credit facilities

Nabors Industries Ltd. announced the closing, on Oct. 11, of an unsecured revolving credit facility of its wholly owned subsidiaries, Nabors Industries Inc., Nabors Delaware and Nabors Drilling Canada Ltd., with an aggregate principal amount of $1,267,000,000, comprised of a loan facility of up to $1,227,000,000, which can be drawn upon by Nabors Delaware in U.S. dollar borrowings, and a loan facility of up to $40,000,000, which can be drawn upon by Nabors Canada in either U.S. or Canadian dollar borrowings. The facility matures on the earlier of (a) Oct. 11, 2023, and (b) July 19, 2022, if any of Nabors Delaware's existing 5.5 percent senior notes due January 2023 remain outstanding as of such date. In connection with the new unsecured revolving credit facility, Nabors and Nabors Delaware entered into Amendment No. 3 to its existing credit agreement dated Nov. 29, 2012, which, among other things, provides for Citibank, N.A.'s resignation as administrative agent and the appointment of Wilmington Trust, National Assoc. as administrative agent, reduces the overall commitments available to $666,250,000 and provides for certain lenders to exit the facility. The existing credit facility matures on July 14, 2020.

Further details regarding the unsecured revolving credit facility and the amendment to existing credit agreement are available in a current report on Form 8-K filed with the Securities and Exchange Commission. For more information visit. www.nabors.com.

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INLET PIPELINES

News. The conversion was completed without incident and is currently operating as planned — once full flow rate has been reached, a daily average of 14,000 barrels of oil will flow through the system to the Nikiski oil refinery on the Kenai Peninsula, Hilcorp said.

Hilcorp also said that it successfully laid a new subsea oil pipeline from the Tyonek offshore gas production platform to the west side of the inlet. The company said that it will complete the subsea connection to that pipeline in 2019. The company has laid this pipeline in support of potential future oil development from the Tyonek platform — it was cost effective to lay this line in conjunction with laying the gas line.

It appears that Hilcorp has accomplished the pipeline project within its target of completing the project by the end of this year. This despite a delay in the delivery of steel piping because of the impact of Hurricane Harvey last fall.

Eliminate the Drift River terminal

The prime objective of the project has been to eliminate the need for the Drift River oil terminal on the west side of the inlet. Crude oil from fields on the west side of the inlet has for many years been shipped by tanker from Drift River to Nikiski. There have been safety concerns associated with the terminal because of the terminal's proximity to Redoubt Volcano.

Following the pipeline project, Hilcorp engineering and environmental teams are still working on the plan to decommission the Drift River terminal, with formal preparations for the decommissioning scheduled to begin in the first quarter of 2019, Hilcorp said.

Converted CIGGS line

The project has involved the conversion of one of the twin subsea Cook Inlet Gas Gathering System, or CIGGS, gas pipelines to the carriage of oil. That, among other things, has involved the construction of a relatively short length of new onshore oil pipeline on west side of the inlet, to connect the CIGGS line to the northern end of the existing Cook Inlet pipeline that had been carrying oil from the oil fields to the Drift River terminal. Pumping arrangements on the Cook Inlet pipeline had to be modified to switch the flow of oil to the north towards the CIGGS line, rather than south towards Drift River.

On the east side of Cook Inlet, where the CIGGS lines come onshore on the Kenai Peninsula, the converted CIGGS line has been connected to the Nikiski refinery via another new, short section of onshore oil pipeline and another converted gas line.

Maintaining gas carriage capacity

The twin CIGGS pipelines have been shipping natural gas across the Cook Inlet in support of gas and electricity utilities. This function is particularly vital in winter, when gas demand is very high and some of that gas has to be shipped from a gas storage facility near the city of Kenai. And, so, to replace the gas transportation capacity lost through the conversion of one of the CIGGS lines to the carriage of oil, Hilcorp has extended the existing Tyonek gas line that runs from the Kenai Peninsula to the offshore Tyonek gas production pipeline: The extension has involved laying a new subsea gas pipeline from the platform to Ladd Landing on the west side of the inlet. Hilcorp has also replaced part of the onshore section of the Tyonek line on the Kenai Peninsula.

Business arrangements

The business and regulatory arrangements for the new pipeline configuration reflect the fact that the primary purpose of the pipeline project is to improve the shipment of oil from the west side of the inlet. Thus, the cost of the project is being carried by Cook Inlet Pipeline, the oil carrier and not by Kenai Beluga Pipeline, the gas carrier that operates CIGGS — the changes in the pipeline system will not impact the rates charged for the transmission of gas across the inlet.

Consequently, CIPL has acquired the existing Tyonek pipeline and made the modifications and extension to that pipeline system. That has required CIPL to obtain a certificate for the carriage of gas in addition to its traditional business of carrying oil.

KBPL is retaining ownership and operation of both of the twin CIGGS pipelines. But, because one of these lines now carries oil, KBPL has had to obtain an RCA certificate for the carriage of oil, in addition to its certificate for the carriage of gas.

Various other regulatory approvals were also required, including the approval of the recovery by CIPL of project costs from oil shipment rates, and approval of an agreement between CIPL and KBPL for the carriage of oil on the CIGGS line, and for the carriage of gas on the Tyonek line.

"A lot of hard work paired with a cooperative effort from everyone involved, including state and federal agencies, helped us execute the project efficiently and without any major delays," Hilcorp said. "Support from the community, including the Cook Inlet Citizens Advisory Council, also helped us to achieve the conversion in a timely manner"

—ALAN BAILEY

Contact Alan Bailey at abailey@petroleumnews.com

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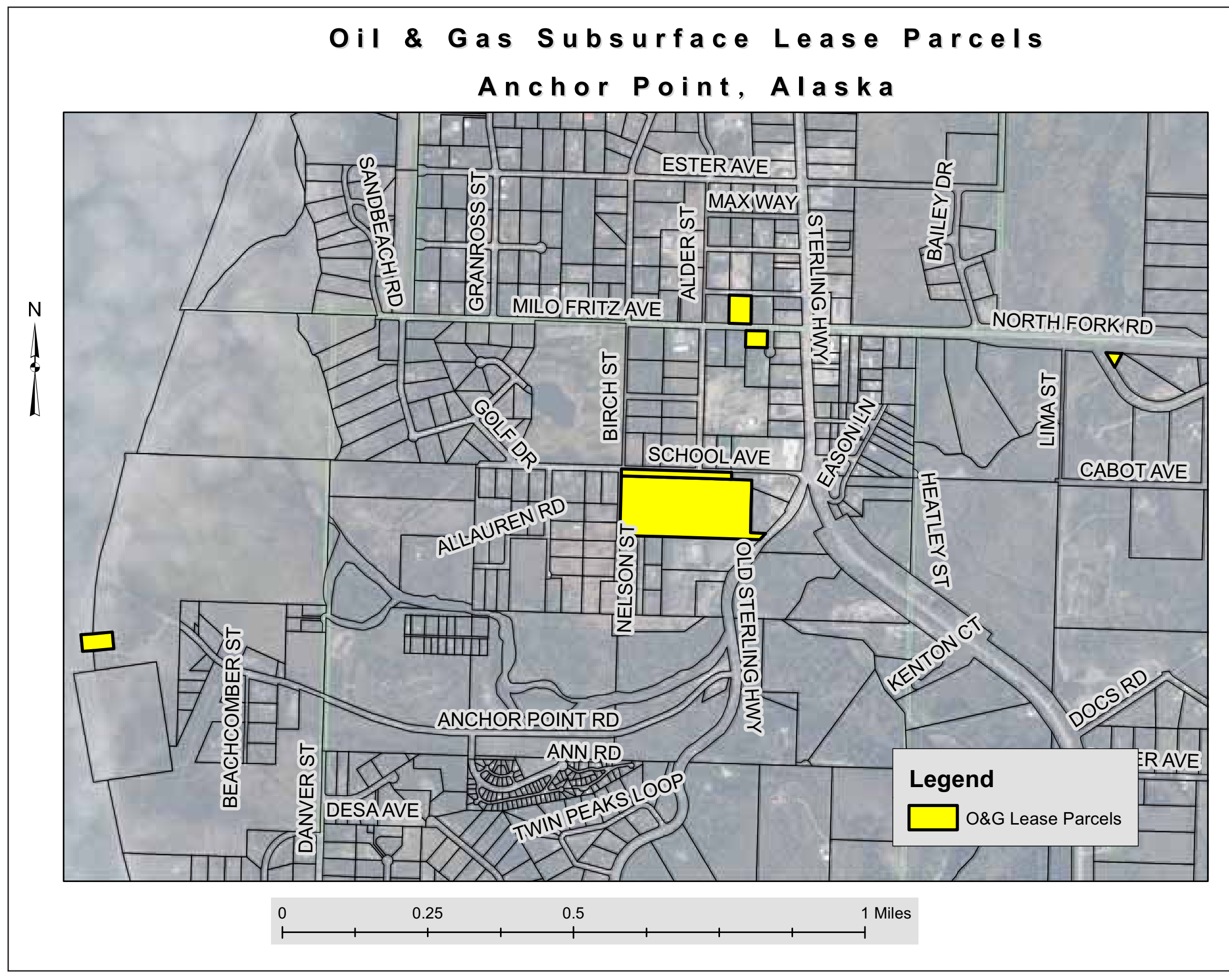
INSIDER

said the preferred option is the company's plan to build a 14-acre drill pad that could hold up to 48 wells and produce some 40,000 barrels of oil per day, which the company has previously said would cost some $1.5 billion.

KENAI PENINSULA LEASING NEWS: The Kenai Peninsula Borough is considering an ordinance that would grant an oil and natural gas lease on borough lands in Anchor Point to Hilcorp Alaska LLC. It was introduced to the assembly Oct. 23.

The lease carries a negotiated 12.5 percent royalty rate to the borough and covers five parcels scattered about the unincorporated community on the Lower Kenai Peninsula, according to borough documents. The primary term of the lease is five years and as long thereafter as operations are conducted within the subsurface with no cessation for more than 180 consecutive days.

The proposed lease area is 19.1 acres, more or less (see map in pdf and print versions of this issue). The largest parcel of 15.92 acres, which incorporates the Anchor Point refuse transfer site, is located along the south side of School Street — aka School Avenue — across from and ranging south to southwest from the Chapman Elementary School. A small parcel lies east of the Sterling Highway on North Fork Road. West of the Sterling Highway a one-acre parcel is on tidewater off Anchor Point Road near the Halibut Campground.



Funds for Fire and Rescue

Two parcels on Milo Fritz Avenue consist of the 1.7-acre site of the Anchor Point Volunteer Fire Dept. and Rescue — and across the street, the 0.69-acre site of the Anchor Point Fire and EMS training facility.

Lease royalty payments attributable to the two fire and rescue locations would be distributed at 9.7 percent to the Anchor Point Fire & Emergency Medical Service Area, and the remainder would be received by the Land Trust Fund, according to the ordinance and associated memos.

The borough said the anticipated funds represent a vital revenue stream to the Land Trust Fund.

The borough said that as Hilcorp currently has oil and gas leasehold interests near Anchor Point and is

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planning to develop the infrastructure necessary to extract natural gas and/or oil from the lands, the borough responded when Hilcorp approached it. The parties subsequently negotiated a lease for subsurface oil and gas extraction operations.

The proposed lease would be subject to surface limitations whereby the lessee will conduct no operations on the surface of the lease lands. The lessee would have the right to drill and operate directional wells through and under the land, irrespective of the bottomhole locations of its wells.

The lessor would grant to lessee a subsurface easement for all purposes associated with such directional wells. The subsurface easement would commence at and continue below the depth of 500 feet.

Marcus Mueller, borough land management officers told KBBI radio that Hilcorp's proposal to lease would allow for both oil and gas extraction, adding that Hilcorp would most likely be extracting gas.

Mueller said there would be no infrastructure above ground at any of the lease sites.

"These would be contributing to wells that would be (on) an off-site location," he told KBBI.

Local drilling program

As previously reported in Petroleum News, Hilcorp has been active in the area, most recently having applied to the state of Alaska's Division of Oil and Gas in May to construct the new Seaview pad on a private parcel south of Anchor Point off the Old Sterling Highway. The company told the division it planned to drill two exploration wells from the pad. Hilcorp previously drilled seven shallow stratigraphic test wells in the Anchor Point area.

The proposal for the new pad with two proposed wells — Seaview 8 and 9 — was approved Aug. 24; the wells would be drilled within ADL 392667.

The division said the wellbore locations for the two wells "were derived from stratigraphic wells drilled on private lands near ADL 392667 and other prior wells drilled in the surrounding area." The Seaview 8 will extend beyond ADL 392667, the state said, exploring for oil on fee simple land.

The Kenai Peninsula Borough Planning Commission will consider the proposed oil and gas lease ordinance — Kenai Peninsula Borough Ordinance number 2018-34 — Nov. 13 at its regularly scheduled meeting.

The assembly will hold a hearing on the measure November 20.

—STEVE SUTHERLIN & KAY CASHMAN

Lisa Parker speaks out against salmon initiative

AN OP-ED FROM SOLDOTNA CITY COUNCIL member Lisa Parker that opposes Ballot Measure 1 was recently submitted to Petroleum News.

PN doesn't run opinion pieces, even from citizens such as Parker who have nearly 50 years of experience in industry and community development in Alaska.

The op-ed can be requested directly from Parker by emailing her at parkerhorn1@gmail.com. Following are excerpts from the document.

• "Salmon have always been an integral part of our economy, as well as a fundamental part of our identity as Alaskans. We measure the value of salmon not only in escapement numbers and dollars, but also in their ability to enrich our lives and connect us with the land we cherish and call home."

• "Alaskans have long supported salmon-friendly policies and regulations. And that support has paid off in the most robust wild salmon runs in the world," noting Alaska has more than 18 state and federal policies that address salmon habitat protections.

• Supporters of the "Stand for Salmon initiative, want to throw out a system that has worked for decades and replace it with one that is overly cumbersome, too rigid, too expensive and too time-consuming. For communities like ours, it adds costs we can ill afford for little to no gain."

• Pointing out a resolution recently adopted by the Soldotna City Council, Parker the city thinks "a legislative process which allows for intense public input and review, rather than the proposed ballot initiative, would be a better approach to developing a new regulatory framework for salmon protection and development permitting…."

• A Kenai Chamber of Commerce resolution said the "ballot initiative places unattainable protection standards on community and village development, both large and small. Under the proposed permitting process, road projects, water projects, wastewater treatment projects in our communities would require a major permit as described by the initiative language."

• Soldotna's "immediate concern," is re-permitting its wastewater treatment facility because "under Proposition 1, existing operations would only be exempt until their current permits expire. After that, they would be required to reapply for permits under the new regulations. Many operations or projects, potentially … would not be able to comply."

• The current permitting process for Soldotna's wastewater facility "applies science-based standards specific to our unique operation and location. These standards are designed to avoid adverse impacts to water quality and aquatic life, including salmon, and the city has invested significant resources to ensure that these standards are met."

—KAY CASHMAN

Contact Kay Cashman at publisher@petroleumnews.com