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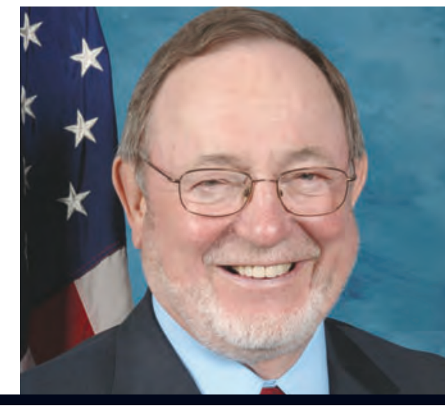

page 3 Q&A: Young urges national energy, Arctic plans; pushes ANWR drilling

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Bridge going in

CONOCOPHILLIPS ALASKA

First phase of girder placement for Nigliq Channel bridge work for ConocoPhillips Alaska's CD5 project; photo taken in late October. See story this page.

Gara wants pause on Nuna royalty for new administration

REP. LES GARA

Rep. Les Gara is asking state officials to delay a decision on reducing royalty rates for a proposed North Slope development until after Governor-elect Bill Walker takes office.

"The outgoing Parnell Administration should leave the initiation of a proposal on this major royalty reduction for Governor-elect Bill Walker. A departing governor should not set in motion a proposal decreasing the revenue we receive for our oil by potentially tens of millions of dollars, or more, in his last two weeks of office," Gara wrote to Natural Resources Commissioner Joe Balash and Division of Oil and Gas Director Bill Barron.

In an Oct. 28 ruling signed Oct. 29, the Alaska Department of Natural Resources proposed to drop the royalty rate on five leases at the proposed Nuna development to 5 percent if operator Caelus Natural Resources Alaska LLC sanctions the project by the end of the year and meets spending and development targets through early 2017.

see **ROYALTY RATES** *page 14*

BC gets fresh dose of LNG hope; TransCanada counts on Petronas

From its ringside seat, TransCanada is confident that the British Columbia government has emerged victorious from its battle with the industry over LNG taxes and will secure a final investment decision in December from the mercurial Petronas to proceed with its Pacific NorthWest project, company executives told analysts Nov. 19.

Alex Pourbaix, a TransCanada executive vice president, said the big uncertainty facing LNG proponents has been related to the royalty the provincial government was planning to impose.

"From my perspective, the announcement by the British Columbia government on the royalty was well within the reasonable expectations of the developers we're involved with," he said. "That was a pretty good outcome.

"As a result I think that issue has been taken away," Pourbaix said, suggesting that the new challenge for the proponents will be whether the overall cost of the projects can "deliver adequate netbacks."

He said TransCanada's partners in four pipeline proposals — notably the Prince Rupert Gas Transmission line to deliver up to 3.6 billion cubic feet per day to Malaysia's Petronas and the Coastal GasLink line to transport 4 bcf per day to the

see **LNG HOPE** *page 14*

EXPLORATION & PRODUCTION

Liberty again

Hilcorp to file new plan for field as acquisition of BP assets completes

By ALAN BAILEY
Petroleum News

JANET WEISS

GREG LALICKER

Having purchased a large slice of BP's interests in four BP northern Alaska oil fields, Hilcorp Alaska is going to file a new proposed plan of the development for the Liberty field, offshore in the Beaufort Sea. Hilcorp has acquired a 50 percent interest in Liberty and is now the field operator. Hilcorp has also acquired all of BP's interests in the Endicott and Northstar fields in the Beaufort Sea, and a 50 percent interest in the Milne Point field in the central North Slope.

During a presentation to the Resource Development Council's annual conference on Nov. 19, Janet Weiss, president of BP Exploration (Alaska) Inc., said that the deal to sell BP assets to Hilcorp had closed on Nov. 18. The sale of the assets would enable BP to focus its efforts on the huge Prudhoe Bay field, Weiss said.

"It allows us to focus really operationally on

see **LIBERTY AGAIN** *page 15*

EXPLORATION & PRODUCTION

Another rig for Kuparuk

Conoco contracts with Nabors for new coiled tubing rig; Doyon rig ordered earlier

By KRISTEN NELSON
Petroleum News

TROND-ERIK JOHANSEN

ConocoPhillips Alaska has contracted with Nabors Alaska Drilling for a new coiled tubing drilling rig, the company's president, Trond-Erik Johansen, told the Resource Development Council's annual conference in Anchorage Nov. 19. The new Nabors rig will begin drilling in late 2016.

This is the second new rig the company has contracted for this year. In July Conoco announced a contract with Doyon Drilling for a new-build rotary rig to begin drilling at the ConocoPhillips-operated Kuparuk River field in early 2016. Doyon 142 will be the first new-build rotary rig added to Kuparuk's fleet since 2000.

The new rig, Nabors CDR3, is a sister rig to Nabors CDR2 which has drilled 80 wells since it began operation in 2009, ConocoPhillips said in a Nov. 19 statement.

"Coiled tubing drilling has proven very successful at Kuparuk, helping to maximize oil recovery in a complex reservoir," Johansen said in the statement. "Doubling our Kuparuk CTD capacity will allow us to access more challenged oil and help stem North Slope production decline."

see **KUPARUK RIGS** *page 11*

EXPLORATION & PRODUCTION

'Pace is everything'

Caelus planning to spend $500M in 2015 on Slope exploration, development

By ERIC LIDJI
For Petroleum News

With about eight months of Alaska operations under its belt, Caelus Natural Resources Alaska Inc. is expecting a year of expansion, Senior Vice President for Alaska Operations Pat Foley said at the Resource Development Council's annual meeting on Nov. 18.

The Dallas-based independent is expanding the gravel island at its Oooguruk unit, starting preliminary work on the Nuna satellite to Oooguruk and conducting its first exploration work at acreage far from its existing properties. "One thing you'll find about Caelus: We're not going to let the grass grow under our feet," Foley said. "Pace is everything. We're not going to be careless, but we're going to go as fast as we can."

Even though Eni Petroleum retains its longstanding 30 percent interest in the Oooguruk unit, the minority stake only covers activities at the drilling island — not the onshore Nuna expansion project or the new exploration acreage.

After months of negotiations and one major amendment to terms, Caelus closed on its acquisition of the Alaska assets of Pioneer Natural Resources Alaska Inc. in April 2014.

The deal may have initially looked like a bid for

see **CAELUS SPENDING** *page 16*

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ON THE COVER


● GOVERNMENT

Young urges national energy, Arctic plans

Alaska's congressman will continue to push ANWR drilling, icebreaker funding, development in National Petroleum Reserve-Alaska

By STEVE QUINN
For Petroleum News

U.S. House Rep. Don Young says he's ready for Congress to take significant steps in advancing the nation's ability to develop its own resources. On Election Day, the Republicans fortified their majority in the House while taking over in the Senate for the upcoming Congress in January.

Young says he believes it's time for the country to draft an energy policy led by oil and gas development but also to include other power generation such as wind and hydro.

He also says he believes ANWR will have the support of Congress and he would like for any legislation to be a standalone effort.

REP. DON YOUNG

Young discussed his recently his short- and long-term vision for resource development with Petroleum News.

Petroleum News: Let's start with makeup of the Congress. The House Republicans picked up a few seats and the Republicans wrested control from the Democrats in the Senate. How do you think this makeup will or won't help advance some of oil and gas issues that stalled?

Young: I think it's going to be helpful. We've done a pretty good job in the House. The Senate just didn't do anything. I expect to pass ANWR out of the House relatively fast. I'm going to try to keep it as a separate bill so it does draw attention. I'm going to try to get the majority of the House and the Senate to set down an energy policy. Because even people over the years, we still have not had an energy policy that made sense as far as where we are going to be 20 years, 30 years, 100 years from now.

Oil and gas, of course, is still going to play a major role until we run out. I was told when I was 5 years old that we were going to run out. We've got more oil now that we've had ever before, well not more oil but more discoveries. That's the reason why we are producing so much now off of private land.

ANWR will be passed and we expect Keystone will pass. Having said all of that, we will set this policy before the public and explain to them why this is important for the future. Then if the president wants to veto it, let him veto it. It does set the stage for the '16 election. We will keep control and I think this is one of the major issues the public is interested in.

Petroleum News: So how can the public appreciate something like Keystone when many would see it as something for Canada, not so much the United States?

Young: We are a North American continent. Keystone can be one of these security links that we can have and not be so dependent on Venezuela, which is a rotten country to its core, or Brazil to a point where they are one of the players; both otherwise less settled countries as far as politics, so Canada will be our partner. I look at that as a way we can safeguard our supply of oil in times of what I call global stress, so I do believe that scenario would be beneficial to immediate jobs, but more than that, dependability of oil availability to American public.

Petroleum News: Alaskans sometimes expect the delegation to advance the state's interest first, so why does this matter here?

Young: We believe that would relieve some of the efforts in case we have another embargo, political unrest, war in the Middle East, revolution in Venezuela, all these things we shouldn't be depending upon when we could be more dependent upon Canada and Canada is our good neighbor.

Petroleum News: OK, let's go back to your thought of an energy policy. Why do you believe this country has not been able to craft a meaningful energy policy?

Young: The main thing is it's because it's a political ping-pong ball. You have those who say fossil fuels, including this president, are terrible. You can't use fossil fuels. It's ruining this climate. The public is being destroyed. Then you have those who say you can't use nuclear power. It's dangerous and you shouldn't use it. Look what happened in Japan. Then you have those who say we will solve all of those problems by conservation. They forget you can't conserve your way to prosperity. Then you have those who say we can use exotic fuels such as wind mills, which are subsidized and solar panels, which are still subsidized and still can't move a truck, a plane, an automobile or a train.

No one has sat down and said what are the necessary Btus we have to have for an advanced society in the period of 100 years? I say put it all in the soup pot and make sure it works together. That's what we have not done. That's why we have always been at the mercy of fossil fuels from foreign countries. Fossil fuels is still the most immediate, still the cheapest way to move an object and we have to utilize to the best of our advantages but including others to the development of them so we have a whole package of cheap energy so we can keep growing as the population increases.

Petroleum News: Your colleague Lisa Murkowski likes using the phrase all of the above when it comes to energy policy. Is that how you're seeing it, too?

Young: A little bit of each. The truth of the matter is we are going to utilize those Btus, that carbon source, at some time. We've got to be planning how much coal we'll be burning and how will we burn it and include how much oil will be available and where will we use it, then how can we use it in the most efficient way.

In the meantime let's build some hydro sites and nuclear sites and wind power, so we have an abundance for what we call use for stationary energy, otherwise can be used for a houses for heat or an office for heat. Then use those mobile sources of energy for movement of commerce.

That's what I call an energy package and I believe we ought to be looking at that. We've done a terrible job of it. It's all run on a political basis instead of sitting down and saying how much do we need and what will work.

If we have a package put together, they all should accept it. Will they accept it willingly? No. The fact is I think the general public will, not the interest groups. We need that product (fossil fuels) to move our commerce otherwise we can't do it. I'm sitting there thinking I want wind power. It's subsidized. It's not efficient yet. But by having it, we are eventually going to develop batteries or some form of storage. See that's the problem. We have wind one day, and not the next. We have wind for 12 hours and not the other 12 hours. It can produce energy. That's no secret. Same thing for water power. This built the United States. The first steel mills were run on water power.

Q AND A

So if we put out a plan and say this is what we need and this is how much we are going to be able to produce the next 100 years, we will have a plan. It's not going to be an easy sell.

Petroleum News: Let's go to ANWR. You mentioned that earlier. With oil more accessible in the Lower 48, critics say we don't need ANWR. Why do you believe it's still important?

Young: The first time I passed that bill, we can't do it fast enough. It won't do any good. It won't lower the price of oil. It won't make oil available. That was 35 years ago. ANWR is not a quick solution. If we were to pass an ANWR bill, it would take 15 years to get oil into the pipeline. In 15 years a lot of different things can occur. This goes back to my argument that an abundance off of private land is not going to last forever. We all know that. We have an abundance of that now. If we start running out, we have to have availability of oil that comes from domestic fields.

Look at Keystone — that will still be providing. But that's only 500,000 barrels per day. We are not going to decrease consumption We are going to increase consumption. We should look at ANWR as a beginning, as a potential to provide for instead of saying wait until we need it. We've played that game. I say let's have it available in 15 years when we will probably need it.

Petroleum News: What about the prospects of getting a gas line built? Are you pleased with the progress state lawmakers and (outgoing Gov.) Sean Parnell have made with the producers?

Young: I'm hoping it's a beginning. I've been in the state 65 years and I've heard about the gas line all 65 years. That's the big elephant in the room, the gas line for the future of the state of Alaska. ANWR isn't really ours.

see **YOUNG Q&A** page 13

● NATURAL GAS

Canadian LNG wants US gas

Concern that facilities will be denied access, could be crucial to demonstrating 20-year supply to Canada's National Energy Board

By GARY PARK
For Petroleum News

Proponents of LNG development on Canada's East Coast have cause to worry about how far moratoriums on fracking in their shale gas region will extend and whether Nova Scotia and New Brunswick will follow British Columbia's lead and impose a special levy on LNG exports.

But, for some, there is an even deeper concern over whether their facilities will be denied access to United States gas, which could be crucial to their chances of demonstrating a 20-year supply before Canada's National Energy Board will grant an export permit.

The U.S. Department of Energy has granted a number of applications to ship U.S. gas overseas, but none of those involves Pieridae Energy's planned C$8.3 billion LNG facility in Nova Scotia.

That's about to be put to the test through a request by Pieridae that, like two other projects in the Atlantic region, hopes to rely primarily on gas from the Marcellus formation in Pennsylvania, New York, West Virginia and Ohio.

DOE submission

It made a submission in late October to the DOE, arguing that its Goldboro project in Nova Scotia "would generate significant benefits to the U.S. public" provided it can draw on U.S. gas supplies.

Pieridae proposes to pipe gas to Canada's Maritimes through a pipeline that would cross the U.S.-Canada border in Maine.

But it has filed two applications to the DOE in the past year, emphasizing that its major customer is Germany's E.ON which has signed a 20-year deal to take 5 million metric tons a year.

Mark Brown, Pieridae's director of project development, noting that the DOE has taken years to process export requests for some U.S. LNG projects, said his company hopes to receive a response in the first half of 2015 if the Goldboro plant is to meet its 2019 target for starting commercial operations and ship up to 10 million metric tons a year.

H-Energy, Bear Head

Meanwhile, India's H-Energy said it has tentative deals with unidentified customers for about half of the planned capacity for its C$3 billion LNG plant in Nova Scotia.

The facility is designed to export 13.5 million metric tons a year, starting with an initial 4.5 million metric tons in 2020.

H-Energy said in a statement that front-end engineering and design work is due for completion by the end of 2014, while a final investment decision is scheduled for mid-2016.

Australia's Liquefied Natural Gas Ltd., operator of the Bear Head project in Nova Scotia, said earlier in November it has applied to the NEB to export 12 million metric tons a year, starting at 8 million metric tons in 2019 and ramping up over the next five years.

The application also seeks a license to import 503 billion cubic feet of gas as feedstock from the Marcellus to bolster supplies from Eastern Canada.

Project director John Godbold said all major governmental approvals are in place or applications are before regulators, with the NEB filing representing a "major milestone."

Chief Financial Officer Ian Salmon said the startup LNG volumes have doubled because "the market is stronger than we anticipated and we are well positioned to meet our customer needs."

Impact of fracking moratoriums

But the fracking moratoriums in Nova Scotia and New Brunswick have placed shale gas development "in question," said Mike Whalen, general manager for Maritimes & Northeast Pipeline, while adding he is optimistic the mood related to a "tremendous resource potential" will eventually change.

"It's a matter of time to build some comfort level with the public and some time to have governments comfortable that they have the proper regulations in place," he told an energy conference in Halifax, Nova Scotia.

However, Nova Scotia Energy Minister Andrew Younger told the conference that although his province's moratorium has caused "some angst or confusion" it is supported by municipalities, First Nations and the "majority of Nova Scotians."

He said his government needs time to deal with concerns about the safety of hydraulic fracturing, monitor studies, conduct research and develop sound regulations.

Brown said the moratoriums would not slow Pieridae's LNG work because it has made progress on accessing gas that does not require fracking, while keeping an eye on further developments of offshore gas fields in Atlantic Canada.

The prospect of British Columbia's planned two-tier tax structure for LNG being transferred across Canada is unclear.

Brown said his company has not had any discussions with Nova Scotia regarding a tax, "but we anticipate that we will continue to have discussions with the province on various project-related topics, including taxation."

The government has not indicated whether or when it might decide on an LNG tax, although the feeling within industry ranks is that such a move is only a matter of time. ●

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CORRECTION

Funding from senior secured note

SAExploration Holdings Inc. is funding its purchase of equipment for Alaska seismic operations through a $150 million senior secured note issued in July 2014. The company earmarked $30 million from those notes for Alaska equipment, of which $20 million has yet to be spent. An article in the Nov. 23, 2014, issue of Petroleum News ("SAExploration planning big spend") mistakenly listed the spending as coming from a more recently announced revolving credit facility. Petroleum News regrets the error.

EXPLORATION & PRODUCTION

CIE expects progress on two fronts

Cook Inlet Energy ready to drill first grass roots well at North Fork and near closing on North Slope Badami Savant acquisition

By ERIC LIDJI
For Petroleum News

Cook Inlet Energy LLC expects to reach two milestones by the end of the year: drilling its first well at the North Fork unit and closing on its acquisition of Savant Alaska LLC.

On Nov. 14, the local subsidiary of Tennessee-based Miller Energy Resources Inc. received a permit from the Alaska Oil and Gas Conservation Commission to drill the North Fork Unit No. 24-26 well at the onshore field in the southern Kenai Peninsula.

Since buying North Fork from previous operator Armstrong Cook Inlet LLC earlier this year, Cook Inlet Energy acquired Rig-37 for dedicated use at the field and increased production some 35 percent, Chief Operation Officer David Hall said during a presentation at the Resource Development Council's annual conference on Nov. 19.

The increase came from boosting production at choked-back wells. But Cook Inlet Energy is now planning a campaign of grass-roots wells at the North Fork field.

The NFU No. 24-26 well would be a directional well starting at the existing North Fork Unit pad and ending at a bottom hole location to the southwest to "recover gas reserves that are not accessible to existing development wells," according to the AOGCC.

Cook Inlet Energy is also in the process of permitting the NFU No. 42-35 well, which would start at the existing pad and continue farther to the south than NFU No. 24-26.

The North Fork unit is currently home to six wells, the earliest dating back to the 1960s and the remainder coming since Armstrong acquired the field in the past decade.

Cook Inlet Energy intends to drill as many as 24 wells from 29 potential locations to fully develop the field over an undefined period of time. At $5 million per well, the program would be expensive. But North Fork gas production is currently under contract with Enstar Natural Gas Co. at a price of $7.05 per thousand cubic feet. Cook Inlet Energy expects to add some $20 million in annual revenues from the field in the short term.

Quick work at Badami

The acquisition of Savant should close "in a few weeks," according to Hall.

With the acquisition, Cook Inlet Energy would — through a subsidiary — operate the Badami unit, an eastern North Slope oil field producing some 1,100 barrels per day,

As it did with its initial Cook Inlet fields, Cook Inlet Energy intends to develop Badami through a combination of working over existing wells and drilling new wells. The current budget calls for two wells — either sidetracks or grass roots wells — in the next year.

But Cook Inlet Energy also sees Badami as an entry point to the basin. "We're excited about that acquisition," Hall said. "I think it gives us a good launch pad for the North Slope. We've been eying that field for a while and think there's lots of room for growth within the Badami field and also, too, some of the exploration acreage that comes along with the acquisition." That exploration acreage includes leases south of the ExxonMobil-operated Point Thomson unit, in which Cook Inlet Energy is a working interest owner.

Those activities come on top of continuing work at the West McArthur River unit and the Redoubt unit, the two fields Cook Inlet Energy operates on the west side of the basin. The company also holds leases and exploration licenses in the Susitna and Iniskin basins.

Cook Inlet Energy is currently producing some 3,070 net barrels of oil equivalent per day, with another 600 net barrels per day pending with the Savant sale, according to Hall. ●

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EXPLORATION & PRODUCTION

Hilcorp asks for Swanson gas rules change

AOGCC asked to define three Swanson River field gas pools as part of company's plan to maximize recovery of remaining hydrocarbons

By KRISTEN NELSON
Petroleum News

Hilcorp Alaska LLC has asked the Alaska Oil and Gas Conservation Commission to amend operating rules for the Swanson River field to formally define three gas pools at the Kenai Peninsula field.

The requested change reflects work the company is doing to increase production from legacy Cook Inlet assets it acquired from Union Oil Company of California and Marathon Oil.

In an application, filed with the commission Oct. 24, Hilcorp said when a unit operating agreement was signed in 1963 Swanson River had four working interest owners — Union Oil, Standard Oil Company of California, Richfield Oil Corp. and Marathon. That agreement consolidated the Swanson River unit and the Soldotna Creek unit into a single operating area for pressure maintenance and increased recovery.

Hilcorp now holds a 100 percent working interest ownership at Swanson.

The original equities in the field were calculated based on a 1963 technical report approved by the U.S. Geological Survey, then the unit manager, "which calculated the volumes of oil and gas in each known productive zone," with gas from the Sterling, Beluga and Tyonek formations injected into the Hemlock formation for pressure support.

Since 1963 oil and gas production has been allocated "under a complex formula by which the federal unit manager," now the Bureau of Land Management, reviews and approves allocations based on volumes allocated to participating areas.

Five gas zones, 19 gas PAs

Hilcorp said that in addition to the Hemlock oil participating area, BLM recognizes five gas zones and 19 gas participating areas which "correlate stratigraphically into four major groups" — Hemlock, Sterling-Upper Beluga, Beluga and Tyonek.

"This complex system provides the basis for the equitable division, reporting and allocation of working and royalty interests throughout" Swanson River.

But since Hilcorp now has 100 percent working interest ownership at Swanson, "the complex formula utilized to equitably distribute production among former working interest owners is unnecessary," the company said.

Hilcorp said the standards for production and royalty accounting continue to protect royalty rights of the federal government and Cook Inlet Region Inc. who jointly hold 100 percent royalty in the field, and the same system protects overriding royalty interest holders of various federal leases.

Goal to maximize recovery

There are 67 wells in the field, Hilcorp said, 36 of which are producing. During June the wells produced 68,882 barrels of oil and 238.787 million cubic feet of natural gas, compared with peak production of 1.457 million barrels of oil in September 1968 and 706.304 million cubic feet of natural gas in October 2004.

Hilcorp said it purchased legacy assets in Cook Inlet "with the intent to maximize the recovery of remaining hydrocarbons." A comprehensive capital workover program includes: repairing broken wells, returning shut-in production wells to service; optimizing existing well completions; pursuing stimulation opportunities; and identifying and then executing new drilling projects.

The company anticipates as many as 15 workovers, six sidetracks and one new well at Swanson River this year, with a similar recompletion, workover and drilling program to continue through 2016, with increased emphasis on gas production.

see **RULES CHANGE** page 6

● PIPELINES & DOWNSTREAM

Energy East faces new barriers

Ontario, Quebec forge united stand on TransCanada pipeline project, setting criteria on GHG emissions, emergency response plans

By GARY PARK
For Petroleum News

Ontario and Quebec, the two provinces that make up more than half of Canada's population, have made common cause by setting conditions they say TransCanada must meet if it hopes to get their support for the C$12 billion Energy East pipeline to the Atlantic coast.

Once seen as the most palatable of the pipeline megaprojects on the table and once viewed as the easy answer to Keystone XL, Energy East is suddenly confronted with the same array of opposition as XL, Northern Gateway and the Trans Mountain expansion.

Topping the list agreed to by Ontario Premier Kathleen Wynne and Quebec Premier Philippe Couillard are four agreements covering carbon pricing and solutions to reduce greenhouse gas emissions, although Ontario has not reached a decision on carbon pricing.

Wynne said the two provinces are talking about "compliance with the highest available technical standards," having contingency plans and emergency response programs in place to handle pipeline ruptures or spills, and making sure that proponents and governments fulfill their duty to consult with First Nations and aboriginal people.

The provinces also insist that TransCanada must consult with local communities to "ensure the project's social acceptability."

Similar to BC demands

It is essentially the same set of demands the British Columbia imposed on Enbridge's Northern Gateway, while stopping short of British Columbia's insistence on collecting a share of revenue generated by the pipeline.

Wynne said she is confident that the conditions are reasonable and that Alberta Premier Jim Prentice will see them as "logical."

She and Couillard agreed that Alberta is under pressure to find ways to move its resources to market, but that has to be weighed against their obligation to "protect people in Ontario and Quebec."

Prentice, who has solid backing from New Brunswick Premier Brian Gallant for Energy East, said he plans visits to Ontario and Quebec in December to make his case for the economic benefits of a west-to-east pipeline.

There was no mention of TransCanada's goal of using Energy East's 1.1 million barrels per day of capacity to wean Ontario and Quebec off using 700,000 bpd of imports to operate their refineries.

As part of their pact, the two provinces are pushing for national targets on GHG emissions to curb the rate of climate change, but those demands are at odds with the mandate of the National Energy Board, which is about to start public hearings on Energy East and pay little regard to the fact that pipelines generate few emissions compared with the use of rail to move crude.

Not responsible for referendum

Peter Watson, chairman of the NEB, told an audience in Calgary Nov. 21 that it's not the federal regulator's job to "conduct a referendum on society's use of fossil fuels every time a proponent proposes to build a section of pipe."

Canada's Natural Resources Minister Greg Rickford said after the same luncheon that Ontario and Quebec can raise their issues with TransCanada or during the NEB hearings.

TransCanada said it will study the principles raised by the two provinces and is ready to work with both governments "in the appropriate manner to make the project successful."

Quebec Environment Minister David Heurtel indicated his province is ready to test that mandate which gives

see **ENERGY EAST** *page 8*

Legal fights carry a cost

Canada takes pride in making a case that it offers untold resources riches in a stable, mostly welcoming environment.

Suddenly there is reason to question that claim as First Nations, environmental groups and other non-government organizations — many of them financed from United States trusts and other sources — drag proposals for pipelines, mines, hydroelectric dams and tanker terminals before the courts.

The feeling among independent observers is that one or both of the pipeline proposals to get oil sands crude through British Columbia to offshore markets is destined to fail, bogged down in protracted and costly legal fights.

And leading the litigation is British Columbia, whose proved petroleum resources alone are estimated at 6.6 billion barrels of oil equivalent, but it estimated by the Globe and Mail to be entangled in 11 projects valued at C$25 billion which have spawned 38 court cases.

Jock Finlayson, executive vice president of the Business Council of British Columbia, said the province's reputation as a haven for investment is in danger of crumbling.

Although protests against resource development are not new, they are "getting more complex and costly over time ... so it does hurt us," he told the newspaper.

The danger is that investors, institutional money managers or corporations may view British Columbia as a place that is "too difficult to do busi-

see **LEGAL FIGHTS** *page 8*

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RULES CHANGE

Formalizing gas pools

The Hemlock oil pool is defined in commission rules as intervals which correlate with the interval of 10,085 feet true vertical depth to 10,816 feet tvd in the Standard Oil Company of California Soldotna Creek Unit 41-4 well. Hilcorp is requesting the definition of three gas pools based on correlations to intervals in that well: the Sterling/Upper Beluga 2,140-4,490 feet tvd; the Beluga gas pool 4,490-5,120 feet tvd; and the Tyonek gas pool 5,120-10,085 tvd.

By formalizing gas pools for the Sterling/Upper Beluga, Beluga and Tyonek, all gas-bearing sands would be included, extending the field's capacity to produce in a technically sound administratively efficient manner.

"Moreover," Hilcorp said, "the vertical definition of each proposed gas pool is identical to long-established production and royalty accounting system currently administered by the BLM."

Hilcorp said it "cannot efficiently produce remaining reserves under statewide gas well spacing rules and restrictions that prohibit commingling" and said existing rules and procedures "are not applicable to today's challenge of enhanced hydrocarbon reserves at this legacy field."

The company is also requesting unrestricted gas well spacing provided wells are at least 1,500 feet from the field's external boundaries, and commingling of gas production within the wellbore from any defined gas pool.

Since there are no competing working interests within the field, "statewide gas spacing rules are unnecessary to prevent waste or protect correlative rights," Hilcorp said, while adjoining owners will be protected by the proposed 1,500-foot buffer.

And since landownership is vertically integrated, "existing accounting and allocation methodologies will ensure that all down hole commingled gas will adequately protect both CIRI's and the federal government's royalty interests," Hilcorp said, while established unit and participating area allocation methodologies will continue to protect the interests of overriding royalty interests.

The company said the proposed changes would reduce administrative burdens, prevent economic and physical waste and improve ultimate recovery of remaining hydrocarbons, while allowing Hilcorp "to target smaller, un-drained portions of isolated areas that cannot be reached by wells conforming to current spacing restrictions" and "maximize recovery from bypassed pay while allowing for continued production from established development wells."

The commission has tentatively scheduled a public hearing on the application for Jan. 15 and said in a Nov. 20 notice that if it does not receive requests for the hearing by Dec. 21 it may issue an order without a hearing. ●

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● NATURAL GAS

Hilcorp's Harvest purchasing LNG facility

Titan Alaska Port Mackenzie facility liquefies Cook Inlet natural gas which is then trucked to Fairbanks; Harvest plans expansion

By KRISTEN NELSON
Petroleum News

Hilcorp Alaska subsidiary Harvest Alaska is in the process of purchasing Titan Alaska's liquefied natural gas facility at Port Mackenzie, and plans to expand the facility.

Hilcorp and Harvest said Nov. 20 that an agreement to purchase has been executed for the LNG plant and related LNG transportation equipment.

The Titan plant has a maximum output of 50,000 gallons of LNG per day, most of which is trucked to Fairbanks, offloaded at Fairbanks Natural Gas' regasification facility and sold to FNG for pipeline distribution.

Sean Kolassa, president of Harvest Alaska, said in a statement that Harvest is interested in expanding the facility.

"We're working to locate the equipment needed to increase production" from the facility at Port Mackenzie, he said.

Harvest will continue to transport LNG by truck, but due to the facility's proximity to the Port Mackenzie rail extension under construction, Harvest may also construct a short rail spur, allowing it to deliver LNG to Fairbanks via railcar.

Hilcorp provides 100 percent of the natural gas that supplies the LNG facility and its gas sales to Fairbanks utilities will continue under consent decree pricing established by the state in 2013, with costs for processing and transportation additional. Hilcorp said the final delivered price would still provide Interior consumers with a source of energy cheaper than fuel oil.

Hilcorp said it has increased natural gas production from its Cook Inlet properties almost 40 percent over the last three years, with capital projects, drilling, facility and maintenance all a part of the nearly $1 billion investment the company has made since it entered Cook Inlet in 2012.

There are nine full-time Titan employees operating the Port Mackenzie facility and Harvest said it anticipates making employment offers to all of them.

The transaction is expected to close pending receipt of all necessary government and regulatory approvals.

RCA

One of the approvals needed is from the Regulatory Commission of Alaska.

On Nov. 21 FNG requested approval from the commission for a new LNG supply agreement, LSA, with Harvest, replacing its existing LSA with Titan because of the pending sale.

FNG said the new agreement is for 10 years, replacing an agreement with Titan which ends in 2018. It said Harvest offered a favorable price, with a base of $15 per thousand cubic feet, mcf, escalating 2 percent beginning in year three, with adjustments to market during years six through 10.

FNG said the Titan LSA is based on the Hilcorp Consent Decree, with annual price escalations of 4 percent, while under the proposed Harvest LSA FNG's price will remain level for two years and thereafter increase 2 percent.

Potential future new supplies of LNG are projected to be comparable to pricing under the LSA, FNG said, with WesPac

Harvest will continue to transport LNG by truck, but due to the facility's proximity to the Port Mackenzie rail extension under construction, Harvest may also construct a short rail spur, allowing it to deliver LNG to Fairbanks via railcar.

Midstream LLC recently providing a conceptual proposal from its proposed 250,000 gallons per day LNG plant using Cook Inlet gas and an estimated price of $14.57 per thousand cubic feet beginning in early 2017, "under terms that are much less favorable than the LSA."

WesPac said in an Oct. 30 proposal to FNG that it "has reached an agreement to acquire Cook Inlet gas reserves," with that transaction expected to close by the end of the year and reserves to be in production by 2016. WesPac said the reserves would be able to serve "the entire Fairbanks market for at least 20 years based on publically available projected demand profiles."

'Take-or-pay'

FNG said the WesPac proposal was "essentially for a take-or-pay agreement" with a penalty if the buyer takes less than a month's projected usage. "There is no similar penalty provision in the LSA," FNG said.

The WesPac proposal is also for a 20-year term, raising the possibility that Fairbanks utilities would have to pay a termination fee to get out from under the agreement if pipeline gas became available in the mid-2020s.

The Harvest LSA does not contain a take or pay provision and in years six through 10 under the LSA the price "will be adjusted toward the lowest price available in the Fairbanks market" and thus would "reflect any significant drop in the cost of supplying LNG to Fairbanks."

FNG said no other LNG supplier had suggested a similar provision.

"Similarly, no other supplier has indicated a willingness to offer a supply contract without take-or-pay provisions, or the flexibility of the LSA for daily changes in nominations."'

FNG said it had negotiated "very favorable" terms under the LSA, terms not available from its current suppliers, Titan and ConocoPhillips, and not likely to be offered by potential providers, including WesPac and the Alaska Industrial Development and Export Authority/MWH. ●

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● GOVERNMENT

Walker holds transition meetings, names 2

Governor-elect tells RDC conference he will aggressively pursue ANWR drilling, fight those opposed to Alaska resource development

By **KRISTEN NELSON**

Petroleum News

As the winning 'unity' ticket of Bill Walker and Byron Mallot moved rapidly toward a Dec. 1 inauguration, the governor- and lieutenant governor-elect held transition meetings, Walker named two cabinet members and other officials and spoke at the annual Resource Development Council conference in Anchorage Nov. 20.

Vote counting dragged on after the Nov. 4 election, but Walker said at the RDC conference that once it looked likely he would become governor he contacted the Alaska Oil and Gas Association, the Alliance and RDC, asking to meet with their boards.

Walker said he sat down with the boards "to give them assurances of my passion for Alaska, my passion for oil in the pipeline, my passion for opening ANWR." He said he had been to Washington, D.C., dozens of times to testify for opening up the Arctic National Wildlife Refuge for drilling. "I will be extremely aggressive as your governor in opening ANWR: It's time that we do that," he said.

Walker also said he would "continue what has been started." He said there has been concern that he would want to start over. 'I'm not a start-over person," he said. Noting that he has a construction background, Walker said he's remodeled a lot of houses and done a lot of construction work. "I've never started over. I always finish the job that I've been handed and that's what I'll do this time."

BILL WALKER

More companies

Walker said in addition to wanting to see more oil in the pipeline he wants to see more oil companies in Alaska.

"I want to see barriers to entry lessened in such a way that more companies can come to Alaska," he said.

But, he said, he applauds the companies who are here now.

Born in Alaska, Walker said he knows the level of services available in the state before the first North Slope well was drilled.

"You can't be anything but absolutely pro-oil development in this state to be a successful governor these days."

He called for diversifying the state's economy, but said Alaska is "an oil and gas state. ... We need to drill more; we need to get more oil in the pipeline; and we ... just need to be more aggressive with those that don't allow us, will not allow us to do that."

He called the trans-Alaska oil pipeline "the safest pipeline in the world" and said "we need to make sure that it is full of oil."

On the Alaska liquefied natural gas project, Walker said he raised his hand 37 years ago in Valdez in favor of involvement in a gas line, "and I still have my hand in the air, because ... that's still a project that we need to be advancing."

"So the thought that I would do anything but expedite and move along a gas line is foolish, because I will be extremely aggressive in that regard."

He noted the state's fiscal concerns with the price of oil dropping, and said he "had a good conversation" with House Speaker Mike Chenault and Senate President

see **WALKER TRANSITION** *page 9*

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LEGAL FIGHTS

ness."

The Fraser Institute thinks the flash-point has already been reached as investors show special concern about the impact of unresolved aboriginal land claims.

The conservative-leaning think tank has already pointed to British Columbia's dubious standing in its latest annual ranking of petroleum jurisdictions.

It lists the province as 19th among 44 jurisdictions of the 156 it measured against a long list of criteria from fiscal terms, to taxation, environmental regulations and disputed land claims.

One of the tipping points for British Columbia rests on a showdown between protesters and Kinder Morgan, the proponent of plans to triple capacity to 890,000 barrels per day of its Trans Mountain pipeline from the oil sands to refineries and tanker ports in Metropolitan Vancouver and Washington state.

Since the Royal Canadian Mounted Police started acting on a British Columbia Supreme Court injunction more than 50 people who have tried to blockade work by Kinder Morgan to drill two 250-meter deep test holes to determine if a pipeline could be run through Burnaby Mountain have been arrested.

Many of those arrested agreed not to return to the site, but the others are facing charges.

A Simon Fraser University professor, Lynne Quarmby, who was among those arrested, has become the face and voice of the protesters in challenging the Canadian government's 2012 legislation that she insists stripped environmental oversight from the National Energy Board.

She said the NEB regulatory process has been reduced to a "sham. ... There's no meaningful environmental regulation and there's no respect for First nations' peoples. We have a process that does not allow consideration of climate change in the evaluation of a major fossil fuel project at a time when climate change is the biggest problem facing humanity."

What separates the Trans Mountain project from earlier protest movements is the financial muscle being applied in regulatory and court actions by the cities of Vancouver and Burnaby in their fight against pipelines and increase crude tanker traffic in Port Metro Vancouver.

Gregor Robertson (Vancouver) and Derek Corrigan (Burnaby) were re-elected as mayors of the two cities in mid-November by wide margins, which many credit to their efforts to thwart Kinder Morgan.

On the flip side, others are quietly mounting an argument in favor of the natural resource industry, which accounts for 13 percent of British Columbia's gross domestic product and contributes billions to the provincial treasury to pay for education, health care and transportation systems.

There is a deep-seated mood of concern over the extraction, processing and export of oil sands bitumen from Alberta. If that takes hold in the LNG sector, which will be heavily dependent on the fracking of shale gas in British Columbia, the province could quickly find itself in a financial bind, having staked a lot of the province's future on its natural gas industry.

—GARY PARK

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ENERGY EAST

the overriding authority to approve interprovincial pipelines with the Canadian government.

Even Ontario's Energy Minister Bob Chiarelli said his province does not intend to follow Quebec's plan to conduct its own environmental assessment of Energy East, noting that would take three to four years to complete, long after the NEB will have made its recommendation to the Canadian government.

He conceded that provinces can participate in NEB hearings only as interveners and may not be able to force an issue of the pipeline is approved by the NEB.

Chiarelli said the best provinces can hope for is that the NEB will endorse their call for conditions as it did in attaching 209 conditions to Northern Gateway.

Injecting a note of reality to the discussion, he said: "When you consider the needs of Ontario and Quebec, we need natural gas, we need oil and it is either going to move by train or by pipe."

However, the fight in Quebec is decidedly uphill, with the latest poll showing support in that province for Energy East is at only 33 percent, despite TransCanada's estimate that Ontario and Quebec will collect billions of dollars in tax revenues over the lifetime of the pipe and gain thousands of construction and manufacturing jobs. ●

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● EXPLORATION & PRODUCTION

A step closer to development

Armstrong left 'a lot of money on the table' in recent lease sales, but worth it to advance development, says Kerr

By KAY CASHMAN
Petroleum News

In a Nov. 19 interview, Armstrong Oil & Gas Vice President Ed Kerr told Petroleum News "in 10 or 15 years people will talk about Repsol the same way they talk about BP and ConocoPhillips today, in terms of … contributing to Alaska's economy."

Currently BP and ConocoPhillips are Alaska's largest oil producers, while Repsol E&P USA, a subsidiary of Spanish mega-major Repsol and Armstrong's primary partner on the North Slope, is the most active explorer in the area. Between the Kuparuk River and Colville River units, the area is called the billion-dollar fairway because of its prospective geology and proximity to infrastructure.

According to a top Repsol manager in Alaska it's not a matter of "if" the companies will proceed with development of the region, but "when." The companies are the largest leaseholders in the billion-dollar fairway.

The Nov. 19 interview with Kerr followed four northern Alaska oil and gas lease sales in Anchorage — three state and one federal — with Armstrong affiliate 70 & 148 the apparent high bidder on 179,832 of the 708,346 acres that garnered bids.

While the company picked up acreage south and east of Meltwater and from the Nikaitchuq unit area in the nearshore Beaufort Sea to large blocks south of Prudhoe Bay, where it competed with Oooguruk unit operator Caelus on a number of leases, what drew the most attention was its high bids on tracts in the billion-dollar fairway.

Armstrong's bids on tracts 1037 and 1040 were $2,537.73 an acre, totaling some $6.5 million each for the tracts, the highest per-acre and tract bids in any of the sales. (See full story and map in last week's edition of Petroleum News.)

Bids of $1,757.89 per acre for tracts 1041 and 1044, produced bids of $4.5 million per tract. A bid of $1,457.37 per acre for tract 1142 yielded a total bid of $3.73 million, and $1,007.73 per acre for tract 1139 produced a total bid of $2.58 million.

There was competitive bidding on a number of fairway tracts, but no per-acre bids in the range of those Armstrong's affiliate put on the table. The company paid an average of $212.70 per acre.

Armstrong an operator?

When asked whether Repsol would operate its newly acquired acreage, Kerr said "I think there is the opportunity for Repsol to operate some of these tracts — and an opportunity for us to," which would be a first for Armstrong in northern Alaska.

"Those bids are a result of a couple things," Kerr said, referring to the high dollar amount Armstrong tendered for those in the fairway: "The last three years of exploration and delineation drilling with Repsol."

When the time comes, Kerr wants to be ready to advance development.

"We left a lot of money on the table but sometimes you need to, you're better off doing that, so we can move everything


ED KERR


BILL ARMSTRONG

ahead," Kerr said.

But the company's bids in the fairway and elsewhere in northern Alaska are also the result the recent oil tax change, Senate Bill 21, supported by Gov. Sean Parnell and passed into law in 2013, Kerr said. SB 21 was designed to improve the investment climate for oil in Alaska.

"What you are going to see as a result of SB 21 from Repsol and Armstrong is more jobs on North Slope, and more state … revenue from where they haven't gotten it before, in addition to extending the life of TAPS (trans-Alaska pipeline system)."

Repsol, Kerr said, "has been a great partner for us — Repsol is going to be a piece of the future of Alaska.

Praise for Walker's exploration incentives

Gov.-elect Bill Walker also received praise from Kerr for his mention of the need for increased exploration incentives in a recent meeting with an oilfield services group.

"I commend that thought process by the governor-elect because it's a way to get more wells drilled, along with SB 21 to take them to development. As long as SB 21 stays in place. Using us as an example, SB 21 has gotten us this far."

More progress this winter

Repsol plans to drill three exploration wells during this coming winter's North Slope exploration season in order to assess previous discoveries it made between the Kuparuk River and Colville River units.

The company is permitting five potential well locations for the program, which would give it some flexibility as it gleans more data from previous drilling.

The program would involve three rigs drilling simultaneously.

Judging purely by drilling locations, Repsol is still analyzing the breadth of it and its partners' leasehold.

The five proposed well locations cover the swath of land (fairway) where Repsol has been exploring for the past three winters and even stretches a bit farther to the south.

After cautiously advancing in the state for years through lease sales and joint ventures, Repsol made a big bet on Alaska in March 2011 by acquiring a 70 percent working interest in North Slope leases held by Armstrong affiliate 70 & 148 LLC and its fellow Denver-based independent GMT Exploration LLC for $768 million, $750 million if it earmarked for exploration. ●

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GOVERNMENT

EIA launches oil import analysis tool

The EIA, or Energy Information Administration, has launched a new, online tool to enable policymakers, analysts and general members of the public to track trends in the import of crude oil into the United States. Rather than presenting a static report or table showing oil import data, the new tool enables a user to display data by month or year as maps, charts and graphs, using a variety of selection criteria such as crude type, source country, port of entry, processing company and processing refinery.

EIA says that the tool can prove particularly helpful in assessing the impacts on oil imports of the growing production of oil in the United States. An assessment of this type is a factor in evaluating the potential impact of relaxing limitations on the export of U.S. crude, the agency says.

Initial use of the tool has already provided some useful insights, EIA says. For example, in response to the dominance of light sweet grades in new U.S. oil production there was a 71 percent decline in the import of light crude between 2010 and the first eight months of 2014. Light crude imports from Nigeria and Algeria have particularly declined, with the decline in U.S. imports being especially notable on the Gulf Coast.

In 2013 imports by the 10 largest U.S. refineries accounted for 55 percent of light crude imports, with the remainder of those imports scattered among 100 other refineries, the EIA says. And, while some refineries appear to have accommodated increasing volumes of domestic light crude by reducing their imports of heavier crudes, some refineries have modified their facilities to accommodate higher volumes of heavier crude imports, the agency says.

"Our nation is importing record low levels of oil from the world's volatile regions and exporting record volumes of all sorts of energy to our friends and allies," said Sen. Lisa Murkowski, R-Alaska, an ardent supporter of relaxing U.S. oil export restrictions. "This new tool is a welcome addition to the analytical arsenal at EIA."

The tool can be found on the EIA website at: www.eia.gov/beta/petroleum/imports/browser/

—ALAN BAILEY

EXPLORATION & PRODUCTION

Repsol spending $240 million this year

Repsol E&P USA Inc. plans to spend $240 million on its exploration work this winter.

The Spanish super-major intends to drill three exploration wells and conduct two well tests on its leases in the Colville River Delta and conduct a large 3-D seismic survey on state and federal acreage south of Nuiqsut, Repsol Alaska Project Manager Bill Hardham said at the Resource Development Council's annual meeting in Anchorage on Nov. 18.

The company plans to drill the Qugruk No. 8, Qugruk No. 301 and Qugruk No. 9 wells this winter, Hardham said. Repsol is also permitting two alternative drilling locations.

"We currently waiting for our permits to be approved and for the weather conditions to get to the point where we can still building the ice roads, and we expect to be quite active here, starting in about the middle of December or so, on this project," Hardham said.

The Horseshoe 3-D Seismic Survey would extend from either side of the Colville River south of Nuiqsut, covering Repsol leases in the area as well as neighboring leases, including the Greater Mooses Tooth unit in the National Petroleum Reserve-Alaska.

Through its three previous winters in Alaska, Repsol has drilled nine wells, conducted two 3-D seismic surveys at a cost of some $650 million, according to Hardham.

—ERIC LIDJI

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WALKER TRANSITION

Kevin Meyer about working together to address the state's fiscal situation.

"But it's not only a matter of fiscal situation, it's about what can we do to grow our economy — and that's where you come in," he told the RDC audience, saying he would be reaching out to them.

As far as the administration, he said "I'm not going to try to fix something that's not broken. I'm not taking office to slow anything down. There are a lot of things that are working very well and they'll continue."

Some areas can be improved, but it's not about wholesale change, Walker said, "it's about Alaska; it's about Alaska moving forward; it is about the future."

Some positions filled

Walker began naming administrative officials Nov. 19, with Jim Whitaker of Fairbanks named as chief of staff and Grace Jang of Anchorage named spokeswoman.

Whitaker has been mayor of the Fairbanks North Star Borough, an Alaska legislator and a Fairbanks businessman.

"I have known Jim for many years and regard him as a trusted advisor," Walker said in a statement.

Jang was most recently an investigative reporter and executive producer at KTUU Channel 2 in Anchorage.

Walker named his first two commissioners Nov. 22, Randall Hoffbeck at the Department of Revenue and Mark Myers at the Department of Natural Resources.

Hoffbeck was chief financial officer for the North Slope Borough from 2006-11, and was Mayor Charlotte Brower's chief of staff in 2012. His 30 years of tax administration experience includes time as the petroleum property assessor for the state from 2001-06.

Myers has been vice chancellor of research at the University of Alaska Fairbanks for the past four years. From 2006 to 2009 he was national director of the U.S. Geologic Survey and from 2009-10 he was Alaska's first Natural Gas Inducement Act coordinator. He was director of DNR's Division of Oil and Gas from 2001-05. ●

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FINANCE & ECONOMY

Oil industry employment hits records

Employment in the Alaska oil industry looks set to hit a record level again this year, Neal Fried, an economist with the Alaska Department of Labor, told the Resource Development Council's annual conference on Nov. 19. Apart from 2010, each year since 2007 has marked a new record for employment levels in the industry. The employment level in the North Slope industrial complex is particularly impressive, with an increase of about 1,200 in personnel compared with last year, Fried said.

"There were more people in Prudhoe Bay this year than there ever have been in the history of our state," Fried said.

However, the employment growth rate in Alaska as a whole had slowed, a phenomenon that is cause for "some concern," he said. And, as the United States recovers from an economic recession, the unemployment rate in Alaska has started to edge above that for the United States as a whole for the first time since 2007. That unemployment rate situation is not unusual, with Alaska having the most seasonal employment pattern in the country, Fried said.

And, overall, the state is well-off. Even allowing for the high cost of living, the standard of living is pretty high when compared with other states, Fried said.

—ALAN BAILEY

● ENVIRONMENT & SAFETY

Beaufort Sea research program under way

New study into interactions of environmental systems involves collaboration between multiple government agencies, Shell Oil

By ALAN BAILEY
Petroleum News

The Bureau of Ocean Energy Management and the National Oceanographic Partnership Program have announced a new research initiative that will investigate the interrelationships between physical, biological, chemical and human systems in the Beaufort Sea, the Bureau of Ocean Energy Management, or BOEM, said Nov. 21. The objective is to use both scientific data and traditional knowledge to gain insights into how the various environmental systems are interlinked, to advance predictive capabilities and to ensure the protection of areas of known high biological productivity and of subsistence importance for local communities, BOEM said.

The study, which will encompass a region extending from Barrow, at the extreme northwest of Alaska, to the Canadian waters of the Mackenzie River delta, is expected to take at least five years to complete.

The National Oceanic Partnership Program is a collaborative association of federal agencies that coordinates oceanographic research and education.

Agencies and Shell

BOEM said that the new investigation, referred to as the Marine Arctic Ecosystem Study, will involve the U.S. Arctic Research Commission, the U.S. Coast Guard, the U.S. Geological Survey, the U.S. Integrated Ocean Observing System, the Marine Mammal Commission, the National Science Foundation, the National Oceanic and Atmospheric Administration, the Office of Naval Research and Shell Oil Co.

Of particular interest is the impact on the Beaufort Sea of the plume of fresh water from the Mackenzie River that mixes with saltier marine waters as the river discharges into the ocean, BOEM said.

"BOEM is pleased to join our federal and industry partners to undertake this forward-looking project," said BOEM Acting Director Walter Cruickshank. "With widespread interest in the Arctic, including potential oil and gas leasing and development, we're looking to significantly expand our knowledge of the Beaufort Sea ecosystem to inform our decision-making."

A National Oceanic Partnership Program award will go to Stantec Consulting Services Inc., the company selected to lead the team of scientists and technicians from the United States and Canada that will conduct the study. An independent scientific review board will help steer the project and peer review the study results, BOEM said.

Of particular interest is the impact on the Beaufort Sea of the plume of fresh water from the Mackenzie River that mixes with saltier marine waters as the river discharges into the ocean, BOEM said. ●

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FINANCE & ECONOMY

Seven Generations ducks downturn

Fast-growing Seven Generations Energy, which specializes in fracking for shale formations in Western Canada, made its public debut with a splash, despite some backwash from a low-ebb market.

The company raised a combined C$932 million in Canada's second-largest initial public offering of the year behind Encana's initial sale of shares in PrairieSky Royalty for C$1.46 billion in May, the largest Canadian IPO since 2000.

The four IPOs this year in the Canadian oil patch have raised C$2.24 billion, more than quadrupling the C$482 million generated by two deals in 2013.

Seven Generations priced 45 million shares at C$18 (the regulatory filing set the price range at C$17 to C$21) and they were snapped up for C$810 million.

The offering was oversubscribed by 6.75 million shares, allowing the underwriters to exercise their option, adding C$122 million to the deal.

Slump in crude prices

Despite the slump in crude prices that has led to an across-the-board sell off in oil shares and dragged the Toronto Stock Exchange energy index down by more than 20 percent, the market showed a sharp appetite for Seven Generations' prospects in the prolific Alberta Montney region.

But two major shareholders — private equity firms ARC Financial and KERN Partners — scrapped plans for second offerings to coincide with the IPO, deciding instead to retain their positions at a time when the market for energy shares is under heavy pressure.

The appeal of Seven Generations stems from its performance in a challenging and costly sector by using horizontal drilling and multi-stage fracturing on 330,000 net acres in the Montney. It holds an estimated 649 million barrels of oil equivalent in proved and probable reserves and has about 3,000 drilling locations.

Brook Papau, an analyst at ITG Investment Research, said he had not heard any doubts about the "deliverability of the assets."

Seven Generations said it plans to spend C$625 million on its operations in the second half of 2014 and C$1.6 billion in 2015.

—GARY PARK

EXPLORATION & PRODUCTION

US drilling rig count up 1 to 1,929

Oilfield services company Baker Hughes Inc. says the number of rigs drilling for oil and natural gas in the U.S. rose by one the week ending Nov. 21 to 1,929.

The Houston firm said in its weekly report that 1,574 rigs were drilling for oil and 355 for gas. A year ago there were 1,761 active rigs.

Of the major oil- and gas-producing states, Oklahoma gained seven rigs, Texas increased by four, Pennsylvania was up three and Alaska and Louisiana increased one each.

Colorado declined by five, North Dakota was down four, Kansas and Wyoming dropped two apiece while New Mexico and Ohio each lost one.

Arkansas, California, Utah and West Virginia were unchanged.

The U.S. rig count peaked at 4,530 in 1981 and bottomed at 488 in 1999.

—ASSOCIATED PRESS

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KUPARUK RIGS

Johansen said at the RDC conference that ConocoPhillips began adding rigs at Kuparuk after passage of Senate Bill 21, the oil tax reform bill, in the spring of 2013. He said the company immediately contracted for Nabors 7ES, which began drilling in the summer of 2013, and then contracted for Nabors 9ES, which began drilling in 2014.

The rigs are drilling new wells and working over older wells, Johansen said, and additional drilling from just those two rigs, Nabors 7ES and Nabors 9ES, has already added 8,000 barrels of gross oil per day to Kuparuk production.

Flattening decline

Kuparuk production has been declining at about 7 percent a year in recent years, Johansen said, but with the addition of the new rigs that decline is now at 2 percent.

In addition to the new rigs, the Kuparuk Shark Tooth development, drill site 2S, has been approved for construction. Johansen said the site will develop thin sands on the periphery of the fields, sands the companies couldn't see in previous years, until they were revealed by seismic shot in 2011-12. The drill site 2S development is estimated at $500 million, with production in late 2015, peaking at some 8,000 bpd gross.

Another Kuparuk development, the IH drill site at NEWS, Northeast West Sak, has not yet been approved, he said.

This project involves additional surface facilities and some 19 new wells, with an estimated cost of $450 million.

Johansen said the 1H project will involve five horizontal production wells and 14 vertical water injection wells. The production wells will have lateral well bores coming off the central bores reaching into different horizons. Funding approval is anticipated early next year, with production peaking at some 8,000 bpd gross.

Steep Alpine decline

Farther west, at Alpine, decline has been running 12 percent, steeper because Alpine is a smaller field, a smaller reservoir and with different reservoir properties, he said.

Development of the CD5 drill site is the first element in the fight against decline at Alpine, Johansen said, with Greater Mooses Tooth 1 the second building block in taking production at Alpine back up.

CD5, west of Alpine, was approved before passage of SB 21 and is on schedule to be in production in December 2015. A lot of work is done on the project, including completion of a 6-mile gravel access road and the drilling pad and three smaller bridges. Johansen the bridge across the Nigliq Channel is under completion with the 1,400-foot bridge being skidded out on rails to rest on seven piers. The bridge is halfway across, he said, and scheduled to be complete before Christmas. In spring installation will begin of production facilities and ConocoPhillips will begin ramping up to drill. CD5 production is projected to peak at 16,000 bpd.

Greater Mooses Tooth 1, GMT1, is the next building block for increasing Alpine production, and Johansen said the hope is to have that ready for sanctioning the last week of January or early February. But progress on that development depends on getting Bureau of Land Management and Corps of Engineers permits. If it takes longer for the permits that project would be delayed by at least a year because of the ice road season, he said. The project is estimated at almost a billion dollars, with first oil proposed in last 2017 — subject to work beginning this winter — and production expected to peak at some 30,000 bpd.

Beyond GMT1, ConocoPhillips drilled an exploration well last year at what would be GMT2; Johansen said the company is evaluating the results of that well. ●

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LAND & LEASING

BOEM reports on Chukchi lease sale SEIS

In early November the Bureau of Ocean Energy Management published for public comment a draft version of its reworked SEIS, or supplemental environmental impact statement, for the 2008 Chukchi Sea lease sale. And on Nov. 21 the agency filed a report with the federal District Court in Alaska, outlining the status of the SEIS rework project and providing an updated schedule for completing the revised environmental document.

In its latest status report BOEM said that all Chukchi Sea leases remain suspended and that, although Shell has delivered a new Chukchi Sea exploration plan to the agency, the agency will not officially deem the plan to have been submitted until after the new lease sale decision has been made.

The SEIS rework stems from a District Court order upholding an appeal against the validity of the original environmental impact statement for the lease sale. That order requires BOEM to evaluate the potential environmental impacts of more extensive oil field developments in the Chukchi than the agency had considered in the original environmental document.

Shell, ConocoPhillips and Statoil purchased leases in the lease sale, but exploration activities in the Chukchi have been prohibited until the revised SEIS has been completed and a new decision regarding the holding of the lease sale published.

In its latest status report BOEM said that all Chukchi Sea leases remain suspended and that, although Shell has delivered a new Chukchi Sea exploration plan to the agency, the agency will not officially deem the plan to have been submitted until after the new lease sale decision has been made. Shell wants to restart its Chukchi Sea exploration drilling program in the summer of 2015.

BOEM said that in early December it will complete a series of public meetings, being held to gather comments on the SEIS. The public comment period for the document ends on Dec. 22. The agency anticipates publishing a final version of the SEIS in late February 2015. Following a mandatory 30-day waiting period, the agency expects to issue a record of decision for the lease sale in March 2015.

The agency's preferred alternative in the draft SEIS is to affirm the holding of the lease sale. If upheld in the final version of the SEIS, that alternative would lead to a March decision enabling Chukchi Sea exploration to continue.

—ALAN BAILEY

EXPLORATION & PRODUCTION

Gulf platform explosion; 1 dead, 3 injured

An explosion occurred on an offshore oil and gas platform in the Gulf of Mexico Nov. 20, killing one person and injuring three.

The Bureau of Safety and Environmental Enforcement said Fieldwood Energy reported the explosion on its Echo Platform just before 3 p.m. about 12 miles off Louisiana's coast.

In a statement late Nov. 20, the Houston, Texas-based company said it was "an isolated incident that has been fully contained." The company said the person who was killed was an employee of a contractor, and another contractor employee was seriously injured. All other personnel working at the facility were accounted for, Fieldwood Energy said in the email statement.

The bureau said in a statement that the platform was not in production at the time of the explosion and damage was limited to the area. The statement said there was no indication that any oil had spilled into the ocean.

Bureau spokeswoman Chauntra Rideaux said the injured workers were being treated at a medical facility. She did not say where or have their conditions.

She said the explosion is under investigation.

The explosion occurred about two months after a contractor was killed and two others hurt during maintenance work in September on a Chevron natural gas pipeline, also off the Louisiana coast. The cause remains under investigation.

—ASSOCIATED PRESS

Petroleum news

Oil Patch Bits

Emerald Alaska purchased by National Response Corp.

Emerald Alaska, a leading Alaska environmental services company, has been acquired by National Response Corp. from Emerald Services Inc., of Seattle, Washington.

Emerald Alaska has been one of Alaska's top providers of environmental and emergency response solutions to the oil and gas industry for 11 years. Headquartered in Anchorage, with seven permitted facilities strategically located throughout the state, Emerald Alaska employs more than 100 people.

NRC is the leading commercial provider of United States Oil Pollution Act of 1990 regulatory compliance services as well as a global provider of specialized environmental and emergency response solutions. Headquartered in Great River, New York, with regional offices throughout the U.S. and internationally, NRC has more than 1,000 employees globally.

Blake Hillis, president of Emerald Alaska, stated, "Emerald Alaska has built an excellent reputation as a high quality provider of environmental solutions throughout the state of Alaska. We are excited about moving forward as part of NRC and believe the combination of NRC and Emerald Alaska will enable us to continue to support and expand our services to our customers throughout the state. NRC's suite of services perfectly complements the work Emerald Alaska does, and I am confident that this will make both companies stronger."

Steve Candito, CEO of NRC, commented, "NRC has continued to expand its geographic presence in recent years and the addition of Emerald Alaska adds a strategic region to our domestic footprint. We believe the combination of NRC's extensive capabilities and Emerald Alaska's quality personnel, well-located facilities and proven track record makes for a strong strategic fit. We are very happy to welcome the Emerald Alaska team and look forward to growing NRC's business in Alaska."

Though now a part of the NRC family of companies, Emerald Alaska will continue to operate under the Emerald Alaska LLC, name.

AMA & ARE work to bring students to AMA Conference

Alaska Resource Education and the Alaska Miners Association said they were honored to work together to bring 20 students from King Career Center's Natural Resource Management class to the 2014 Anchorage AMA Annual Conference as their Resource Superforce group. The AMA conference is a premier gathering of exploration geologists, prospectors, and many other mining, consulting and state and federal employees who play a role in finding and developing mineral resources.

After extensive in-class prep work researching and learning about Alaska's mineral industries and their career opportunities with Alaska ResourceEducation's education program manager, the students attended the conference as a one day field trip on Nov. 6 to engage with professionals in the industries and get first-hand experience. Students participated in a scavenger

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Companies involved in Alaska and northern Canada's oil and gas industry

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

● ALTERNATIVE ENERGY

Further steps towards nuclear fusion?

The practical use of the technique for power generation has yet to be demonstrated, but research continues on several fronts

By ALAN BAILEY
Petroleum News

Thought by some as the holy grail of eventual clean energy production, nuclear fusion has yet to prove its worth as a feasible means of generating electricity. But, with the possibility of generating power using heavy hydrogen from seawater, with no radioactive products or other contaminant emissions, a couple of announcements in recent months indicate continuing interest in this challenging avenue of research.

In October security and aerospace company Lockheed Martin announced that it has assembled a team to develop and deploy a novel compact fusion reactor design within 10 years, with a prototype potentially being available in five years after a series of design-build-test cycles.

"Our compact fusion concept combines several alternative magnetic confinement approaches, taking the best parts of each, and offers a 90 percent size reduction over previous concepts," said Tom McGuire, compact fusion lead for the research team tasked with the new initiative. "The smaller size will allow us to design, build and test the CFR in less than a year."

Also in October the European Union announced major funding for continuing nuclear fusion research by a variety of institutions in Europe. Of prime interest in Europe is ITER, a large fusion reactor being built in the south of Frances with international funding, including funding from China, India and the United States.

Unlike nuclear fission which releases energy from the breaking apart of heavy atoms such as uranium, nuclear fusion depends on the fusion of light atoms such as hydrogen. The fusion process, which powers the sun, depends on exceptionally high temperatures. A hydrogen bomb, for example, uses a short but very powerful nuclear fusion reaction, triggered by the immense heat from a nuclear fission explosion.

The technical challenge that experiments such as ITER are trying to overcome, to obtain an energy stream for power generation, is the need for the reaction to be self-sustaining by continuously producing more energy than has to be pumped in to cause the reaction to take place.

In 2013 a team based in the Lawrence Livermore National Laboratory in California announced some success with a nuclear fusion technique involving the use of the world's most powerful laser to bombard a fuel pellet containing hydrogen atoms. However, it appears that this approach has yet to reach the point of achieving sustainability. ●

Contact Alan Bailey at abailey@petroleumnews.com

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YOUNG Q&A

It's federal oil. The gas line is big time. I'm hoping it will be built. Like I say, it's the sky is falling story. I've heard it for so long I just question when it's going to happen. I think the Legislature did as good a job as it's going to do and the governor did, too. I don't know what the new governor is going to do. I don't think he has to undo what's been done to reach this far. I think that would be kind of silly, but that's going to be up to him.

Petroleum News: So do you have any concerns that a new administration could derail what's been done?

Young: I don't believe so, but who knows. He's been very supportive of a gas line. We are dealing with the owners of the gas and they've got some pretty strong opinions themselves about where it should go, how it should go and what should be built. Seeing how they are financing most of it, they probably have a little bit to say about it.

Petroleum News: The state and the feds held a lease sale at NPR-A and I know there's been some criticism over what tracts are available or once they are grabbed, access – road and bridges – isn't provided.

Young: These leases are a joke, frankly, for the reasons you just stated: Accessibility delayed by fish and wildlife; inability to build a road. They will put every roadblock in the way. These leases are not good leases. Regardless of the administration, but this one is worse. They very rarely ask the oil companies where do they want these leases to be.

I've always said if you want to drill for oil, if you want to lease something, then find out what the buyer wants to have. That's what they didn't do. My old saying is you don't hunt for rabbits at a pool table just because it's green. That's an old saying; I've said that for years. People have these leases then they say there was no interest in the bid. Well there's a reason. What little seismic knowledge they have, there's no oil there so why would you.

Petroleum News: What about the Arctic, specifically the outer continental shelf?

Young: I think the Chukchi is going to go next year; Beaufort — maybe not. The challenge we have there is access route. If it's across Native lands and they want it, I say put it across Native lands and not let it be delayed by the EPA or Fish and Wildlife or all of these other agencies. The oil has no value to this nation or the state if the oil is shipped elsewhere by tankers. So a successful pipeline is crucial to the state. The main reason we need it is that it keeps the pipeline active. That goes for ANWR and offshore. Under the law, if it does shut down, it has to be torn down, and that takes all of our smaller fields on state property. That's been my goal to keep the smaller fields — they aren't elephants, but baby elephants — but if you don't have the pipeline available they aren't economical. We are down to 540,000 barrels per day and that's down from 2 million.

Petroleum News: OK, back to the outer continental shelf, federal agencies and the courts may have put up some road blocks, but Shell tripped up a few times, too.

Young: Now, I don't know whether they tripped up or not. Everybody says they tripped. Where did they trip up?

Petroleum News: With moving the Kulluk.

Young: That had nothing to do with drilling. That was a drill rig being towed. Everybody blew this out of the water saying Shell this and Shell that. If there was fault at all it was the captain of the rig and Shell, but it had nothing to do with drilling, nothing to do with drilling. So the road blocks have been put up by the federal government. And lawsuits.

Petroleum News: So do you think this can work itself out the next year and a half?

Young: Oh, I think we are going to get it worked out. The big job that we are going to have is there is an awful lot of oil up there and getting that oil is important for the federal treasury and the pipeline. We'll see what happens.

Petroleum News: Also in the Arctic, the United States takes over as chair in the Arctic Council. What would you like to see accomplished during that two-year stint?

Young: What I would like to see done is for the American public is to recognize that we are an Arctic nation. We are still putting more money in the Antarctic than the Arctic. More research, etc, yet this is where the action is going to be, the Arctic not the Antarctic.

Thanks to Alaska, we are an Arctic nation. The Coast Guard is very supportive, but we haven't funded them. The military is getting interested, which to me is very encouraging. But if you think, Japan, China — China especially — and Russia is going to sit idly by as the Arctic opens up and we sit here sucking our thumb. It's another dumb example of not leading. The general public, well it affects them too. I just hope they wake up and say this is a pretty important region.

Petroleum News: Would you like to see Alaska become a hub these next two years for discussions on Arctic policy?

Young: I'd like to see Alaska become the central hub for the Arctic Council. It shouldn't be in Palo Alto or Woods Hole.

Petroleum News: How can Alaskans benefit these next two years?

Young: We need icebreakers. We are going to try to get another ice breaker built in Congress. I doubt it will get built because of the high cost but we have to do something. Navigational aids, not only for our own ships, but we should set the channel. If they come through our 200-mile limit, they should go through a specific route. This is for safety purposes for any potential collision. The other countries are going to listen to us. They can go outside the 200-mile limit and do anything they want to.

see **YOUNG Q&A** *page 16*

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ROYALTY RATES

The existing royalty rates on those fives leases are 12.5 percent and 16.667 percent.

Because of its "gross value reduction" provision, the More Alaska Production Act, also known as Senate Bill 21, "already produces a negative or near zero production tax worth for post-2003 fields like Nuna" according to Gara. "Reducing the separate 'royalty' Alaskans receive from this field by over 50 percent might leave Alaskans with very little worth for our oil, and that may not be justified under a fair review of the facts," he added.

The Nuna project would be an extension of the existing Oooguruk unit.

Pioneer Natural Resources Alaska Inc. brought the Oooguruk unit into production in 2008 and proposed the Nuna Development Project in 2010. The company spent several years drilling exploration and appraisal wells before selling its Alaska assets to Caelus.

The Texas-based Caelus was enthusiastic about Nuna from the start.

When the company arrived in Alaska, in November 2013, officials said they would start work on Nuna "pretty much immediately." In April 2014, after closing on the sale, Caelus Chief Executive Officer Jim Musselman told Petroleum News, "We've got the funds committed and we're moving forward as quickly as we can." But in July 2014, the company told state officials it could only pursue development with a royalty reduction.

In its application, Caelus requested a flat 5 percent royalty rate on 11 leases until revenues covered upfront development costs. At that point, the royalty rates would have increased by 1.875 percent annually, for four years, and then returned to original levels.

State statutes give the Department of Natural Resources the ability to reduce royalty rates on leases if rising costs or falling commodity prices threaten the economics of a field.

After reviewing proprietary economic modeling, and running alternative projections, the state agreed to reduce the royalty rate on five leases. The reduction would remain in effect until Caelus earned a set amount of revenue from the Nuna development project.

While acknowledging that officials are allowed to reduce royalty rates, Gara believes the decision should be left to the incoming administration. "The Walker Administration will have qualified agency experts, and we should leave this multi-million dollar tax break decision for the Governor Alaskans just elected. The public is entitled to know, with confidence, that this is not a last minute proposed giveaway of our oil wealth," he wrote.

In his ruling, Balash offered to discuss the matter with state lawmakers. The Legislative Budget & Audit Committee plans to discuss the matter at a Dec. 2 meeting, the day after Walker is scheduled to be sworn-in at a ceremony in Juneau. Walker recently announced plans to replace Balash as Natural Resources commissioner with former Alaska Division of Oil and Gas Director and former U.S. Geologic Survey Director Mark D. Myers.

Even with its claim that Nuna is only economic with royalty reduction, Caelus is moving ahead on development work this winter. The company plans to lay gravel this winter, install flowlines and facilities in early 2016 in preparation for start-up in the fall of 2016.

—ERIC LIDJI

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LNG HOPE

Shell Canada-operated LNG Canada facility — "seem very committed" to their projects.

"I think Petronas is deadly serious to make a (final investment) decision around the end of the year, so that gives you some comfort that they feel pretty good about the regulatory framework."

Chief Executive Officer Russ Girling said that although TransCanada is not directly involved in discussions between the LNG players and the Canadian government on two issues — accelerated depreciation for the projects and a labor policy to meet construction needs — the government seems to be "doing its best to address" these matters.

His hope is that the government, because of the high priority it gives to LNG, will deploy the resources and people needed to ensure that the projects are able to generate economic benefits for all Canadians.

Doubts persist on economics

But doubts persist over the economics of producing and shipping LNG from the British Columbia coast, with the International Energy Agency estimating those costs could be greater than some insiders have projected and could place Canada second only to Australia on the cost scale.

The IEA said exporting LNG from Canada could reach US$13-$14 per million British thermal units, US$3 above previous estimates and surpassing the number for exports from the United States by US$1.80 to reach markets in northeastern Asia and US$3.60 for shipments to Europe.

However, that prospect does not deter the British Columbia LNG Developers Alliance, whose membership increased to seven this month with the significant addition of ExxonMobil.

Alliance President David Keane told the Voice of B.C. on Shaw TV that "there will be an LNG industry in B.C. It will provide long-term economic benefits for thousands of British Columbians for decades to come."

Even so, in contrast to TransCanada's bullish view, Keane said there are still uncertainties around what the LNG tax will include, what municipal taxes will be imposed and who will pay for infrastructure needs.

He also said the British Columbia government has yet to set targets or disclose regulations for greenhouse gas emissions, including how companies could purchase offsets when they exceed targeted greenhouse gas levels or how they could invest in a technology fund.

Keane noted that LNG faces considerable technical and financial complexities, but he did not identify First Nations as a major obstacle, suggesting instead that those communities would be potential partners and supporters of LNG development, in return for securing "long-term, real benefits" along with assurances that the projects will be operated in an environmentally responsible and safe manner.

Nisga'a Nation agreement

In a rare show of aboriginal cooperation, the Nisga'a Nation's governing body signed a C$6 million agreement Nov. 20 with the province covering job training and environmental protection that will allow the Prince Rupert pipeline to cross 60 miles of Nisga'a territory. There is already a pact between the First Nation and TransCanada.

Nisga'a President Mitchell Stevens said his community strongly supports LNG development and hopes to secure a partner to build its own LNG facility.

But Pacific NorthWest still faces opposition from four First Nations to the chosen location for its terminal near Prince Rupert, although British Columbia Aboriginal Affairs Minister John Rustad said he is optimistic those communities will eventually support the project.

Keane identified the United States as Canada's chief rival, now that the U.S. is reducing its consumption of Canadian gas and taking its own steps to export LNG by utilizing existing pipeline and storage infrastructure.

On the upside, he argued that LNG buyers will not want to confine themselves to supplies from the U.S., Australia, East Africa or Russia, especially given Canada's solid record as a business partner.

However, he backed away from predicting when even one of 18 proposed LNG facilities might be up and running in British Columbia.

In a statement issued Nov. 19, Keane said his alliance is "committed to working with the provincial and federal governments in developing a regulatory and fiscal framework that sets the right conditions in place to establish a globally competitive and thriving LNG sector in B.C."

Peter Tertzakian, chief energy economist at ARC Financial, wrote in the Globe and Mail that despite the efforts by governments, regulators, industry and other stakeholders to "move things forward ... it's going to take longer than we think, maybe years, not months."

He said the "macro environment is suddenly more difficult and there is a lot of lingering uncertainty."

—GARY PARK

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OIL PATCH BITS

hunt in the vendor booths, interviewed industry personnel about their education and careers, and presented a video at the lunch showcasing what they learned. This interdisciplinary learning opportunity was made possible by generous donations from Pacific Environmental Corp., American Marine Corp., Think Globally, Develop Locally LLC and Emerald Alaska. To cap the day off, Pacific Alaska Lumber donated tickets to an Alaska Aces game for each student, and worked with Aurora Limousines to get the students a free, high class ride to the game.

ARE would like to thank their program supporters for their commitment to resource education for Alaska's future and enabling ARE to ignite, inspire, and educate Alaska's students to a better understanding of their state and the exciting career opportunities that are available. For more information about the Alaska Miners Association visit www.alaskaminers.org and for Alaska Resource Education visit www.akresource.org.

Crowley christens new DP2 tugboat, Ocean Sun

As part of the company's industry-leading new vessel build program, Crowley Maritime Corp. christened the latest of its four tugboats in the ocean class series, Ocean Sun, Oct.15 in Lake Charles. The ceremony served to formally welcome the fourth dynamic positioning 2, DP2, tugboat to the company's expanded ocean towing fleet, which has been involved in most of the major offshore oil production installations in the U.S. Gulf of Mexico over the past 18 months.

Todd Busch, senior vice president and general manager of Crowley's solutions group, opened the ceremony to approximately 80 guests. He was followed by a series of speakers including Tom Crowley, chairman and CEO; Craig Tornga, vice president, solutions; and Robert Socha, executive vice president, sales and marketing, Bollinger.

Following an introduction of the tug's crew members by Cal Hayden, vice president, marine operations for Crowley, and a blessing of the vessel by Deacon Patrick Lapoint, director of the Stella Maris Seafarers' Center at the Port of Lake Charles, Vessel Sponsor Coreen Busch, wife of Todd Busch, broke the ceremonial bottle of champagne across the hull of the boat.

The Ocean Sun, which features DP2 technology, is part of a feature-rich, four-vessel family of tugs ideally suited to work with Crowley's new 455 series high-deck strength barges, which measure 400 feet long by 105 feet wide.

Crowley's ocean class tugs are outfitted for long-range, high-capacity ocean towing, rig moves, platform and floating production, storage and offloading unit tows, emergency response and firefighting.

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LIBERTY AGAIN

what we do best strategically, and that's giant fields and big gas value chains," Weiss said, hinting at BP's involvement in a project to export North Slope natural gas via a proposed gas pipeline from the Slope and a liquefied natural gas plant in Southcentral Alaska.

In reference to the undeveloped Liberty field, Weiss said that Hilcorp has developed "a great concept" that can make the project more competitive than previously thought.

"A little over a week ago we had together approached the regulatory authorities about changing operatorship from BP to Hilcorp for the Liberty opportunity," Weiss said. "With that transfer of ownership they will be submitting a development and production plan proposal by the end of the year to the regulators, such that we can keep this opportunity moving forward."

Liberty plan

Hilcorp has confirmed to Petroleum News that the company will be filing a plan for Liberty.

"Hilcorp is now the named operator of the Liberty development," company spokeswoman Lori Nelson said in a Nov. 24 email. "Hilcorp will be submitting the development and production plan to regulators before the end of the year. We will be working through the initial permitting process during 2015 but no decisions have been made about bringing the project online."

During his speech to the Resource Development Council's conference Greg Lalicker, president of Hilcorp Energy, characterized Liberty and other potential new Alaska Arctic ventures, such as the development of heavy oil at Milne Point or conducting new exploration, as of interest to his company but as "add-ons to our basic business." The company's core business consists of conducting many small projects in very mature fields, to deliver more oil and gas from those assets, Lalicker said.

Same strategy

Essentially, on the North Slope Hilcorp will adopt the same strategy as it has been employing in the Cook Inlet basin, where as a consequence of a multitude of small development and upgrade projects the company has doubled oil production from the aging fields that the company acquired from Chevron and Marathon.

"It's going to be literally hundreds of little projects over many, many years," Lalicker said.

Weiss commented on BP's confidence in Hilcorp's capabilities as operator of fields which BP has managed for many years.

"It puts some fields into the hands of a very competent operator that has a great track record … like they've done in the Cook Inlet," Weiss said. "Hearing their plans for Milne we see that they're already planning additional activity, which should lead to more production down TAPS (the trans-Alaska oil pipeline)."

Weiss said that 200 BP employees have either transferred to Hilcorp or have decided to take early retirement. And, as part of improved efficiencies, there will be 275 job losses from the Prudhoe Bay field.

"We have a smaller footprint moving forward," Weiss said. "However … that allows us to remain competitive at Prudhoe Bay and continue to attract capital from our co-owners."

Increased activity

Since 2012 BP has increased its North Slope activity level by more than 50 percent — the company is on track to add an additional drilling rig operation to its operations in 2015, with a further rig due to go into action in 2016, Weiss said.

Projects continue to move forward in new development in the western part of the Prudhoe Bay unit. Work includes additions to field facility capacity, involving, for example, the construction of 25 miles of new oil pipeline for delivering more oil to TAPS, starting in 2017. Pad work includes the development of the first new pad at Prudhoe Bay in more than a decade and the expansion of two existing pads. The Prudhoe Bay western development equates to more than 200 million barrels of additional oil resource and the drilling of more than 115 wells, Weiss said.

In the northern part of the Prudhoe Bay unit BP plans to continue shooting a new 190-square-mile seismic survey that should delineate 50 million barrels of additional oil, requiring the drilling of 30 new wells, she said.

BP is also conducting a project to develop the Sag River formation, a thin and relatively poor-quality oil reservoir above the main reservoir of the Prudhoe Bay field. The company has been testing the use of paired, horizontal injection and production wells in this difficult formation. Testing of the technique has proved successful and, having already drilled a few of the paired wells, BP plans to drill another 12 well pairs in the next couple of years, Weiss said. Further success would provide confidence in the possibility of going after an estimated 200 million barrels of resource in the Sag River reservoir, with the potential for drilling as many as 200 wells, she said.

Stemming decline

Work at Prudhoe Bay focuses on stemming production decline by extracting more oil from the reservoir rocks.

"Our increase in capital (expenditure) from 2013 to 2014 was 25 percent," Weiss said, commenting that, after for many years of seeing a North Slope oil production decline rate of around 6 to 8 percent, that decline rate had halved in the past couple of years.

And Prudhoe Bay is still North America's largest oil field, Weiss said. When the field was first delineated, BP estimated that 9.6 billion barrels of oil might be produced from it, she said.

"By October 2012 we produced the 12 billionth barrel and there are billions more to go," she said. ●

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Hilcorp: much work and a long-term payout

Since arriving on the Alaska oil scene a few years ago Hilcorp Energy has made no secret of its approach to revitalizing the aging oil and gas fields of the Cook Inlet basin. The approach consists of pushing up production rates through a multitude of well remediation, well drilling and facility improvement projects. And, having completed the purchase of some BP assets in northern Alaska, the company says it is starting to use the same approach to maximizing production from the Arctic fields that it now operates.

On Nov. 19 in a talk to the Resource Development Council's annual meeting Greg Lalicker, Hilcorp's president, said that his company has doubled oil production from the Cook Inlet fields that the company purchased in 2012.

On Nov. 19 in a talk to the Resource Development Council's annual meeting Greg Lalicker, Hilcorp's president, said that his company has doubled oil production from the Cook Inlet fields that the company purchased in 2012.

And Lalicker described how the company's strategy has being playing out in one of its Cook Inlet assets, the Trading Bay oil field that produces through a monopod oil platform offshore the west side of the inlet.

The Trading Bay field first came on line in 1967, with oil production peaking a few years later at 30,000 barrels per day. At the time when Hilcorp purchased the field the production had dropped to 600 to 800 barrels per day, with 31 of the offshore platform's 32 available well slots already in use, Lalicker said. But thanks to an intense remediation effort, production is now up to almost 4,000 barrels per day, he said.

$75 million on projects

Lalicker said that Hilcorp has so far spent $75 million on about 100 individual projects at Trading Bay. Of these projects, 55 have involved upgrading field facilities, carrying out activities such as increasing pump capacities, installing new gas dehydrators and expanding the capacity of the electricity generators. Another 26 projects have involved well workovers, clearing out wells, adding more perforations to the well casings in the reservoir rocks, adding further production zones and changing the oil artificial lift arrangements. Hilcorp has drilled one well at Trading Bay to bring in additional production. And other projects have entailed repairing existing equipment, to keep the equipment up and running.

In addition to the costs of these projects, the field incurs operating expenses of around $800,000 to $1 million per month. Around $300,000 of that consists of labor costs, with the remainder being the costs of the various support services that the field uses, Lalicker said. Royalties paid to the state amounted to about $100,000 per month in 2012 but now average about $1 million per month, he said.

Payback

At this point Hilcorp has recovered about half of what it has paid out since field acquisition three years ago — the field should be paid off over the course of five to seven years, depending on the oil price, Lalicker said.

By comparison, the nearby McArthur River field has proved more challenging, requiring a $200 million spend on projects and having a payback period of nine to 12 years, he said.

"We're putting money out there and thinking it's going to take us 10, 15 years ultimately to make money on these investments, but in the long run they turn out to be good opportunities," Lalicker said.

—ALAN BAILEY

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CAELUS SPENDING

existing production, which was certainly sweetened when Caelus received the results of Pioneer's final winter development season. "We had four wells that we'd fracked and we hadn't yet brought online," said Foley, who worked for Pioneer before moving over to Caelus, as most Pioneer employees did. "All four of those wells came on with initial production rates in excess of 5,000 barrels of oil per day. And, literally overnight, our production tripled. We went from less than 10,000 barrels per day to over 20,000 barrels per day, for a brief period of time."

Current production is closer to 13,000 barrels per day, Foley said.

With nearly $1 billion in capital available to it through a recent partnership with Apollo Global Management, Caelus is undertaking a $500 million program this coming year.

In those activities, Caelus will be assuming a larger share of the bill than its predecessor, Pioneer Natural Resources. Even though Eni Petroleum retains its longstanding 30 percent interest in the Oooguruk unit, the minority stake only covers activities at the drilling island — not the onshore Nuna expansion project or the new exploration acreage.

Oooguruk expansion

The $500 million capital budget for the coming year is being split evenly between an expansion of the Oooguruk drilling island and construction of the Nuna facilities.

With about 80 percent of its 48 drilling slots currently filled, the Oooguruk drilling island is "nearly drilled up," as Foley put it. An expansion effort started by Pioneer and now being completed by Caelus would increase the six-acre island by some 30 percent and add 12 bays, which would allow the company to access resources currently out of reach.

The company has state and North Slope Borough permits in hand and is waiting for U.S. Army Corps of Engineers permits before it can start work on the expansion project.

Every well drilled from the gravel island to date has also been hydraulically fractured, making Caelus the "leading frack company on the slope right now," according to Foley.

The company used 2.4 million pounds of sand proppant on its four development wells drilled this past winter and wants to expand use of the technology in the future to find the "optimal" amount of sand for operations. The program started with Pioneer, which brought Lower 48 "mechanical diversion" hydraulic fracturing technology to the North Slope.

Preliminary Nuna work

The Nuna project is an onshore development to access offshore resources south of Oooguruk Island and too far to reach from the island with existing drilling technologies.

This winter, Caelus plans to lay gravel at the onshore site, in preparation for installing facilities and flow lines in early 2016 and starting production in the third quarter of 2016.

The first phase of development would involve 30 wells, split evenly between production and injection wells. Caelus would hydraulically fracture all wells, including injectors.

The Nuna development is targeting a 50 million to 100 million barrel pool in the Torok formation, a relatively shallow interval. "There's a tremendous amount of oil in place," Foley said. "And the question on Torok is: What is the recoverable portion going to be?"

That question hangs over the project, which Caelus has yet to formally sanction.

In July, Caelus told the state that it needed a reduction in royalty rates to make the project economic. The Alaska Department of Natural Resources agreed to take a 5 percent royalty on five leases (down from 12.5 and 16.667 percent) if the company sanctioned the Nuna project this year and met spending and development targets through early 2017.

The reduction is still going through public comments. Rep. Les Gara recently asked the state to leave the decision up to Governor-elect Bill Walker. The Legislative Budget & Audit Committee is scheduled to review the proposed royalty reduction on Dec. 2.

The third big source of spending this year is seismic.

Caelus is commissioning two 3-D seismic programs, including one targeting the mostly contiguous acreage the company grabbed during two recent state lease sales.

With $15 million in high bids, Caelus picked up some 322,795 acres across a broad region running from south of the Prudhoe Bay unit to south of the Point Thomson unit.

Caelus is currently keeping an eye out for partnerships, according to Foley. ●

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YOUNG Q&A

Petroleum News: Some of the priorities shared include ice breakers but also various ports and other infrastructure. So do you see it as a package?

Young: Well, you have to have a port. I'm pushing Port Clarence. Unless it's an offshore port, there is no place on the Chukchi and Beaufort to build because it's 150 feet deep at the max. Closer to shore you could hardly run a fishing boat. So it's a very large alluvial plane so we are going to have to find a harbor. You've got Port Clarence. Nome is not really suitable. You've got Blossom near Kotzebue which might work. We think we are going to be able to do it privately with public input. We need to get those navigational aids and systems in place. I do think that will come about as we get more aggressive. We better do it because other countries are going to do it without us.

Petroleum News: So are we behind or are we ...

Young: We are behind and it's hard to catch up. I wish very frankly the media would do a better job of selling the Arctic as a potential challenge and as a necessity for the Lower 48 instead of saying we've got to protect it because it's not going to be protected by the other countries. If we don't put the navigational system in and we don't put the port in, hey, we are in deep trouble.

Petroleum News: I know many state lawmakers say we need the infrastructure in place, not just for ourselves, but in case incidents in other waters affect our own waters.

Young: That's absolutely right. There's tidal action that would affect this. Which way do they go? What time of the year is it? Will it be under the ice or on top of the ice? It won't be from a drill rig. It will be from another ship or ships that are either outside that 200-mile limit or within that 200-mile limit but without the appropriate safeguards. ●

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