Petroleum



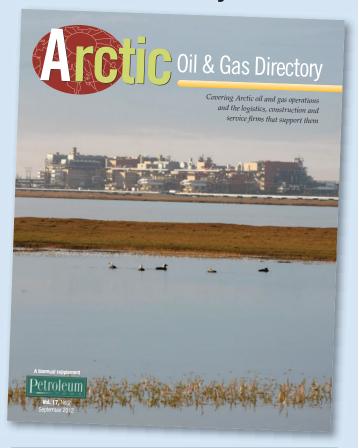
page Parnell calls for NPR-A re-start, opts **4** out as 'cooperating agency'

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Latest Arctic Directory released



Spectra, BG advance LNG plans with 510-mile Prince Rupert line

Houston-based Spectra Energy has signed an agreement with BG Group to develop a new natural gas transportation system in northeast British Columbia to serve the United Kingdom company's plans for an LNG export facility at Prince Rupert.

Designed to carry 4.2 billion cubic feet of gas per day, the pipeline will cost up to C\$8 billion, according to Doug Bloom, president of Spectra Energy Transmission West.

The project will be jointly owned, with BG agreeing to contract for all of the proposed capacity.

The possible 48-inch diameter line will cover 510 miles from the gas field to BG's proposed export terminal at Prince Rupert, the largest deepwater natural harbor in North

see LNG PLANS page 30

MARAD seeks contractor to study double hulls, then says nevermind

THE MARITIME ADMINISTRATION caused something of a stir recently, offering a contract to "study the safety, economic and environmental issues of vessels to be constructed with double hulls."

MARAD is an agency within the U.S. Department of Transportation dealing with shipping and ports.

In a contractor solicitation posted Aug. 6 on FedBizOpps.gov, MARAD provided this background statement:

"Following the Exxon Valdez disaster, the passing of the Oil Pollution Act of 1990 (OPA 90) led to the requirement to replace single hull petroleum tankers with double

hull tank vessels sailing in U.S. waters. This requirement was soon adopted by the International Maritime Organization (IMO) and became a worldwide regulation. This means that, today, tank vessels worldwide are carrying thousands of extra tons of steel in order to meet the double

see INSIDER page 27

■ EXPLORATION & PRODUCTION

Exploration up

Plans call for 10-20 wells; higher number reliant on funding or weather

By KAY CASHMAN

Petroleum News

The upcoming winter oil exploration drilling season on Alaska's North Slope is shaping up to be busier than last winter, but with fewer companies involved — four versus six.

However, the total exploration well count during the coming short winter season will likely be higher — somewhere between 10 and 20 oil wells versus the seven that were completed last winter.

The companies planning exploration drilling onshore or nearshore on the North Slope during the coming winter exploration season are Repsol, Brooks Range Petroleum, Linc Energy and This winter Repsol will essentially complete the five-pad program it initially proposed for last winter. Using three rigs (Nabors 105AC, 99AC, 9ES), the company plans to get at least one vertical well drilled at Qugruk 1, Q6 and Q3 ice pads.

UltraStar Exploration.

One of the companies not drilling an exploration well this winter, Pioneer Natural Resources, plans to drill an appraisal well, the Nuna No. 2, based on last year's successful drilling of the Nuna

see **EXPLORATION** page 27

EXPLORATION & PRODUCTION

Starting and stopping

Shell begins Chukchi drilling, then suspends operation because of ice floe

By ALAN BAILEY

Petroleum News

In a good news, bad news few days for Shell in the Arctic offshore, the company started drilling in its Chukchi Sea Burger A prospect on Sept. 9, only to suspend drilling on Sept. 10, because of the proximity of an ice floe, approximately 12 miles by 30 miles in size. The company moved its drillship, the Noble Discoverer, and its attendant fleet away from the drilling site, Shell spokesman Curtis Smith told Petroleum News in a Sept 10 email.

"As a precautionary measure and in accordance with our approved Chukchi Sea ice management plan, Shell has made the decision to temporarily move off the Burger-A well to avoid potentially

The Kulluk, Shell's Arctic floating drilling platform, is currently in a holding position in the Beaufort Sea, waiting for the completion of the annual subsistence whale hunt in the region of Shell's Beaufort Sea drill sites.

encroaching sea ice," Smith said. "Once the ice moves on, the Noble Discoverer will re-connect to anchors and continue drilling."

Ice plan

As part of its ice management plan, Shell has see **SHELL DRILLING** page 32

● PIPELINES & DOWNSTREAM

Gateway under siege

Hearing interveners challenge economic benefits, claim Chinese might seek control

By GARY PARK

For Petroleum News

Enbridge has been placed in a harsh spotlight during a new phase of regulatory hearings into its Northern Gateway project, with opponents grilling the Canadian pipeline company over the true economic benefits of the venture and the extent of Chinese ownership.

The Alberta Federal of Labor, AFL, led the economic challenge, asking Enbridge-hired economists to defend estimates of more than C\$300 billion of benefits for oil sands producers while saying little about the impact of the pipeline on gasoline prices.

Enbridge has forecast that Northern Gateway

"There is also no guarantee that Chinese refiners will continue to pay the 'Asian premium' when bitumen starts flowing."

-AFL President Gil McCowan

would allow producers to sell their output at Brentbased prices in Asia, or up to US\$20 per barrel above West Texas Intermediate returns in North America.

At the same time, Enbridge economic consultant Robert Mansell told the Canadian government's review panel that the domestic gasoline price would rise by only about 1.5 cents per liter as

see GATEWAY page 30



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Alaska regulators revoke two-year waiver, citing malfunction of anti-corrosion system; operator Alyeska says improvements made







Alaska - Mackenzie Rig Report

Rig Location/Activity Rig Owner/Rig Type Rig No. **Operator or Status**

Alaska Rig Status

North Slope - Onshore

14 (SCR/TD)	Milne Point Rig Maintenance	BP
16 (SCR/TD)	Milne Point MPE-09	BP
19 (SCR/TD)	Alpine CD1-22b	ConocoPhillips
25	Prudhoe Bay Z-34	BP
141 (SCR/TD)	Kuparuk IJ-162	ConocoPhillips
	14 (SCR/TD) 16 (SCR/TD) 19 (SCR/TD) 25	16 (SCR/TD) Milne Point MPE-09 19 (SCR/TD) Alpine CD1-22b 25 Prudhoe Bay Z-34

Stacked in Deadhorse Kuukpik Linc Energy

Nabors Alaska Drilling CDR-1 (CT) Prudhoe Bay Stacked Trans-ocean rig AC Coil Hybrid CDR-2 Kuparuk 3N-07 ConocoPhillips Dreco 1000 UE 2-ES Prudhoe Bay Stacked out Available Mid-Continental U36A Prudhoe Bay Stacked out Available Oilwell 700 E 4-ES (SCR) Unknown Dreco 1000 UE 7-ES (SCR/TD) Prudhoe Bay Available Dreco 1000 UE 9-ES (SCR/TD) Prudhoe Bay Available Oilwell 2000 Hercules 14-E (SCR) Prudhoe Bay Available Oilwell 2000 Hercules 16-E (SCR/TD) Prudhoe Bay Available Oilwell 2000 17-E (SCR/TD) Prudhoe Bay Stacked Emsco Electro-hoist -2 18-E (SCR) Prudhoe Bay Stacked Prudhoe Bay Emsco Electro-hoist Varco TDS3 22-E (SCR/TD) Stacked Emsco Electro-hoist 28-E (SCR) Prudhoe Bay Stacked Emsco Electro-hoist Canrig 1050E 27-E (SCR-TD) Prudhoe Bay Available Oilwell 2000 Available Prudhoe Bay Academy AC electric Canrig 105-E (SCR-TD) Dalton Highway Merak #1 Great Bear Petroleum

*Pioneer winter work

Nordic Calista Services Prudhoe Bay Drill Site C-24B Superior 700 UE 1 (SCR/CTD) BP Superior 700 UE Prudhoe Bay Well Drill Site S-32A 2 (SCR/CTD) ConocoPhillips Ideco 900 3 (SCR/TD) Kuparuk Well 3H-11A

Parker Drilling Arctic Operating Inc.

NOV ADS-10SD Prudhoe Bay final construction and commission BP Started acceptance testing on Aug. 2, NOV ADS-10SD BP scheduled to complete Aug. 11

North Slope - Offshore

Top drive, supersized	Liberty rig	Inactive	ВР
Nabors Alaska Drilling OIME 1000	19-E (SCR)	Oooguruk ODST-47	Pioneer Natural Resources
OIME 2000	245-E	Oliktok Point	ENI

Doyon Drilling Spy Island SP10-FN5 Sky Top Brewster NE-12 ENI

Cook Inlet Basin – Onshore

Franks 300 Srs. Explorer III AWS 1 Swanson River, assorted workovers Hilcorp Alaska LLC Cook Inlet Energy Cook Inlet Energy Atlas Copco RD20 Finalizing Otter Project west side of Beluga River Field

Doyon Drilling

Aurora Well Service

BP

Arctic Fox #1 Swanson River SRU 23B-22 Hilcorp Alaska LLC TSM 7000 Kenai Loop Drilling Pad #1 Taylor Glacier 1 Kenai Land Ventures working for Buccaneer

Nabors Alaska Drilling

99AC Cook Inlet Armstrong Continental Emsco E3000 273E Kenai Available Franks Kenai Stacked IDECO 2100 E 429E (SCR) Stacked Available Available Rigmaster 850 Kenai 106-E (SCR/TD) Academy AC electric Heli-Rig Cook Inlet NordAa

Cook Inlet Basin - Offshore

XTO Energy C (TD) Idle XTO Spartan Drilling Baker Marine ILC-Skidoff, jack-up Spartan 151 Furie Upper Cook Inlet KLU#1 **Cook Inlet Energy**

Working on Osprey platform RU-1 Cook Inlet Energy National 1320

Hilcorp Alaska LLC (Kuukpik, labor contract) Steelhead Platform Well M-16, Hilcorp Alaska LLC

> Monopod Platform, rig refurb work Hilcorp Alaska LLC preparing for workovers

Mackenzie Rig Status

Canadian Beaufort Sea

SDC Drilling Inc. SSDC CANMAR Island Rig #2 Set down at Roland Bay Available

Central Mackenzie Valley

Akita/SAHTU Still out of the NWT, but is again Available The Alaska - Mackenzie Rig Report as of September 13, 2012. Active drilling companies only listed.

TD = rigs equipped with top drive units WO = workover operations CT = coiled tubing operation SCR = electric rig

This rig report was prepared by Marti Reeve



Baker Hughes North America rotary rig counts*

03	1,00-		1,054	1,550
Canada	345		316	515
Gulf	50		49	30
Highest/Lowes	t			
US/Highest		4530		December 1981
US/Lowest		488		April 1999
Canada/Highest		558		January 2000
Canada/Lowest		29		April 1992

Sept. 7

LIS

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Parnell calls for re-start on NPR-A

Governor tells Salazar state's views were not considered; says process defective, needs to start with reassessment of resources

By KRISTEN NELSON

Petroleum News

laska is opting out of planning for the National Petroleum Reserve-Alaska and calling for a re-start of the

In a Sept. 12 letter, Alaska Gov. Sean Parnell called on U.S. Secretary of the Interior Ken Salazar to start over on the National Petroleum Reserve-Alaska and said the letter serves as written notice that the state is "withdrawing effective immediately as a 'cooperating agency' from the planning agreement" for NPR-A.

Parnell cited Salazar's "recent surprise announcement" of the B-2 preferred alternative for NPR-A, "effectively withdrawing millions of acres in NPR-A," and what the governor called the "complete fail- GOV. SEAN PARNELL



ure" of Interior to take into account the comments of the state as a cooperating agency "as required by federal statutes, regulations, BLM handbooks and policies."

He said those actions showed "a complete lack of respect" for the views of the State of Alaska.

Salazar announced alternative B-2 as the Bureau of Land Management's preferred alternative for the integrated activity plan for NPR-A on Aug. 13. That option provides the highest environmental protection of four alternatives in BLM's draft plan for the reserve, but with reductions in the sizes of some special areas designated for environmental protection and no recommendations for wild and scenic river designations (see story in Aug. 19 issue of Petroleum News).

Concerns with process

Parnell told Salazar the state has "critical concerns with the 'process' and how decisions were being made," and said the state voiced those concerns in 2010 when the U.S. Geological Survey released its new downward estimates of the oil potential in NPR-A.

Referring to a letter he wrote Salazar in 2010, Parnell said the USGS estimate failed in a number of ways, including its failure to include unconventional oil and gas deposits.

He noted that BLM had promised "a collaborative and open process" in its NPR-A planning and National Environmental Policy Act process for

"BLM did not keep this promise," Parnell said.

Only one or two "meetings of BLM employees with all the cooperating agencies at the table" occurred, he said, and one of those meetings was after the announcement of a preferred alternative. Parnell said that at the latter meeting, BLM employees informed the state that the preferred alternative would not change, despite concerns expressed by the state and the North Slope Borough.

State supported full development

Parnell said the state provided comments during the scoping period "in support of a plan that allowed for full development of oil and gas resources in the NPR-A with reasonable mitigation measures," and cited decades of experience on the North Slope as demonstrating that "exploration and development can occur in the same general areas occupied by wildlife with reasonable mitigation measures. Yet alternatives allowing for areas in NPR-A to be open to exploration and development were not fully considered and included in the range of alternatives."

He noted that in February the state said in comments that based on the Alaska National Interest Lands Conservation Act, "BLM was 'selectively disregarding congressional direction and inappropriately applying agency policy to NPR-A.' Specifically, the statutes creating NPR-A made it clear there 'shall not be wilderness reviews or wilderness management in the NPR-A' and that protective measures for designated areas in NPR-A are limited 'to the extent consistent with the requirements of the Act for the exploration of the Reserve' and that Alternative B placed wildlife protection above the primary purpose of NPR-A, exploration

see NPR-A RE-START page 29



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NATURAL GAS

Hope for near-term gas prices

Peters & Co. says several factors will aid price recovery, warns infrastructure, challenges on offtake could impede LNG growth

By GARY PARK

For Petroleum News

algary-based energy brokerage Peters & Co. has injected some hope into the outlook for natural gas prices, but is hesitant about including the prospect of LNG exports in its pricing equation.

A report by the investment dealer said rising demand for natural gas by power generators, tightening inventories and less gas-targeted drilling should all contribute to a price recovery in North America.

But it raised some questions over how many of the LNG export projects now on the table in the United States and Canada will go ahead.

The report said that despite the supply glut in the United States and Canada there are broad grounds for hope, especially with inventories lagging 36 percent behind injections at the same time last year.

As well, Peters said summer consumption has risen 20 percent because of high temperatures and coal-to-gas switching, the U.S. gas-directed rig count has dropped 52 percent in the past year, notably in the Haynesville and Marcellus plays, while the rebound in oil prices is diverting capital to oil from gas projects.

"Our 2013 storage forecasts suggest that continued robust power demand and a slowdown n activity levels will set the stage for a more bullish supply/demand environment," the report said.

"Over the longer-term we expect that half-cycle profitability for natural gas producers would still require prices of US\$4.50/Mcf" before LNG exports out of North America can open up new market outlets, the report said.

However, Peters cautioned that rising production in the Marcellus and the volumes of associated gas being produced with growing oil production are downside factors The report estimated that LNG projects in the works have the capacity to export 24 billion cubic feet per day from the U.S. and 5 bcf per day from Canada, but said there is uncertainty about how much of the premium between North American and global LNG prices can be captured because of the substantial infrastructure costs and the commitments required from international buyers.

In addition, there are no guarantees that projects can overcome regulatory and political challenges, Peters said, raising questions about whether licenses will be issued to export one-third of North American production

Kitimat going slower

Peters' doubts echoed concerns expressed by Mark Papa, CEO of EOG Resources, who told a Barclays conference in New York that the Apache-operated Kitimat LNG project in British Columbia "is not going to go anywhere until the consortium gets an oil index contracts with an (Asian) buyer for a majority of the off-take."

He said that process has "certainly gone slower than any of us expected. I wouldn't even hazard a guess on the timeframe as to how that's going to move forward."

Papa said that if Kitimat does proceed it will be a "positive augmentation for EOG, but don't buy EOG on the basis of Kitimat because it's still kind of a long putt."

"So that's why we're not really tooting the horn of Kitimat until we see something a lot more firm than we've seen so far," he said.

Apache controls 40 percent of the project, with EOG and Encana holding 30 percent each.

Encana has remained quiet on Kitimat over the last five months since CEO Randy Eresman said talks were under way with as many as six buyers to secure longterm sales contracts, including offers of equity positions up to 20 percent in Kitimat for one or two buyers.

He said a final investment decision on the plans to build two trains of 700,000 million cubic feet per day each, with the initial LNG exports scheduled for late 2015 or early 2016, would not be made until at least 80 percent of the volumes were under long-term deals.

Strong interest from India

But not everyone is downplaying the outlook for LNG shipments from North America, with India's state-owned ONGC Videsh expressing its strong interest in establishing a presence in Canadian LNG plans, along with the Alberta oil sands.

The company's Chief Executive Officer Dinesh Kumar said an agreement is on the horizon as ONGC's overseas investment arm OVL expands its hunt for global oil and gas assets.

Recent media reports have OVL involved in talks with ConocoPhillips Canada to invest about C\$5 billion to acquire oil sands interests several leases.

Kumar said OVL is also exploring the prospect of importing LNG from Canada and the United States, breaking away from its current reliance on the Middle East.

He said the current gas prices in North America offer "significant benefits for India, given that we are importing LNG from other places globally at much higher prices."

ONGC already has a memorandum of understanding with ConocoPhillips for shale gas exploration in India and North America.

GAIL, another of India's state-run companies, signed an offtake deal last December with Cheniere Energy Partners for 3.5 million metric tons per year of LNG deliveries, due to start in 2017. ●

 $Contact\ Gary\ Park\ through\ publisher@petroleumnews.com$

UDELHOVEN COMPANIES



• GOVERNMENT

State releases local energy report

DGGS has compiled all available information on fossil fuel, geothermal resources that might source energy for Alaska communities

By ALAN BAILEY

Petroleum News

The threat posed to many Alaska communities by high and climbing fuel costs appears ironic, in view of the state's prominence as a provider of energy for North America. And, in the interests of finding opportunities to enable energy-challenged state residents to take advantage of the state's energy bounty, Alaska's Division of Geological and Geophysical Surveys, or DGGS, has published a new report, documenting the various fossil fuel and geothermal energy resources that might be exploited for local community use around the state. Called "Fossil Fuel and Geothermal Energy Sources for Local Use in Alaska," and four years in the making, the report supplements two companion Alaska Energy Authority reports on Alaska renewable energy resources such as wind, solar and hydroelectric power.

Enable energy decisions

"We know that the high cost of energy is the primary concern and challenge for many communities," said Dan Sullivan, commissioner of the Alaska Department of Natural Resources, when announcing the release of the DGGS report. "Our goal is to assist them in making energy development decisions."

"The good news from these reports is that most areas of the state have some potential for local energy production — from renewable or non-renewable sources, or a combination," said DGGS Director Bob Swenson.

"This new report is a valuable tool that extends the work begun with the 'Renewable Energy Atlas," said Alaska Energy Authority Executive Director Sara Fisher-Goad. "It will also be useful in our regional energy planning efforts."

The DGGS report compiles information about resources that could potentially be developed using exist-

The DGGS report compiles information about resources that could potentially be developed using existing technologies but does not attempt to evaluate the economic viability of development.

ing technologies but does not attempt to evaluate the economic viability of development.

"The viability of any development would depend on whether it is competitive with alternate energy supplies," Swanson said.

Regional differences

Different regions have different potential for different types of energy, Swanson commented during a Sept. 9 press conference. And state incentives for exploration in frontier areas, while not necessarily leading to the discovery of viable energy resources, will at a minimum lead to the gathering of new data which can prove invaluable both to the Department of Natural Resources and to local communities in assessing the small-scale resource potential of an area, he said.

"Information is really the key in any type of resource development," Swenson said. "The more information you have, the less risky that program becomes."

One potential benefit of the information in the Alaska Energy Authority and DGGS reports is the possibility of identifying locations for regional energy hubs, improving the economics of energy development by having multiple communities share in the joint development of whatever energy resources are available in the region, Swenson said. For example, in the Kotzebue region, would it be possible to use locally produced lignite coal as a fuel in a combined biomass, wind and diesel power generation system?

Essentially, the DGGS report divides the entire state

into 11 "energy regions" and then presents an overview of the fossil fuel and geothermal energy resources known to be present in each of those regions. The report also contains a comprehensive bibliography of publications on Alaska's energy resources, thus providing a gateway into published information that has previously been fragmented in nature and hence sometimes difficult to find.

During the Sept. 9 press conference Sullivan commented on the way in which the report demonstrates the abundance of energy resources across the state, and not just in the oil and gas producing regions of Prudhoe Bay and Cook Inlet.

"The state is blessed with resources ... throughout the state and in places that aren't close to the North Slope or the Cook Inlet, at all," Sullivan said.

Swenson commented on his surprise at the size of the coal seams that the report documents in some parts of the state. For example, there is a known coal seam about 100 feet thick near Kotzebue, he said.

Examples of remotely situated fossil fuel resources documented in the report include coal fields on the Alaska Peninsula, potential natural gas fields in the nearby North Aleutian basin and geothermal resources associated with volcanoes in the Aleutian islands and on the north side of the Cook Inlet.

Coal

Coal is known to exist at numerous locations around the state, including on the Seward Peninsula; at several places in northwest Alaska; around the Bering River, east of Prince William Sound; and in several coal fields in the Alaska interior.

There are major coal fields with potential for coal and coalbed methane production around the Cook Inlet basin, in Southcentral Alaska. Massive coal deposits under the

see ENERGY REPORT page 8











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GOVERNMENT

Prudhoe Bay injection fluids standardized

In response to BP request, AOGCC amends injection orders for fluids used for EOR, pressure maintenance

By KRISTEN NELSON

Petroleum News

In response to a request from BP Exploration (Alaska), the Alaska Oil and Gas Conservation Commission has standardized fluids authorized for injection for enhanced recovery and pressure maintenance for oil pools in the Prudhoe Bay field.

BP requested a change to Prudhoe Bay field injection orders in April, citing "the complexity of field operations with multiple pools serviced by common facilities and potential confusion that results from the different language in the various orders." BP said proposed changes in language were "intended to clarify and document the fluids that are authorized for enhanced oil recovery (EOR) and pressure maintenance injection" within the Prudhoe Bay field "and provide greater compliance assurance for our field operations."

Language in area injection orders for Prudhoe Bay pools varied, with some orders containing very general language and some very specific language in defining fluids authorized for injection; in some cases, the company said, the language in specific injection orders had changed over time. BP said that in addition to the variation in the injection orders, "some fluids have received specific authorization via administrative approvals."

"The diversity of language and changes over time has resulted in confusion over which fluids are actually authorized for injection," BP told the commission.

BP included a four-page list summarizing language differences in fluids authorized for EOR and pressure maintenance in nine Prudhoe Bay pools.

BP proposed language for standardizing the list of authorized fluids, noting that in some pools, "additional clarification may be required to capture specific conditions or restrictions contained in current orders."

In multiple administrative approvals issued Sept. 4 the commission generally approved BP's request, with what it called "a minor change in the wording proposed" by the company.

It said the change BP proposed "will result in increased production, is based on sound engineering and geotechnical reasons, does not promote waste or jeopardize correlative rights, and will not result in increased risk of fluid movement into freshwater."

The commission further noted that correlative rights (rights of adjacent lease-holders) "are protected because all lands subject to these orders have been unitized."

However, the commission said, the language suggested by BP used the terms "includes" and "includes but not limited to," "inappropriately" delegating to BP "the authority to determine what additional fluids are approved" and it deleted such language in its approvals. ●

Contact Kristen Nelson at knelson@petroleumnews.com

continued from page 6

ENERGY REPORT

western end of the North Slope have potential as an energy source for local villages, either as mined coal or in the form of coalbed methane.

And much of the North Slope, a rich oil and gas province, remains relatively underexplored for hydrocarbon energy resources.

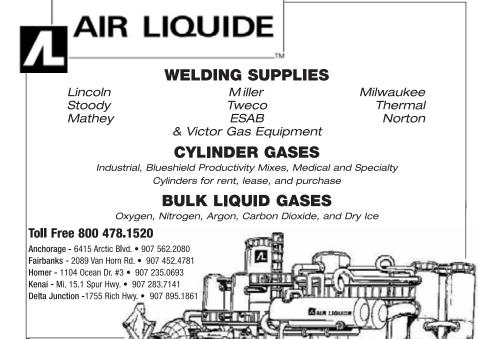
Natural gas

There is the potential for natural gas

discoveries in several sedimentary basins around the state, including the Norton basin, the Copper River basin, the Holitna basin, the Kotzebue basin, the Susitna basin, the Nenana basin, the Middle Tanana basin and the Yukon Flats basin.

Locations of hot springs, with potential for geothermal power production, include the Pilgrim Hot Springs near Nome; several hot springs in northwest Alaska and in the Alaska Interior; and some particularly promising hot springs in Southeast Alaska.

Contact Alan Bailey at abailey@petroleumnews.com



FINANCE & ECONOMY

EIA ups projection for Brent crude oil

Price expected to average \$112 per barrel this year, \$103 in 2013, both about 3 percent higher than agency forecast in August

By KRISTEN NELSON

Petroleum News

he U.S. Energy Information Administration has upped its projection for Brent crude oil spot prices and now expects Brent to average \$112 per barrel this year and \$103 in 2013, both increases of about 3 percent from its August projections.

In its Short-Term Energy Outlook, issued Sept. 11, EIA noted that Brent crude oil spot prices "have increased at a relatively steady pace" from a 2012 low of \$89 per barrel on June 25 to a recent high on Aug. 23 of \$117 per barrel, attributing the increase to "seasonal tightening of oil markets and continuing unexpected production outages."

The agency said it expects Brent to fall over the remainder of the year and to average \$111 per barrel over the last quarter of the year.

West Texas Intermediate spot prices rose "by a more modest" rate, \$17 per barrel between June 25 and Aug. 23, EIA said, "as the WTI discount to Brent crude oil widened from \$10 per barrel to \$22 per barrel." The agency said it expects WTI to average \$93 per barrel in the second half of the year and the WTI discount to Brent, while averaging \$17 per barrel in the fourth quarter, to narrow to \$9 per barrel by the end of 2013.

Domestic production up

U.S. crude oil production is expected to average 6.3 million barrels per day in 2012, up 700,000 bpd from last year, EIA said, with next year's domestic production expected to increase to 6.8 million bpd, the highest domestic production since 1993.

North America represents the largest area of non-Organization of the Petroleum Exporting Countries production growth, up 1 million bpd this year and 600,000 bpd in 2012, "due to continued production from U.S. onshore shale and other tight formations and from Canadian oil sands," EIA said.

Overall, the agency expects non-OPEC liquids fuels production to rise by 500,000 bpd this year and by a further 1.2 million

U.S. crude oil production is expected to average 6.3 million barrels per day in 2012, up 700,000 bpd from last year, EIA said.

bpd in 2013.

In other non-OPEC production, EIA expects Kazakhstan to begin commercial production from the Kashagan field in 2013, increasing its total production by 160,000 bpd; increases are also expected from Brazil's offshore, pre-salt oil fields.

Other countries with expected rises in production include Columbia, Russia and China, while production is expected to decline over the same two-year period in Mexico and the North Sea.

Natural gas prices down

U.S. spot prices for natural gas aver-

aged \$2.84 per million Btu at Henry Hub in August, down 11 cents per million Btu from the July average and down \$1.21, 30 percent, from the August 2011 average, EIA said.

Henry Hub averaged \$4 per million Btu in 2011, is expected to average \$2.65 this year and \$3.34 in 2013.

"Working natural gas inventories remain at historically high levels for this time of year," EIA said, a total of 3,402 billion cubic feet on Aug. 31, 395 bcf more than last year's level and 329 bcf above the five-year average.

EIA said it expects inventory levels at the end of October to set a new record of 3,950 bcf.

Total marketed production of domestic natural gas grew by 4.8 bcf per day, 7.9 percent, in 2011, "driven in large part by increases in shale gas production," the agency said.

Year-over-year, EIA expects a growth

of 2.6 bcf per day this year, although there should be a small production drop over the next few months, reflecting losses from hurricanes and a recent drop in the rig count. EIA said Baker Hughes reported a natural gas rig count of 452 as of Sept. 7, compared to 811 at the start of the year.

U.S. natural gas consumption is expected to average 69.8 bcf per day this year, up 3.2 bcf, 4.8 percent, from 2011. "Large gains in electric power use in 2012 more than offset declines in residential and commercial use," EIA said.

Total natural gas consumption is projected to increase by 0.2 bcf per day, 0.2 percent, in 2013, with expected increases in residential, commercial and industrial consumption offsetting expected declines in the electric power sector. •

> Contact Kristen Nelson at knelson@petroleumnews.com

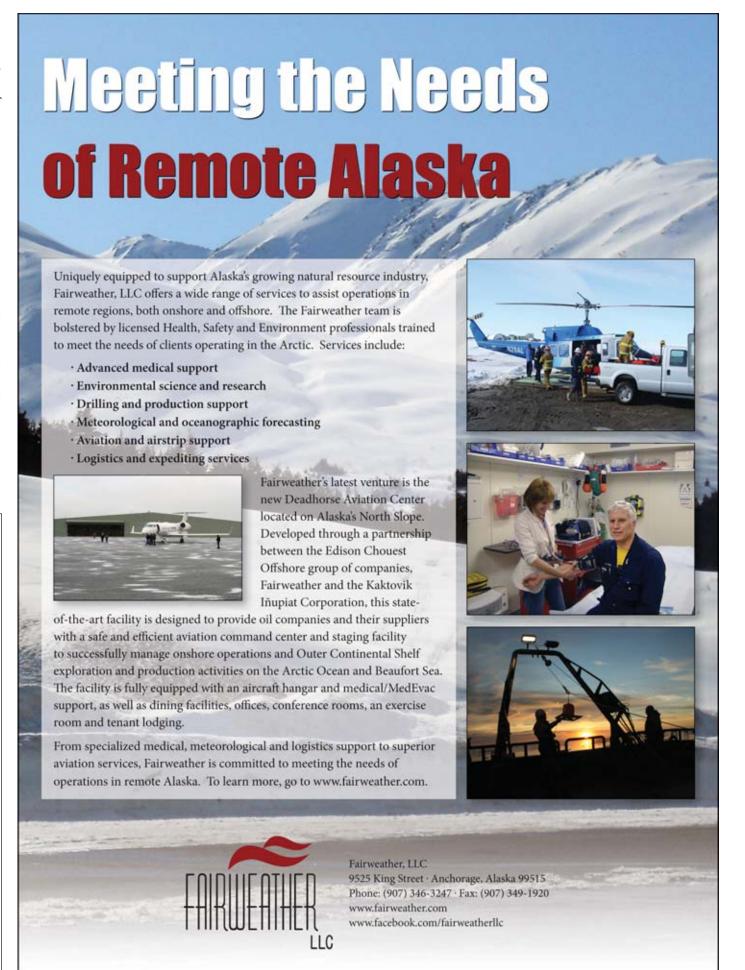
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■ ENVIRONMENT & SAFETY

Canada launches carbon capture era

Shell, Chevron, Marathon partnership embarks on project with heavy government financial backing to bury some CO2 from oil sands

By GARY PARK

For Petroleum News

Royal Dutch Shell has started construction on the first facility to capture and store carbon dioxide from an Alberta oil sands operation, creating what the company rates as a "flagship" project.

The C\$1.35 billion Quest project, largely funded by the Canadian and Alberta governments, is expected to be running by 2015 when it will retrieve about 35 percent of the CO2 from Shell's Scotford upgrader near Edmonton.

It will bury 1.1 million metric tons per year, reducing by an estimated 15 percent the emissions per barrel produced, but not refined, from Shell's oil sands operations.

Shell, with Chevron and Marathon Oil holding a 20 percent stake each, received government approval in August and started

Over 10 years, that means the three companies will be left with C\$155 million, or just over 11 percent of the project's costs.

work immediately.

"Shell Quest is a very important project for Canada, not only for what it will do directly for the environment but also for the learning and experience it will contribute to carbon capture and storage (CCS) technology," said federal Natural Resources Minister Joe Oliver.

John Abbott, Shell's outgoing executive vice president for heavy oil, said that as the oil sands continue to become an important part of the energy mix "it's critically important that we do everything that we know how to reduce the environmental footprint."

"This is one of the technologies that we

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believe can have the biggest impact in the shortest period of time and that's why we're doing it," he said.

Huge government investment

However, the huge government investment makes it clear at this stage that CCS is far from being able to stand on its own as a private sector undertaking.

Alberta has contributed C\$750 million the Canadian government has added C\$120 million to Quest which carries a capital cost of C\$950 million, plus C\$400 million to operate over 10 years.

Alberta has allowed a two-for-one carbon credit under its current C\$15 per metric ton carbon regime by allowing the Quest partners to bring in C\$30 per ton of carbon they sequester, or C\$33 million a year.

Over 10 years, that means the three companies will be left with C\$155 million, or just over 11 percent of the project's costs. After that, the entire C\$40 million in operating costs will be carried by the partnership.

Oliver said there is a "definitive" role for the government to support the application of technology in Canada's energy develop-

"We will provide the funding in certain startup situations where companies are hesitant to invest in CCS projects," he said.

Alberta Energy Minister Ken Hughes said that in cases of government funding "several issues are raised about the intellectual property rights of carbon and the technology, the price of carbon in the global markets and the internal rates of return."

"There certainly are challenges, but we feel the project economics are viable in Alberta."

Hopes for 4 projects in 2009

The struggle to build on the single breakthrough venture is reflected in the Alberta government's hopes in 2009 of funding four large-scale CCS projects to reduce emissions by 5 million metric tons per year by 2015, including: the Alberta Carbon Trunk Line facility by Enhance Energy and Northwest Upgrading; a carbon-capture power generation plant by Enbridge and Epcor to gasify coal; and Project Pioneer by TransAlta, Enbridge and Capital Power Corp., in addition to Shell Quest.

The Project Pioneer partners announced in April they had abandoned their plans because the economics of using CO2 for enhanced oil recovery were too uncertain. It is not clear whether the other two will proceed.

Ed Whittingham, executive director of the environmental think-tank Pembina Institute, have given credit to Shell Quest while noting it is "just one tool in the tool kit" of CCS.

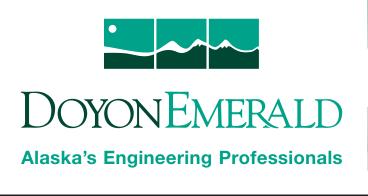
"In isolation it is not enough, but it is important, so I'd like to recognize that Shell is doing the right thing in going ahead and recognize the contributions of the two levels of government."

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ENVIRONMENT & SAFETY

The new Arctic development challenge

New report reviews risks and difficulties in the Arctic as climate change opens region to petroleum exploration and development

By ALAN BAILEY

Petroleum News

hile the warming climate and receding sea ice are opening the Arctic, creating new opportunities for resource exploration and development, the region continues to present formidable challenges for would-be Arctic energy developers. And a new report, prepared by the Fridtjof Nansen Institute and risk management company DNV, reviews those challenges and assesses some of the risks. The report, prepared for the Offshore Northern Seas Conference, held in Stavanger, Norway, in August, concludes that the management of Arctic challenges needs more knowledge and better technology, coupled with close and transparent cooperation between authorities, industry and society.

"There is widespread concern that the increased interest (in the Arctic) will unleash unsafe and high risk projects that could have a disastrous impact on the Arctic environment and habitat," the report says in its introduction. "This report is not advocating specific decisions for companies contemplating Arctic activities but, acknowledging that increased economic activity in the region is all but inevitable, it addresses crucial issues with regard to risk analysis and management in the strategic planning of Arctic operations."

Challenging region

While the region's remoteness and harsh conditions render it a difficult place in which to operate, the diversity of the environment from one location to another causes solutions to challenges in one area to possibly be inappropriate for use elsewhere, the report says. And those regional variations are also complemented by strong seasonal variations in weather conditions and in the relative length of daylight.

"Both the considerable climate variability and longer-

"In the ocean, the reduction in sea-ice cover facilitates shipping, but higher air temperatures reduce permafrost and threaten to soften the ground enough to hamper land-based transport and construction."

-Fridtjof Nansen Institute, DNV report

term climate trends affect the prospects for economic activity over time," the report says. "In the ocean, the reduction in sea-ice cover facilitates shipping, but higher air temperatures reduce permafrost and threaten to soften the ground enough to hamper land-based transport and construction."

At the same time the rights of the approximately 320,000 indigenous people who live in the Arctic region have become widely recognized, with the rights of these people to use, own, develop and control land and resources in their traditional territories being expanded in recent decades, following the severe injustices of the past, the report says.

Increased interest

Against this background, disappearing sea ice, improved Arctic mapping, improved international relations and escalating commodity prices are all driving an increased interest in opening Arctic shipping routes and developing Arctic resources. Arctic countries are formulating new policies and plans for development in the north, while large companies are starting to include Arctic resources in their assessments of future resource potential. There has been heightened interest in new offshore technologies and ship designs for use in previously inaccessible Arctic regions.

"The presence of strategic resources — in particular hydrocarbons and important minerals — in this vast but scarcely developed region has led some observers to argue

that a race for resources will soon be under way. Such reasoning often ignores the fact that most resources in the Arctic are today under national jurisdiction, and that the coastal states have exclusive jurisdiction over their exploitation," the report says. The report also emphasizes the importance of the United Nations Law of the Sea Convention in resolving issues over offshore territorial claims

Few disputes

Contrary to popular perception, there are at present relatively few Arctic territorial disputes and there is general agreement between the Arctic nations on "the rules of the game," with strong incentives to avoid conflict, the report says. There is potential for conflict between the interests of indigenous people and industrial activity, and "attention to indigenous interests must be considered a prerequisite for license to operate in the Arctic," the report says.

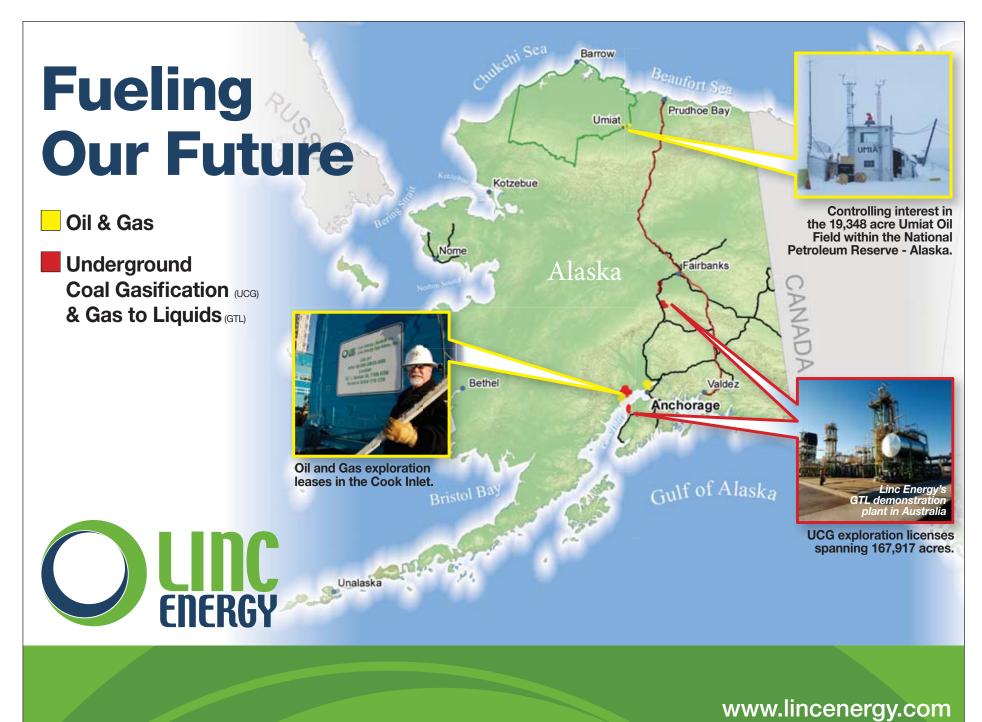
Mining activities and the development of energy resources above the Arctic Circle have been in progress in one form or another since before World War II. But, although Arctic industrial activity has generally been increasing, economic activity is still relatively limited.

From the perspective of the Arctic offshore oil and gas industry, Russia has been actively exploring in its Arctic seas, with an Arctic offshore oil field scheduled to come on line in 2012; Norway is stepping up operations in the Barents Sea; and there has been exploration drilling offshore western Greenland. Exploration offshore Canada and Alaska started in the 1970s: Currently Shell, ConocoPhillips and Statoil have exploration programs in the Alaska Chukchi Sea.

Oil spill risk

The biggest environmental concern is the risk of a major oil spill in Arctic waters, either from oil industry

see ARCTIC CHALLENGE page 12



PETROLEUM NEWS • WEEK OF SEPTEMBER 16, 2012

continued from page 11

ARCTIC CHALLENGE

activities or from a shipping accident, the report says.

"Whereas the receding ice cap associated with a warming Arctic will improve access to some offshore and onshore areas, other effects are likely to create new operational challenges — like higher mobility of sea ice, more frequent calving from glaciers, and more extreme weather — that raise the likelihood of accidents," the report says. "Should an offshore accident occur, climate and weather conditions as well as long distances are likely to hamper response action and restoration efforts. Currently available technologies for recovery of oil from the surface perform poorly in high waves and rough weather conditions. In the Arctic, low temperatures and scarce sunlight over much of the year slow down evaporation as well as the physical, chemical and biological breakdown of pollutants. Thus, hazardous compounds released during an emergency may remain in Arctic ecosystems for long periods, aggravating the risks of bioaccumulation, and ocean currents may spread them over extensive areas."

On the other hand, day-to-day disturbance from oil and gas industry operations is likely to have a minimal environmental impact — the biggest issue will likely be habitat fragmentation from infrastructure

construction, the report says.

Risk management

Internationally, there are some general principles for environmental management that steer environmental regulation but that, in the Arctic, need to take account of the diverse natural environment, as well as of contrasts in social, cultural and economic settings.

While resource management policies need to be based on a sufficient knowledge of the environment, the extent to which science rather than political and commercial priorities should steer policy decisions remains controversial, the reports says. And there is an open question over the extent to which governments should contribute to the cost of obtaining the necessary environmental knowledge.

A lack of environmental knowledge, the difficulty of monitoring environmental conditions and the immaturity of technologies in the Arctic all point to the need for a precautionary approach to Arctic environmental management, but that precautionary principle, controversial in international law, will likely be needed less as more knowledge about the Arctic environment becomes available, the report says.

International cooperation

When it comes to international coordination and cooperation over managing risks, the Arctic Council, an intergovern-

mental forum of the eight Arctic nations, has achieved rising prominence, the report says. International cooperation is important in ensuring that actions within one national jurisdiction do not cause harm in elsewhere. Different nations need to work together in managing Arctic offshore development, as Norway and Russia have done in collaborating over their management plans for the Barents Sea.

Individual nations are responsible for the environmental regulation of the oil and gas industry in the Arctic offshore, albeit with obligations to meet international pollution prevention standards.

"All in all there exists a considerable body of international binding and non-binding instruments aimed at reducing the risks associated with offshore operations by influencing national legislation," the report says. "A logical continuation of this development might be to support stringent technical and environmental regulation. Prescribing procedures and technology would create a level playing field and raise the standards throughout the Arctic, preventing companies with lower standards from operating."

However, the authors of the report argue for a performance based approach to regulation in the Arctic, with regulators setting safety and environmental standards that companies must meet, while giving the companies the responsibility to determine how to meet those standards.

Risk is inevitable

All human activity involves some level of risk and a requirement for zero risk in the Arctic would preclude any use of Arctic resources, the report says. And risk is a matter of perception.

"Typically, society tends to have high risk tolerability for road traffic fatalities, and much lower risk acceptance related to relatively rare major accidents within industrial activities such as the offshore and maritime industries," the report says. It is necessary to obtain the knowledge required to be able to adequately weigh the downside risk associated with an activity against the benefit of allowing the activity to proceed.

"But it is not always obvious who defines the risk and benefits on behalf of society," the report says. "Not least, the proper representation and involvement of indigenous peoples is a prerequisite for appropriate balancing of potential disadvantages and advantages."

Safety barriers

But a low tolerance for risk in combination with a complex risk environment will lead to the need for several layers of safety barrier, the cost of which will have to be considered by the owners of an Arctic operation.

"The need for additional barriers ... should ideally be decided on the basis of risk-tolerance levels that reflect the actual risk that society is willing to take in order to receive the benefits from activities in polar areas," the report says. There is a need to establish risk acceptance criteria for Arctic operations, setting acceptable risk levels.

And the particular challenges associated with petroleum exploration and development in the Arctic require new safety measures. In some cases new technology will be required, and in other cases it will be necessary for industry to transfer existing Arctic knowledge and experience from onshore regions.

Risks can be reduced through standards for the best available environmental and safety technology for, for example, well blowout preventers, and by adopting mitigation measures to address identified risk factors.

Focus on prevention

But with no best available technology for dealing with some potential Arctic situations such as recovering oil from between or under ice floes, there will need to be a particular focus on accident prevention in the Arctic, to manage risks to levels similar to those for, for example, in the North Sea, the report says.

"Even if the task is complicated companies must establish concrete risk-mitigation strategies if they are to remain licensed to operate in the Arctic in the longer term," the report says. •

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NATURAL GAS

Lawsuit over Alaska's Beluga unit ends

Parties including Hilcorp, ConocoPhillips and ML&P apparently settle dispute over gas field; companies keep the details private

By WESLEY LOY

For Petroleum News

A lawsuit between partners in Alaska's Beluga River natural gas field, a key source of energy for the state's main population center, apparently has been settled.

The case first began in June 2010 when Chevron U.S.A. Inc. and its affiliate, Union Oil Co. of California, sued ConocoPhillips Alaska Inc. in state Superior Court in Anchorage. Municipal Light & Power, an Anchorage electric utility, also was a defendant.

Hilcorp Alaska LLC became the plaintiff after it took over Chevron's Cook Inlet oil and gas assets Jan. 1.

The breach of contract suit centered on a "gas balancing agreement" between the Beluga stakeholders. At the time the suit was filed, Union, ML&P and field operator ConocoPhillips each held a one-third working interest in the Beluga River unit.

Located on the inlet's west side, the Beluga field long has been an important gas supplier for the Anchorage area.

High-stakes dispute

Petroleum News reported in its June 5, 2011, issue that the case appeared to involve a disputed sum of at least \$32 million.

But on Aug. 27, lawyers representing all three companies filed a "stipulation for dismissal with prejudice."

The two-page filing said each party would bear its own costs and attorney fees, but it provided no terms of the apparent settlement. Superior Court Judge Eric Aarseth dismissed the case on Aug. 30.

"We will not be making any public comments regarding the Beluga situation," Hilcorp spokeswoman Lori Nelson told Petroleum News.

Natalie Lowman, spokeswoman for ConocoPhillips, likewise said she could-

n't provide any details on the settlement.

What the suit alleged

The gas balancing agreement between Beluga's working interest owners established the amount of gas each owner could take from the field each year, court documents said.

An owner that elected to take less than its participating interest in unit production was said to have "underlifted" its share. If another owner with a use or market for the gas took more than its participating interest, that was an "overlift."

Under the agreement, an underproducer each year could elect to either receive a cash settlement or take additional production in future years to resolve the gas imbalance.

Union contended in the lawsuit that it was an underlifted party in 2009 and 2010, but that overlifter ConocoPhillips failed to pay the full settlement Union expected.

The suit also alleged "conversion," saying ConocoPhillips took more Beluga gas than it was entitled to with the intent to "profit from the sale of Union's property." ●

Contact Wesley Loy at wloy@petroleumnews.com

NATURAL GAS

Drilling shows Walakpa gas pool larger

The Alaska Oil and Gas Conservation Commission has expanded the area of the Walakpa gas pool in conservation order 274 to reflect results of recent development drilling by the North Slope Borough, the pool operator.

Walakpa, along with the East Barrow and South Barrow gas fields, supplies

natural gas to the City of Barrow, with the majority of gas coming from Walakpa.

The borough drilled additional development wells in the Walakpa and East Barrow fields last winter, with Petrotechnical Resources Alaska providing technical and management services for the project.

In an April request for expansion of the pool, PRA told the commission that one of the new wells, Walakpa 13, extends into section 22 of township 20 north, range 20 west, Umiat Meridian, a section not included in the CO 274 pool definition. PRA said the borough requested that all of section 22 and the north half of section 27 be included in the pool rules area for the Walakpa gas pool.

In a Sept. 4 ruling the commission said the recently drilled horizontal production well, Walakpa 13, lies within the southern half of sections 22 and 23, T20N, R20W, UM.

The commission said that amending CO 274 to include section 22 and the northern half of section 27 was

miles south-southwest of Barrow.

On the web



See previous Petroleum News coverage:

"Borough project brings Barrow gas boost," in Aug. 5, 2012, issue at www.petroleumnews.com/pnads/6671248 .shtml

"Walakpa gas field expansion requested," in April 22, 2012, issue at www.petroleumnews.com/pnads/5699116 2 shtml

"NSB completes first new Barrow gas well," in Oct. 23, 2011, issue at www.petroleumnews.com/pnads/6112665 61.shtml

"Voters OK bonding for Barrow wells," in Feb. 20, 2011, issue at www.petroleumnews.com/pnads/8808676 32.shtml

"NSB moves ahead with Barrow gas wells," in June 20, 2010, issue at www.petroleumnews.com/pnads/6400373 10.shtml

—KRISTEN NELSON



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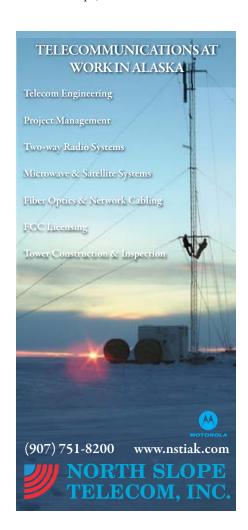
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appropriate because since the issuance of that order, drilling of the Walakpa 13

has revealed that boundaries of the gas pool are greater than originally believed.

CO 274 defines and governs production from the Walakpa gas pool, some 15

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■ PIPELINES & DOWNSTREAM

Inspection of huge crude tank at issue

Alaska regulators revoke two-year waiver, citing malfunction of anti-corrosion system; operator Alyeska says improvements made



Enormous oil storage tanks at the Valdez Marine Terminal hold North Slope crude until it can be loaded onto tankers for delivery to refineries. Each tank has a capacity of 510,000 barrels.



By WESLEY LOY

For Petroleum News

A lyeska Pipeline Service Co. and state regulators are wrangling over the schedule for conducting an internal inspection of one of the giant crude oil storage tanks at Valdez.

Alyeska operates the 800-mile trans-Alaska pipeline and the Valdez Marine Terminal where tankers load North Slope crude.

In February, officials with the state Department of Environmental Conservation granted Alyeska's request for a two-year waiver, until mid-2014, for an internal inspection of Tank 5. The waiver extended the interval between such inspections from 10 years to 12 years.

On May 23, however, the DEC revoked the waiver, saying Alyeska violated conditions related to corrosion control on the tank.

Alyeska is trying to get the waiver reinstated.

18 enormous tanks

Alyeska has sought and received waivers to defer internal inspection of a number of the crude oil storage tanks at the Valdez terminal.

The company generally has said deferring these inspections, which involve draining and cleaning the tanks, does not significantly increase the risk of an oil spill.

The Prince William Sound Regional Citizens' Advisory Council, a Valdez-based nonprofit that watches over tanker and terminal operations, opposes the inspection deferrals.

The terminal has 18 oil storage tanks, each with a capacity of 510,000 barrels. The tanks are about 63 feet high, with a diameter of 250 feet. The tanks hold oil for loading onto tankers docking at nearby piers.

Not all the tanks are in service, as the oil flow down the pipeline has declined by more than two-thirds from its peak of 2.1 million barrels per day in 1988.

Corrosion control system falters

In the May 23 revocation letter, DEC officials said the two-year waiver for Tank 5 was granted with six conditions, and

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some of those conditions were not met.

One condition was that Alyeska would regularly provide the department with "rectifier logs" verifying continuous operation of the cathodic protection system in place under the tank's steel floor.

Cathodic protection, or CP, is widely employed in industry to prevent corrosion. It involves the use of "sacrificial anodes" and electrical current to reduce the corrosion rate of a metallic structure.

During its last inspection, in 2001-02, the original floor of Tank 5 was replaced with a new steel bottom. The replacement was due to corrosion found during the inspection, the citizens' council said.

The cathodic protection system also was installed in the clean sand bedding beneath the bottom plates, Alyeska correspondence to DEC said.

DEC officials, in the May 23 letter, said Alyeska did provide the logs as required, but company data showed the CP system had operated correctly only 26 percent of the time over a six-month period ending in mid-April.

"Stated differently, the cathodic protection system was not operating correctly 74% of that time," the letter said.

The department said Alyeska did not offer "an explanation of why technicians failed to recognize, investigate, or correct" the malfunctioning system.

"There is no indication that Alyeska personnel recognized the significance of the problem until contacted by department engineering staff about the rectifier logs," DEC said.

The department said Alyeska had met "neither the spirit nor the letter" of the waiver conditions. DEC revoked the waiver, and said Tank 5 had to be removed



The view from inside one of the giant oil storage tanks at the Valdez Marine Terminal. This is Tank 13, empty for a recent inspection.

from service and internally inspected before Dec. 31.

Alyeska renews waiver request

Since the revocation, Alyeska has pursued reinstatement of the inspection waiver.

In a June 7 letter to DEC, Alyeska's Valdez operations director, Scott Hicks, wrote: "Alyeska acknowledges that some deficiencies occurred in the Tank 5 rectifier monitoring and CP maintenance programs between October 2011 and April 2012, and we take these deficiencies very seriously."

The letter said Alyeska had initiated and implemented "a series of proactive measures to resolve these deficiencies and prevent reoccurrence of similar events."

Hicks' letter continued: "While in no way does Alyeska downplay the seriousness of this malfunction episode, we believe that the integrity impact to the tank floor during the period from October 2011 to April 2012 was negligible."

Under a "worse case scenario," without any cathodic protection to the tank bottom, corrosion could eat away only 0.01 inch of the floor plate thickness, "not a significant impact to the integrity of the

tank floor," Hicks wrote.

On the product side of the tank floor, a thin film coating and sacrificial anodes provide internal corrosion protection, his letter said.

In a more recent letter to DEC dated Aug. 24, Alyeska renewed its request for the two-year internal inspection deferral until 2014, citing "significant improvements made by Alyeska to date, including upgrades to the corrosion control and integrity monitoring systems on Tank 5."

Contact Wesley Loy at wloy@petroleumnews.com

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ALTERNATIVE ENERGY

Putting on Fire Island finishing touches

Cook Inlet Region Inc. is close to the completion of its new wind farm on Fire Island, offshore Anchorage, Alaska, the Native regional corporation's spokesman Jim Jager told Petroleum News in a Sept. 11 email. After connecting the wind

farm to the Southcentral Alaska electricity grid at the end of August, CIRI started testing the first two of the farm's 11 wind turbines and succeeded in delivering power to Chugach Electric Association, the wind farm's initial customer, Jager said.

CIRI then succeeded in completing the testing of five turbines before a severe wind storm in the Anchorage area on Sept. 4 led to an evacuation of the wind farm site. Workers returned on Sept. 6

of power annually, enough energy to power about 6.000 households.

CIRI expects the wind

farm to deliver about

51,000 megawatt hours

and, despite finding toppled trees and other wind damage on the island, found no significant impact on the turbines, Jager said. Testing resumed on Sept. 7.

"We're in the process of commissioning the remaining turbines and the SCADA (supervisory control and data acquisition) system that Chugach Electric Association will use to control and monitor power production and integrate Fire Island wind energy into its power grid," Jager said. "We're also wrapping up the last of the construction work and dealing with some minor warranty issues."

Completion of all remaining work, probably by Sept. 21, will be followed by a 72-hour test of the entire wind farm, with CIRI potentially taking over commercial operation of the farm about a week later. The precise timing will depend on whether any issues emerge from the testing and whether the weather cooperates,

CIRI expects the wind farm to deliver about 51,000 megawatt hours of power annually, enough energy to power about 6,000 households.

—ALAN BAILEY

LAND & LEASING

State denies Angel unit for Linc Energy

State claims Aussie independent hadn't sufficiently delineated hydrocarbon accumulation on its expiring Cook Inlet leases

By ERIC LIDJI

For Petroleum News

tate officials won't form the Angel Junit, saying leaseholder Linc Energy (Alaska) Inc. hadn't sufficiently defined the Cook Inlet hydrocarbon accumulation it would explore.

"The proposed (plan of exploration) does not propose activity that would result in greater economic benefit to the state if leases were unitized than if the activities were conducted on a lease-bylease basis," Division of Oil and Gas Director Bill Barron wrote Sept. 10.

If Linc accepts the ruling or fails to win an appeal, the leases would retroactively expire.

The Australian independent proposed the nearly 1,700 acre unit in May, asking to combine one state and one Alaska Mental Health Trust lease in the region around Point MacKenzie. Both leases reached the end of their primary terms on May 31.

Linc drilled the LEA No. 1 well nearly 2.5 miles north of the proposed unit in November 2010, just nine months after arriving in Alaska. The well encountered several gas-bearing coal seams, but after subsequent tests Linc decided the structure was "too tight." Previous exploration history in the region includes the Alaska Gulf No. 1 in 1955, the Susitna State Unit No. 1 in 1964 and the Pan Am Big Lake USA No. 1 in 1968 — all drilled outside the proposed unit boundaries and all plugged and abandoned without testing.

All four of those wells are outside the proposed Angel unit boundaries. The closest, the Pan Am Big Lake USA No. 1, encountered gas shows in coals of the Tyonek formation.

Geologic feature of interest

In requesting the unit, Linc said its exploration model of the region revealed a geologic feature of the Pittman Anticline worth investigating. That didn't satisfy the state, though.

"At this time," Barron concluded in his ruling, "Linc Energy has not presented a structural trap that is reasonably defined and delineated, and therefore has not identified a potential hydrocarbon accumulation for the proposed Angel unit." Linc proposed a seismic work for the region, but Barron said seismic work does not require unitization.

In its plan of exploration for Angel, Linc proposed a 2-D and 3-D seismic campaign in the first year, an exploration well in the second year and initial development activity in the third year, if drilling results merited going forward. "Unitizing the leases is not necessary to conduct the activities proposed in the plan of exploration," Barron concluded, saying both the seismic and drilling could be done on a lease-by-lease basis.

In a Sept. 13 email to Petroleum News, Linc's general manager of Alaska operations, Corri Feige, said: "Linc Energy

see ANGEL UNIT page 17

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NATURAL GAS

Coming to an agreement on gas supply

Enstar, Unocal ask approval for a protocol for dealing with fluctuating Cook Inlet gas demand under existing gas supply contract

By ALAN BAILEY

Petroleum News

s Cook Inlet natural gas supplies tighten, with Southcentral Alaska utility Enstar Natural Gas Co. no longer having all of its needed gas supplies available under firm contracts, the commercial arrangements for the purchase and delivery of gas have become significantly more complex than in the heady days of excess gas availability.

A recent petition to the Regulatory Commission of Alaska for approval of an operational protocol between Enstar and Unocal, a subsidiary of Hilcorp Energy, illustrates the type of complication that can occur in this new situation.

Apparently the two companies had been at loggerheads over complications arising under the terms of a gas sales agreement dating from 2000, an agreement which since 2009 has not required Unocal to meet all of Enstar's unmet gas needs. Unocal had told Enstar that, under the terms of the agreement, Unocal was only obliged to deliver up to an annual volume of 19.5 billion cubic feet of gas to the gas utility, regardless of whether weather forecasts predicted an especially cold winter and, hence, elevated gas demand.

Enstar's other main gas supply contracts also have fixed upper limit commitments for supplied volumes, with those limits not always matching Enstar's daily and annual needs, Enstar told the commission in its petition.

Proportional commitment

At the same time, Unocal has insisted

continued from page 16

ANGEL UNIT

respectfully disagrees with the State of Alaska's decision regarding the Angel Unit, and we do plan to appeal."

Similarities to Cohoe

In a case with some similarities to the proposed Angel unit, the Division of Oil and Gas also upheld its denial of the proposed Cohoe unit in the Cook Inlet earlier this year.

In that case, leaseholder Aurora Gas also wanted to head off expiration and the state also said the company had not adequately delineated a hydrocarbon accumulation in the area.

Among its arguments, Aurora Gas said the combination of state and Cook Inlet Region Inc. leases in the Cohoe area required unitization. Linc Energy made a similar argument in support of combining its state and Alaska Mental Health Trust leases at Angel.

that, under the 2000 gas supply agreement, Unocal's annual committed volume was limited to Unocal's proportion of Enstar's total annual gas needs, with that proportion being calculated pro-rata the maximum committed volume in each of Enstar's various gas supply contracts.

Unfortunately, however, Enstar's actual annual needs, and hence Unocal's volume commitment, are not known until the end

see SUPPLY AGREEMENT page 18

LAND & LEASING

Potential Alaska state and federal oil and gas lease sales

Agency	Sale and Area	Proposed Date
DNR	Beaufort Sea Areawide	Nov. 7, 2012
DNR	North Slope Areawide	Nov. 7, 2012
DNR	North Slope Foothills Areawide	Nov. 7, 2012
BLM	NPR-A	November 2012
DNR	Cook Inlet	spring 2013
DNR	Alaska Peninsula	spring 2013
BOEM	Cook Inlet (special interest)	2016
BOEM	Chukchi Sea	2016
ВОЕМ	Beaufort Sea	2017

Agency key: BLM, U.S. Department of the Interior's Bureau of Land Management, manages leasing in the National Petroleum Reserve-Alaska; BOEM, U.S. Department of the Interior's Bureau of Ocean Energy Management (formerly Minerals Management Service), Alaska region outer continental shelf office, manages sales in federal waters offshore Alaska; DNR, Alaska Department of Natural Resources, Division of Oil and Gas, manages state oil and gas lease sales onshore and in state waters; MHT, Alaska Mental Health Trust Land Office, manages sales on trust lands.

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Hundreds of Point Thomson jobs planned

ExxonMobil aims to begin construction this winter on Alaska North Slope gas condensate project, prepares to mobilize work camps

By WESLEY LOY

For Petroleum News

Proponents of ExxonMobil's planned Point Thomson development on Alaska's North Slope have long touted its potential to create jobs.

Now we're beginning to see real numbers on what sort of workforce it will take to start production from the rich field

ExxonMobil is applying for a permit to discharge sewage and other wastewater from worker housing to be stationed at remote Point Thomson during the three-year construction period.

The Alaska Department of Environmental Conservation is considering the permit application now.

The company says the project will require three separate construction camps capable of housing several hundred workers.

Treated wastewater discharges from the camps will go into either Lion Bay of the Beaufort Sea, or an unnamed freshwater lake south of the field's main, or central, proThe company says the project will require three separate construction camps capable of housing several hundred workers.

duction pad.

Many permits needed

ExxonMobil hopes to begin construction of its Point Thomson project this coming winter.

But first, the company must secure a raft of federal and state permits, the most important of which is a wetlands fill permit from the U.S. Army Corps of Engineers.

Point Thomson is located about 60 miles east of Prudhoe Bay, along the edge of the Beaufort Sea.

ExxonMobil is planning to produce natural gas condensate. In addition to constructing three gravel production pads with wells and production facilities, the company also aims to lay a new 22-mile pipeline to carry the liquid condensate west to the existing North Slope pipeline network at Badami.

Assuming it can get all the permits on a timely basis, ExxonMobil expects first production by the winter of 2015-16 at a rate of 10,000 barrels of condensate per day.

Alaska officials have been pushing the Army Corps to issue the wetlands permit. Agency officials have said they hope to make a Sept. 21 target date for rendering a decision on the permit application.

Three construction camps

ExxonMobil plans to expand the existing 13-acre central pad at Point Thomson to 56 acres.

Three construction camps will be needed to build the gas cycling project. They will be "independent operations," each with its own water and wastewater treatment plant, ExxonMobil said.

The camps can be moved to different locations at Point Thomson as the work progresses, the company said

Initially, an existing 32-person "pioneer camp," known as the Wolverine Camp, will be mobilized to the

see POINT THOMSON page 21





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continued from page 17

SUPPLY AGREEMENT

of the accounting year, after the gas has been supplied and consumed, thus leading to a significant timing issue in determining that maximum committed delivery volume.

To complicate matters further, some companies using Enstar's pipeline system were benefitting from the issues with Enstar's supply contracts by not always delivering enough gas into the pipeline system on a daily basis to follow their daily gas demand loads, Enstar said.

"Tension over these issues grew to the point that litigation was imminent," Enstar said in its petition.

However, rather than resort to the courts, Enstar and Unocal called in an arbitrator and hammered out the protocol which they have now placed before the commission for approval.

Use forecast needs

Under the proposed protocol, the companies have agreed that the annual calculation of Unocal's maximum committed volume will be based on Enstar's annual gas demand, as forecast in October, thus eliminating the timing problem arising from the use of "after the fact" actual gas demand volumes. And the protocol provides some flexibility in that maximum volume figure, to help Enstar deal with some of the uncertainties in day-to-day gas demand — under the protocol Enstar must purchase at least 94.9 percent of Unocal annual gas commitment, while Unocal is not obliged to deliver more than 105.1 percent of that commitment.

If Unocal agrees to sell more gas to Enstar than 105.1 percent of the commitment, the additional gas will be priced at a "peaking gas" rate. If Enstar buys less gas than 94.7 percent of the commitment, Enstar can purchase the gas shortfall during the following three years, although Unocal will not be obliged to deliver shortfall gas during the winter months. And after three years Enstar must pay for any shortfall gas that it has not used.

Enstar has also agreed that Unocal is not obliged to adjust its share of daily gas deliveries to cover gas transportation imbalances in Enstar's pipeline system or any shortfall in another gas supplier's gas volumes. •

Contact Alan Bailey at abailey@petroleumnews.com

GOVERNMENT

Sullivan: Advocacy for Alaska resources

DNR commissioner encouraging investment in development of oil, gas, minerals; tells RDC he's even done cold calls on industry CEOs

By KRISTEN NELSON

Petroleum News

dvocacy for Alaska resource devel-Lopment — that's what Alaska's Commissioner of Natural Resources Dan Sullivan shared with the Resource Development Council Sept. 6.

Alaska has had a reputation as "a place that's very difficult to do business, very difficult to invest," with permits taking

forever to get and a hostile government, Sullivan said.

"We're turning that around," he said. "And we're going to continue to turn that around."

He shared an advocacy presentation he does nationally, and internation-



ally, working to interest companies and investors in developing the state's resources.

He said advocacy for the state is "kind of a full-court press" with participation by everybody from the governor on down.

The work that DNR is doing is with companies, with private equity groups and with investment banks, he said.

And the department is also working federal issues, where, he said, "unfortunately it's a little bit of two steps forward and one step back." He cited Point Thomson as an example where the state is talking to federal officials "almost daily" because of the importance of having the environmental impact statement for that project out in September so work can start

on that project.

Three interests

Sullivan said that investors and companies are interested in three things: the resource base, what is state government doing and current industry activity.

The good news on resources, he said, is that almost everybody you talk to understands that Alaska has a great resource base.

As for state government, Alaska still has "to some degree a reputation of not welcoming investment, being hostile ... (with) taxes too high ... (and) lawsuits all over the place."

But what he tries to focus on, Sullivan said, is the action, because investors sometimes want to the first movers, "but they also want to go where everybody else is going," and so in presentations the state focuses on what's going on.

"There's a huge resource base; we're taking action with regard to the government policies; but perhaps most importantly there have been decisions made by private companies about investment here that are very positive we think," Sullivan

Relatively unexplored

Two things a lot of people don't know about Alaska's resources is that the state is still "relatively unexplored," Sullivan said, but the other thing is that the state has a large unconventional resource potential, and while looking for that there is also the possibility of finding conven-

"In the Bakken or Eagle Ford you're not going to find a 100 million barrel oil pool of conventional oil," he said, but in Alaska's that's a possibility.

Sullivan also talked about the state's mineral resources, and said it's a list most investors "salivate" over.

The state is working hard on partnership both with investors and with other entities, and Sullivan noted that he signed a memorandum of understanding with the North Slope Borough over the summer, "to coordinate and make much more efficient our permitting and their permitting."

Recent activity

In reviewing recent activity Sullivan said that it isn't just the large companies like Exxon, Shell, Repsol, Conoco and BP, but also smaller and medium sized companies.

And in addition to work on state land, there's the outer continental shelf and then there is the shale play, "and you have private equity investment that's now being pumped into Alaska, focused on the shale play by Great Bear and a very prominent private equity company called Riverstone — probably the best in the class in terms of energy," Sullivan said.

"And these are areas where we've gone and we've pitched these guys," Sullivan said. "We've told them what's happening in Alaska and we're starting to see the activity."

Cold calls

Sullivan said that one of the advan-

tages of getting out and pitching Alaska to companies is the feedback it provides.

He said he's even made cold calls on CEOs of companies, telling them he thinks they're "missing the boat" because they're not in Alaska.

When there is interest, Sullivan said, he offers to send the DNR technical team down to brief a company's technical team on the resource potential in Alaska.

He estimated that more than 50 percent of the cold-call type meetings have resulted in follow-up meetings with the technical team.

In general, he said, companies are aware of Alaska's resource potential.

"And the shale oil play that's just starting to hit the radar screen of a lot of these companies — and we're really making a pitch on that," he said.

But, after companies talk about the resource potential, "then they talk about costs; and they talk about remoteness, Arctic climate, infrastructure, taxes everybody talks about taxes," he said.

He said they tell companies the administration is working on the tax issues, "but we have to acknowledge that it's still very high."

While the state can control taxes, "we're not going to be able to control remote Arctic climate ... we're always going to have that. So that's why we've got to work so hard on the ones where we have the levers that control it," Sullivan said.

> Contact Kristen Nelson at knelson@petroleumnews.com





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FINANCE & ECONOMY

BP shareholders look to save Alaska suit

BP shareholders who sued, and lost, in an Alaska court following the Deepwater Horizon disaster are appealing to the state Supreme Court.

The case is what's known as a derivative action, in which shareholders filed suit on behalf of the company against BP board members and executives including John Minge, president of BP Exploration (Alaska) Inc.

The shareholders alleged mismanagement in connection not only with Deepwater Horizon, but with pipeline leaks and other problems in BP's Alaska North Slope operations.

On June 4, Anchorage Superior Court Judge pro tem Brian K. Clark dismissed the case, citing a Texas federal court ruling that England, where BP is headquartered, is the more appropriate forum for such cases.

Lawyers for the shareholders are now appealing Clark's decision to the Alaska Supreme Court.

—WESLEY LOY

FINANCE & ECONOMY

Oil price up after attack on US in Libya

ASSOCIATED PRESS

il traded above \$97 a barrel Sept. 13 after attacks on U.S. diplomatic missions and the killing of the U.S. ambassador to Libya sparked new worries about unrest in the Middle East.

By early afternoon in Europe, benchmark crude was up 25 cents at \$97.26 per barrel in electronic trading on the New York Mercantile Exchange. The contract fell 16 cents Sept. 12 to end at \$97.01 per barrel in New York.

In London, Brent crude was down 8 cents at \$115.25 a barrel on the ICE Futures exchange.

Ambassador Chris Stevens and three other Americans died after an attack on the U.S. diplomatic facility in Benghazi Sept. 11. The attack in Libya came hours after a mob stormed the U.S. Embassy in Cairo and tore down the U.S. flag. On Sept. 13, protesters stormed the American embassy in Yemen. Analysts said that while impact of the attacks on oil prices had been subdued thus far, risks were on the rise.

"The fact that all of this is occurring without a price impact on oil shows that a geopolitical premium is already priced in," said Olivier Jakob of Petromatrix in

Switzerland. "We need however to keep in mind that due to the sanctions on Iran there is absolutely no room for another disruption in any oil producing country."

Oil analyst Stephen Schork said in an email commentary that he expects "the fundamental picture to be overtaken by the powder keg that was ignited yesterday in Libya ... we will be keeping a close eye on tension in the region."

Traders were also awaiting the end of a two-day Federal Reserve policy meeting at which central bankers were widely expected to announce new steps to help the flagging U.S. economy.

Should the Fed fail to announce the awaited measures, "we may see crude prices unwind some of their recent gains as the dollar corrects higher," said a report from Sucden Financial Research in London. A stronger dollar makes crude more expensive and a less attractive investment for traders using other currencies. Early Sept. 13, the euro was up to \$1.2911 from \$1.2900 late Sept. 12 in New York.

In other trading on the Nymex, heating oil fell 0.65 cent to \$3.2217 per gallon. Wholesale gasoline dropped 0.76 cent to \$2.994 per gallon. Natural gas lost 2 cents to \$3.043 per 1,000 cubic feet. ●



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NATURAL GAS

Canada looks to LNG to re-energize gas

Exporting liquefied natural gas could reignite excitement around promising shale gas plays, with four projects under consideration

By BILL WHITE

Researcher/writer for the Office of the Federal Coordinator

Liquefied natural gas exports from Western Canada to Asia could reignite the excitement that swirled around the nation's promising shale gas plays just a few years ago.

Those plays include Montney, Horn River and Liard — large swaths of northern British Columbia endowed with trillions of cubic feet of natural gas squeezed inside layers of tight shale and fine-grained sand-stone.



BILL WHITE

Those plays promise to raise British Columbia's natural gas profile from minor actor to major star — some day. But today they're struggling for attention.

The glut of Lower 48 shale-gas production not only has sidetracked plans to pipe the rich trove of Alaska North Slope natural gas to U.S. consumers, it has slowed expansion of Western Canada's gas production into the remote new plays.

With U.S. gas supply growing faster than demand, the need for importing Canadian gas is getting pushed to the sidelines. Companies are slashing budgets to drill wells and develop Canada's frontier plays.

continued from page 18

POINT THOMSON

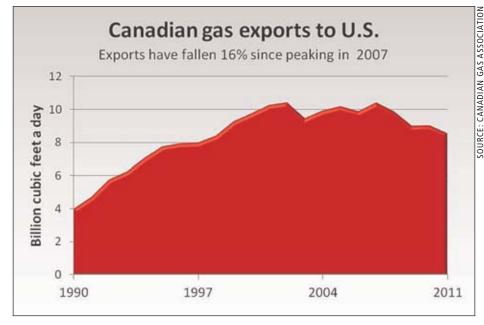
central pad via tundra travel. The camp is scheduled to arrive in December, according to paperwork filed with the DEC.

A 340-person construction camp also is expected to arrive at the central pad around the same time. It is expected to operate until 2016.

Finally, a 200-person camp will be mobilized to Point Thomson in early 2013. That camp will stay on site after construction and will be downsized as a 74-person field operations camp.

The operations camp will have a 30-year design life, ExxonMobil said. ●

Contact Wesley Loy at wloy@petroleumnews.com



The risk-reward tradeoff for investment just is too unfavorable when wellhead prices for Western Canada gas are even more depressed than prices for U.S. production due to the higher cost of piping Canadian gas long distances to U.S. buyers.

But out of this woe the industry is reori-

enting itself to Asia markets, where high LNG prices look as irresistible as an opposing team's empty net at the close of a tight hockey game. The goal: Export a substantial volume of new production that otherwise could remain idle for many years awaiting improved U.S. markets.

At least four Canadian LNG-export projects are getting serious looks. The players include big and small gas producers, pipeline companies, Asian buyers, Japanese and Chinese investors, and at least one First Nations tribe.

Backers of these projects have discussed exporting as much as 43 million metric tons of LNG annually — an average of 5.8 billion cubic feet a day — by early in the next decade. That volume would vault Western Canada into the top echelon of global LNG makers.

However, few believe all of that export capacity will be built. At the moment, two of the projects hold recently issued government licenses to export LNG, but no project has all the environmental and other authorizations needed — or locked-in customers. And none is so far along that the developers have unequivocally committed to building them — known in the business as receiving a "final investment decision."

For its LNG plant, one developer is eying an island outside Prince Rupert,

see CANADA LNG page 22



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PETROLEUM NEWS • WEEK OF SEPTEMBER 16, 2012

continued from page 21

CANADA LNG

British Columbia, just south of Alaska.

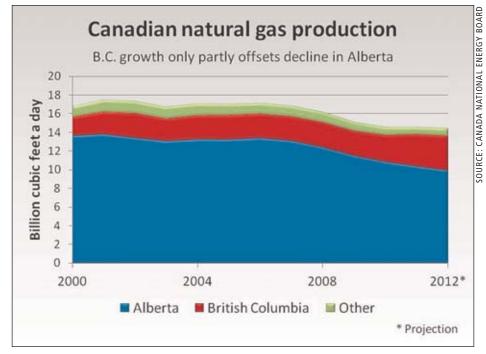
The other three, which appear to be further along in their pre-construction planning, have targeted an obscure port town called Kitimat, about 75 miles southeast of Prince Rupert.

The unique circumstances of Kitimat's birth in the post-war Canada of the 1950s garnered the town some international fan-fare at the time — and even a visit from a British royal. But harder times have befallen the town in recent years, and city leaders have pinned their hopes in part on welcoming LNG.

Into remote British Columbia

A new report on the potential economic impact of exporting Horn River shale gas as LNG sums up the possibilities simply: "The opening of Pacific Access enhances Canada's ability to exploit its substantial resources," the Canadian Energy Research Institute wrote in its white paper.

CERI pegged the gross-domestic-product impact to British Columbia at \$152 billion over 25 years if Horn River leaps into rapid development as an LNG export play.



High-income jobs, government revenue and big netbacks to producers from lofty LNG prices account for most of that predicted wealth

The Horn River shale holds an estimated 144 trillion to 600 trillion cubic feet of natural gas, a volume roughly akin to the estimated gas resource in Alaska's onshore and offshore Arctic. It's unclear how much can

be profitably produced — the amount will depend in part on how much markets will pay for the gas — likely just a small fraction of the total resource. One estimate says the shale will yield perhaps 78 tcf of gas — double the proved reserves at Prudhoe Bay and other onshore fields in Alaska's Arctic.

Some production already is occurring at Horn River. The most active company,

Apache Corp., started its first 16-well pad in 2010. By the end of that year, Apache and other companies were producing 390 million cubic feet a day from Horn River — somewhat more than the daily production from Alaska's Cook Inlet basin near Anchorage. Apache is one of the companies pursuing an LNG export project.

On a map, the Horn River play doesn't look very remote. It lies in extreme northeast British Columbia, around and north of the town of Fort Nelson. Immediately to the west lies the Liard basin, where Apache in June announced that its properties might hold an impressive 48 tcf of marketable gas.

The Alaska Highway bisects the Liard. Anyone who has driven that stretch of the road knows it winds through a sparsely populated land of boreal forests, tundra and muskeg. Some remote roads built for logging are drivable only in winter, when they're frozen.

The great British Columbia and Alberta oil and gas fields lie to the south and southeast. Extending sufficient roads and pipelines into the Liard, Horn River and Cordova Embayment, another shale prospect east of Horn River, will cost hundreds of millions, as will building production pads and drilling wells. CERI estimates a fractured Horn River horizontal well costs \$7 million to \$10 million, more expensive than at other North American shale plays.

As shale plays go, Horn River has its attractions. Although it's relatively deep underground — 8,000 to 13,000 feet down — the shale is thick, 360 to 580 feet of play. And production from early wells has slumped much more slowly than in typical North American shale plays. A new Horn River well might produce half as much gas on day 365 as it does on day 1, CERI says.

"The key constraints faced by producers include low gas prices, a short drilling season, lack of existing infrastructure (pipelines and roadways), produced carbon dioxide (about 12 percent of the gas is CO2, which must be removed before piping the gas), and emerging water issues," CERI says.

Without bigger market prices to justify development costs, the gas essentially is stranded in the ground, and dreams of a big gross-domestic-product payday are just dreams. Similar barriers have handicapped development of Alaska's North Slope gas for 40 years.

Pricing peaks and valleys

A few years ago, North American gas prices were much higher, and the natural gas industry was on fire.

From 2005 through 2008, prices averaged \$7.81 per million Btu (about 1,000 cubic feet) at the Lower 48's Henry Hub—almost three times higher than today's depressed price. Expensive, hard-to-get gas deposits suddenly looked more alluring. Those high prices triggered the Lower 48 shale-gas boom and revived interest in an Alaska gas pipeline.

In northeast British Columbia, a land rush erupted.

In 2007, companies paid a breathtaking \$1 billion in bonuses for petroleum and natural gas rights in B.C., almost all of it for shale plays.

The next year — as natural gas prices peaked — a frenzy broke out. Companies paid a record \$2.7 billion in bonuses, including \$1.1 billion in Horn River bonuses and \$1.3 billion for Montney rights.

Over the next two years, 2009 and 2010, gas prices slid, and so did the bonuses, totaling \$1.7 billion for shale regions. The Liard and Cordova Embayment plays got noticed those years — Liard bonuses totaled \$158 million and Cordova reaped

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EXPLORATION & PRODUCTION

Buccaneer spuds Kenai Loop No. 4 well

Buccaneer Energy Ltd. spud the Kenai Loop No. 4 well on Sept. 11, the company said.

The local subsidiary of an Australian independent began drilling the well at its onshore Kenai Loop prospect, just north of the city of Kenai. Kenai Loop No. 1 will target seven stacked sands in the Tyonek formation, all "identified and mapped using data from the recent 3-D seismic interpretation and all have hydrocarbon indicators," the company said.

Buccaneer said it is currently producing about 5 million cubic feet per day from two of those sands — at 9,700 and 10,000 feet — from the Kenai Loop No. 1 well. Kenai Loop No. 4 will have a bottom-hole location some 2,000 feet northwest of Kenai Loop No. 1 and will be slightly deeper than the 10,600-foot total vertical depth of that original well.

Kenai Loop No. 4 is expected to take up to 40 days to drill with 10 days of testing.

Buccaneer is drilling the well using the Glacier No. 1 drilling rig.

—ERIC LIDJI

continued from page 22

CANADA LNG

\$261 million.

Then North American gas prices plunged, and northeast B.C. got quiet. Horn River netted \$2.9 million in 2011. Liard and Cordova got nothing.

Asia investors come calling

With North American markets fading from view, northeast British Columbia oil and gas companies came to embrace Asia as the destination that would pay them enough to justify developing their shale properties.

In 2010, LNG prices averaged \$10.91 per million Btu in Japan, according to the BP Statistical Review of World Energy. Last year the price leaped to \$14.73, with some spot cargo shipments grossing much more than that. Japanese utilities clamored for more LNG and other fuels after the 2011 earthquake and tsunami shut down the nation's nuclear power plants.

New players from Asia started investing in Canada, too, hoping to diversify their portfolios and possibly secure Canadian supply if LNG exports occur:

•Mitsubishi formed a gas joint venture with Canadian producer PennWest in May 2010.

•Malaysia's national oil company PETRONAS entered into a gas joint venture with Canada's Progress Energy in June 2011 then a year later reached a deal to simply acquire its partner.

·Late last year China's Sinopec and Japanese energy companies INPEX and JGC Corp. made deals in Canadian gas development projects.

•Early this year, PetroChina bought gas assets from Shell, and Mitsubishi formed a second gas JV, this time with Canadian producer Encana.

•In July, China National Offshore Oil Co. — known as CNOOC — proposed a friendly \$15.1 billion takeover of Calgarybased Nexen, subject to government approval. Nexen's holdings include rights in the Horn River, Cordova and Liard basins.

The possible LNG projects

Ideas for LNG export projects followed swiftly. As yet, all are well short of starting construction.

Kitimat LNG

In December 2010, a partnership called Kitimat LNG — sometimes called KM LNG — applied to Canada's National Energy Board for a license to export up to 10 million metric tons of LNG annually for 20 years — an average of about 1.3 billion cubic feet a day.

The partners are Apache, Encana and EOG Resources, another Canadian producer. Their project could cost as much as \$15 billion. The three companies also propose a \$1.1 billion, 36-inch diameter, 287-mile pipeline from an existing gas trunk line in central B.C. to Kitimat on the west-central coast.

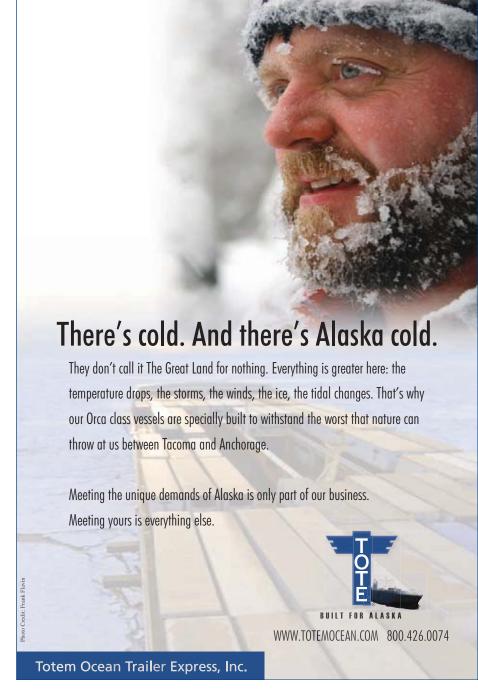
BC LNG

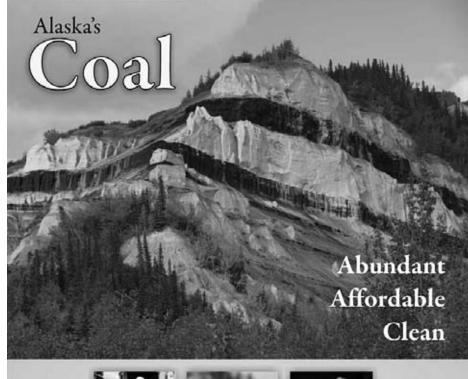
In March 2011, the NEB received its second export-license application, from a known BCLNG. group as

The cooperative's founding members included producers, gas marketers and the Haisla Nation, a local First Nations tribe in the Kitimat area.

BC LNG applied to export 1.8 million metric tons a year — about 240 million cubic feet a day. That's small, roughly the capacity of the ConocoPhillips LNG plant in Nikiski, Alaska, the United States' only

see CANADA LNG page 24











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Honolulu Anchorage Los Angeles

CANADA LNG

export plant. BC LNG would anchor its liquefaction plant on barges down Kitimat Arm from town, but closer to the city than the proposed Kitimat LNG terminal. Development costs have been pegged at under \$500 million.

LNG Canada

A third application came more recently, in July 2012. If fully realized, the project would dwarf the size of the other plants combined.

LNG Canada is a venture of Shell, Korea Gas Corp., Mitsubishi and PetroChina. It asked for a license to export from Kitimat up to 24 million metric tons a year — 3.2 bcf a day on average. Half of that LNG capacity would be ready around 2020, with the rest starting up as soon as possible afterward. Connected to the LNG Canada proposal, TransCanada Corp. in June announced plans for a \$4 billion, 435-mile pipeline from the Montney, Horn River and Cordova basins to Kitimat.

Petronas /Progress Energy

Separately, Malaysian oil company

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Possible future LNG projects

Kitimat LNG (KM LNG)

Apache, EOG Resources, Encana

\$15 billion plus \$1.1 billion pipeline. Up to 1.3 billion cubic feet a day capacity.

BC I NO

Cooperative of gas producers, marketers, Haisla Nation

\$450 million. Up to 240 million cubic feet a day of capacity.

LNG Canada

Shell, Korea Gas, Mitsubishi, PetroChina

\$12 billion, plus \$4 billion pipeline. Up to 3.2 billion cubic feet a day of capacity.

PETRONAS/Progress Energy

PETRONAS and Progress Energy

\$10 billion. Up to 1 billion cubic feet a day of capacity.

Petronas, which has properties in Western Canada and a pending takeover of Progress Energy Resources, said it is nearing completion of a feasibility study for an LNG project, with exports starting as early as 2018.

In June, Petronas and Progress disclosed they're studying a site on Lelu Island outside Prince Rupert for an LNG plant. A 7.2 million metric tons a year plant would cost about \$10 billion, according to trade publications

None of these projects is anywhere near breaking ground.

None has announced signed contracts with LNG buyers in Asia — typically gas and electric utilities.

Provincial and federal environmental assessments need to be completed for pipeline stream crossings, air emissions, the plant sites themselves and other work. And the projects will need other authorizations. As CERI put it in its new report on exporting Horn River gas as LNG:

"On the federal level, an LNG facility must satisfy agencies such as the Canadian Environmental Assessment Agency, Transport Canada Marine Safety Navigable Waters, Transport Canada Environmental Affairs Environmental Programs, Transport Canada Marine Security, Transport Canada Marine Safety Compliance Enforcement, Fisheries and Oceans Canada, Environment Canada and the NEB. On the provincial level, an LNG facility must gain approval from provincial Commissions and the provincial environmental assessment offices and transportation ministries."

With understatement, CERI called LNG permitting "a drawn-out process."

Will Asia want Canadian LNG?

Two projects already have their National Energy Board export licenses, allowing the

gas to leave Canada as LNG.

Apache-led Kitimat LNG won its license last October, the first the NEB ever awarded.

BC LNG's license came in February 2012.

The NEB took 10 to 11 months to consider each application.

A passage in its Kitimat LNG decision sums up the NEB's opinion of the value of LNG exports:

"The Board is of the view that the proposed export will not only open new markets for Canadian gas production, but that ongoing development of shale gas resources in BC and Alberta will ultimately further increase the availability of natural gas for Canadians."

The NEB struck a similar note in its decision on the smaller BC LNG project. BC LNG sponsors argued "that current market conditions require Canadian producers to find new markets in order to continue developing their reserves. BC LNG argued that the proposed export would help avoid natural gas being shut-in when North American prices are insufficient to justify production."

The NEB acknowledged the point: "The Board understands that significant changes are occurring in the North American natural gas market as changing supply sources and emerging demands alter inter-regional natural gas flows. In particular, growing US supplies are increasingly entering markets in central Canada as well as US markets traditionally accessed by Canadian gas exports."

The three applicants that have taken their projects to the NEB so far have spiked their filings with favorable market assessments from international energy consultants. Kitimat LNG used Poten & Partners. BC LNG used Wood Mackenzie. And this summer the Shell-led LNG Canada used PFC Energy.

All three analyses basically came to the same conclusions:

•U.S. export markets are shrinking for Western Canada producers.

•The oil-linked Asia LNG price should remain much higher than North American prices for decades.

•The big Asian LNG buyers — Japan, South Korea, Taiwan and China — will need to lock in new supplies as their gas demand grows and old contracts expire.

•Those buyers will find attractive Canada's ample supply of gas, political and regulatory stability, and relative proximity

•Canadian projects will compete for Asian LNG supply contracts with projects in Australia, Papua New Guinea, the U.S. Gulf Coast, Africa and elsewhere. But not all of the proposed projects will materialize.

•The winning projects will be the early movers that lock up Asian buyers first.

That "act now because the window is closing" theme will ring familiar to Alaskans who have followed proposals over the decades to liquefy North Slope natural gas.

CERI's projection of a big gross-domestic-product windfall is predicated on Asian LNG prices remaining sky high. CERI estimated Western Canada production could be delivered to Asia for \$8.60 per thousand cubic feet (\$0.60 for pipeline tolls to the coast, \$6 for liquefaction, \$1.50 for shipping across the ocean and \$0.50 for LNG regasification in the destination country). That \$8.60 excludes costs of leases, exploration and development, taxes and royalties, and a profit for the gas producer.

(Wood Mackenzie last year estimated a similar cost for exporting Alaska North Slope gas as LNG. The big North Slope producers — ExxonMobil, ConocoPhillips and BP — jointly are in the early stages of considering an Alaska LNG project.)

Whatever price the LNG fetches in Asia

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see CANADA LNG page 26

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CANADA LNG

above \$8.60 would accrue to the Canadian gas producer to cover its costs and as its "netback." CERI assumed an Asian LNG price of \$13 to \$16, providing a large netback.

PFC Energy's new market analysis for the Shell-led project said a tanker trip to Japan from Kitimat would take eight to 10 days. That's longer than the six-to-eight-day trip from Australia but much shorter than the 13-to-15-day trip to Japan from Qatar, the world's largest LNG maker. A shorter trip saves millions of dollars a year in cargo costs.

Why Kitimat?

This brings us back to Kitimat, the little industrial port town that could.

Three of the four Canadian LNG plants under discussion would call Kitimat home.

Kitimat first strutted onto the LNG stage as a possible site of a LNG import terminal. That was eight years ago. Similar import-terminal plans arose across coastal North America. Some were built — billions of dollars worth. They mostly stand idle today, although owners of many have applied to add liquefaction plants so they can start exporting LNG.

But for Kitimat, the shale-gas boom killed its import project before the land got cleared. After a series of ownership changes in 2010 and 2011, Apache, EOG and Encana controlled the project, and they were talking exports, not imports.

If even one of the three proposed Kitimat projects gets built, it would be a boon to the town.

Kitimat's population had shriveled to an estimated 8,335 residents as of 2011, down 35 percent in 30 years. Fifteen percent of the town's private dwellings were unoccupied last year, according to Canadian census figures.

The town lost its methanol plant in 2005 because of high North American gas prices and its pulp and paper mill in 2010. The 58-year-old aluminum smelter remains the big employer. Ships delivering the plant's raw material and carrying away finished ingots ply the port — one of the few deepwater ports on Canada's West Coast.

Kitimat sprouted out of old-growth forest in the early

1950s as the British Columbia government sought to diversify and expand its post-war economy.

On Dec. 30, 1950, the government signed a deal with Aluminum Company of Canada to develop a hydroelectric project that would supply cheap energy for a new Alcan smelter — the world's largest — at a brand new town on the B.C. coast.

Between 1951 and 1954, thousands of construction workers cleared wilderness tracts and built a dam, tunnel, power-house, transmission line, smelter ... and a town ... in a broad coastal valley that offered room for the smelter, residents and other industry that might want to locate there.

Kitimat, a Native term meaning "people of the snow," became Canada's first totally planned community and, in 1953, first B.C. town without actual residents to be incorporated, according to a history on the Royal BC Museum website.

The town was an island of 1950s suburbia planted in the wild. An Alcan executive described the mission: "We are interested in building neither palaces nor monuments, but are extremely anxious to avoid a shack town."

To accelerate construction, the houses were prefabricated, shipped to the site and assembled there. An early resident recalled that the initial houses were ill-suited for the climate: "You would have a house that would probably be suitable in Santa Clara (California)," he said. "The roofs were three-quarter cathedral ceilings, therefore they had virtually no insulation and an aluminum roof. And when it rains in Kitimat ... it just thundered on the roof. After a while it would lull you to sleep."

In 1954, the first residents moved into the houses, and the Alcan smelter opened. The event was such a celebration that Prince Philip, Queen Elizabeth's husband, showed to tap the first ingot poured.

Trains arrived in 1955, and a road linking Kitimat to the B.C. highway system opened in 1957. The road was a mess at first; in fact, the first car was dragged the last five miles or so by a D9 Caterpillar, according to the Royal BC Museum account.

Alcan turned the town and its homes over to residents as quickly as possible. Locals installed community services such as schools, police, fire, and a hospital. The Kitimat Works Sports Association soon got active — yes, hockey. A rod and gun club and a yacht club also formed.

Kitimat — as a paragon of post-war, can-do Canada — gave officials a reason to crow. National Geographic magazine featured the town in 1956. Two years later Canada highlighted the town in a display at the 1958 Brussels World's Fair.

The aluminum smelter, now run by Rio Tinto, has expanded and modernized. But besides the now-closed methanol/ammonia plant and pulp/paper mill, other industry never really materialized.

The population peaked in 1981 at 12,814 residents.

City leaders tout Kitimat's low-cost power, deepwater port and rail connection. Besides the LNG projects, a separate but controversial project is afoot to export product from Alberta's oil sands to Asia.

"Kitimat is one of Western Canada's emerging energy hubs. LNG export, natural gas liquid handling, bitumen export, condensate import, co-generation power facilities, aggregate processing and new hydro projects are in place or under discussion," the city's website boasts.

"Realization of one or more of the largest of these investments could bring positive economic change to the economies of British Columbia and Canada, as well as to northwestern BC."

Canadian politicians generally support LNG exports.

The B.C. government in June decided it will redefine natural gas as a clean energy ... if it's used to power LNG plants. This bucked the long-standing policy of promoting hydroelectric energy use — the 1950s decision to allow Alcan's hydroelectric project to power the company's Kitimat aluminum plant was an early incarnation of that philosophy.

A month earlier, B.C. Premier Christy Clark gushed when the Shell-led LNG Canada group announced its LNG export plans: "This brings us one step closer to having three LNG facilities up and running by 2020, a key target set out in the BC Jobs Plan." ●

Editor's note: This is a reprint from the Office of the Federal Coordinator, Alaska Natural Gas Transportation Projects, online at www.arcticgas.gov/canada-hopes-lng-exports-can-re-energize-gas-production.



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EXPLORATION

No. 1 exploration well, with the intention of shoring up the resource for a proposed Nuna development plan, which it will submit to Pioneer's management committee. That committee will look at a number of factors, including well results and Alaska's production tax take, before it decides to sanction Nuna.

Another dropout from last year's winter exploration drilling, ConocoPhillips, recently announced an oil find at its Shark Tooth prospect on the fringe of the Kuparuk unit, which it drilled this past winter.

The company declined to offer details about the results of the Shark Tooth No. 1 well, but a notice on its website says, "This area is being evaluated to assess further development potential."

Another company, Brooks Range Petroleum, is moving forward this winter with development of a discovery at its Mustang prospect in its Southern Miluveach unit, adjacent to the Kuparuk River unit, that was confirmed with an exploration well last winter. Mustang is expected to be in production in early 2014, with peak production of 14,000 barrels of oil a day reached in 2016.

The company also plans at least one exploration well in its Tofkat unit.

Two other companies, Linc and UltraStar, did not drill last winter but plan to drill this winter.

Savant Alaska drilled an exploration well last winter, but appears to have no plans to do any exploration drilling this winter.

Under its Placer unit agreement with the state of Alaska, ASRC Exploration was expected to reprocess and reinterpret newly licensed seismic data shot across the unit by the end of the year, which it has done, and drill and log a new exploratory well, or re-enter and test the Placer No. 1 well, by June 30, 2013. But the company has submitted new unit paperwork, including a revised plan of operations, to the state's Division of Oil and Gas.

According to division Director Bill Barron, "ASRC, as part of the application to expand the Placer unit, requested to amend the POE and defer the well obligation by one year, until June 30, 2014. The basis for the unit expansion application is the modeling and analysis of this seismic set."

Division and ASRC staff were expected to meet Sept. 13 about the application. Placer lies between the Kachemach

Great Bear pulled from report

and Southern Miluveach units.

Excluded from the above well and

company counts for both North Slope winter exploration seasons is Great Bear, the company that is pioneering the possibility of oil production on the North Slope using the hydraulic fracturing techniques

see **EXPLORATION** page 31



continued from page 1

INSIDER

hull requirements.

"Though these double hulls reduce the threat of oil pollution as a result of grounding, they significantly increase the amount of energy needed to propel a vessel and increase the amount of air pollution into the atmosphere. As a result, the maritime industry's carbon footprint and ... pollutant emissions are increased.

"In addition to the need to burn more fuel, it is acknowledged that double hulls can cause several other problems which will be detailed in this study."

Those other problems, according to a "statement of work" MARAD posted with the contractor solicitation, include the extra construction cost for double-hull vessels, and the loss of cargo space.

The work statement added: "Double bottoms are difficult and expensive to maintain and can result in corrosion problems. Unchecked corrosion in older double hull vessels can lead to cargo leakage into a double bottom and the buildup of dangerous vapor which could cause an explosion under certain conditions."

The contractor was to have a year to complete the study.

On Sept. 7, however, MARAD announced: "This solicitation is being cancelled in its entirety at the convenience of the Government." No further explanation was given.

The whole affair rippled through the U.S. shipping community, which has achieved a near total phase-out of single-hull oil tankers and tank barges.

Mike Schuler, in a Sept. 11 article on the maritime website gCaptain.com, said a study to revisit the use of double hulls more than 20 years after passage of OPA 90 was "widely opposed." The contract offer, he wrote, "created quite the uproar, and led many to question MARAD's use of taxpayer dollars and reasoning for such a study to be conducted in the first place."

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CONTACT:

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Millennium Hotels and Resorts Names Greg Beltz Director of Operations Millennium Alaskan Hotel Anchorage

Anchorage, Alaska (August 31, 2012) - Millennium Hotels and Resorts is pleased to announce the appointment of hospitality executive Greg Beltz as Director of Operations of the Millennium Alaskan Hotel Anchorage.

Mr. Beltz brings over 15 years of operational and safety management experience to Millennium Hotels and Resorts.

In his role as Director of Operations Mr. Beltz will be overseeing and directing all aspects of the hotel operational departments which include Engineering, Security, Transportation, Risk Management and other relevant operating departments.

Mr. Beltz will oversee implementation of the hotels environmental and sustainability platforms and spearhead a new recycling initiative that will bring energy efficiency benefits to the hotel and increase our partnership with the Municipalities recycling programs.

Carol Fraser, General Manager for the Millennium Alaskan Hotel Anchorage said: "I'm thrilled Greg Beltz has joined our team. His operational excellence and commitment to sustainability issues will assure we reach our goals as an environmental leader in our community as well as overseeing the facilitation of our remodeling efforts dedicated to restoring the Millennium Alaskan Hotel Anchorage back to its former glory.

Prior to Millennium Hotels and Resorts, Mr. Beltz served as Safety & Operations Manager and Recreation & Transportations Manager for ARAMARK Parks and Destinations, Alaska. Prior to moving to Alaska, he was owner of Diamondback Transportation and Tour Company in Phoenix, Arizona and is former Owner and Founder of Everything Earthly, Inc in Tempe, Arizona.

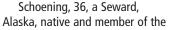


Oil Patch Bits



Crowley provides scholarship to Academy student

Crowley Maritime Corp. said Aug. 29 that it recently awarded a Thomas B. Crowley Sr. Memorial Scholarship to Alaska's Institute of Technology student Justin Schoening. This career advancing scholarship will give Schoening the opportunity to participate in the school's Ablebodied Mariner Training Program, which, upon completion, will allow his pursuit of a marine towing career.



CROLEY

Qutekcak Native Corp., is no stranger to the maritime industry having already graduated from AVTEC with a U.S. Coast Guard 100-ton Master's License. Since 2007, he has successfully owned and operated a charter fishing business with his 340-foot vessel, Just In Time, in Resurrection Bay and the North Gulf of Alaska.

Captain Dan Butts of AVTEC presented the scholarship to Schoening who graciously thanked Crowley, and also Alyeska Pipeline Service Co. for their supplemental Alaska Native Scholarship which will enable him to complete this training.

Crowley created this scholarship program to recognize students who demonstrate the achievement and leadership ability to successfully pursue careers in the towing industry. Awardees must be Alaska Natives, hold valid Merchant Mariner Credentials, hold Transportation Worker Identification Cards and provide sea service letters of discharge to demonstrate that the candidate meets the sea service requirements to qualify for an Ablebodied rating upon successful completion of the course.

To learn more about the Thomas B. Crowley Sr. Memorial Scholarship program, visit www.crowley.com/scholarships.

Global Diving and Salvage welcomes Ryan Smith

Global Diving and Salvage Inc. said Aug. 29 that it has hired Ryan Smith as general manager for its Gulf Coast Regional office, based in Houston, Texas. In this position Smith will be responsible for the day-to-day operations as well as the development of business opportunities.

Smith brings more than 12 years of experience in the maritime industry in the Gulf

see OIL PATCH BITS page 29

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

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NPR-A RE-START

and development of oil and gas reserves." Parnell said those concerns and comments of the state "were completely ignored."

In June, Parnell said, the state submitted comments on the draft environmental impact statement, making it clear "the planning process and several alternatives were 'selectively disregarding' congressional direction under the NPR-A statutes, ANILCA, the Federal Lands Policy Management Act, and inappropriately applying agency policy to the process."

Once again, Parnell said, the state's concerns were ignored.

No advance notice

The state and other cooperating agencies received no notice in advance of the August announcement of Interior's preferred alternative for NPR-A, Parnell said, calling it a "stealth" approach to the preferred alternative which prevented the state, and anyone else, "from suggesting and discussing other alternatives as a preferred alternative or ways to mitigate impacts in areas set aside from development in the B-2 preferred alternative."

Parnell said the state made good faith efforts, but Interior failed to treat the state "respectfully as a cooperating agency."

He said federal NEPA statutes and Interior's own regulations, policies and handbooks required BLM to prepare the EIS in cooperation with both the state and local governments.

Parnell said development of BLM land management plans through an EIS "must be an open and iterative process with BLM at the staff and regional level, actively working in good faith with cooperating agencies to resolve issues, form action alternatives, evaluate alternatives and identify a preferred alternative."

But, he said, "such a collaborative and cooperative process has not occurred."

"The only way to cure the defects in the process is to completely start over," Parnell said. The first step would be "a more accurate assessment" of oil and gas resources in NPR-A involving the state geologist and "possibly other non-BLM geologists." •

> Contact Kristen Nelson at knelson@petroleumnews.com

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OIL PATCH BITS

Coast region. He comes from his previous position as the vice president of Shipyard Representation at L&R Midland, responsi-

ble for managing the daily operations of the Shipyard Representation group. He was tasked with the cultivation, retention and growth of clients in the Houston shipping, drilling, and offshore construction



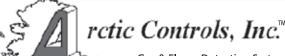
RYAN SMITH

market. Smith holds a degree in Marine **Engineering Technology from the Maine** Maritime Academy.

"Smith understands our unique diving personality and company philosophy, and is someone who will be a good leader and manager for our Gulf operations," said Devon Grennan, Global's president.

"Smith's extensive experience in the maritime industry, coupled with his knowledge of the Gulf Coast market, provides him a unique perspective into this emerging market."

Editor's note: All of these news items some in expanded form — will appear in the next Arctic Oil & Gas Directory, a full color magazine that serves as a marketing tool for Petroleum News' contracted advertisers. The next edition will be released in March.



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Steve Forbes, Chairman and Editor-in-Chief, Forbes Media

J. Brett Harvey, Chairman and CEO, CONSOL Energy Inc.

The Hon. Joe Manchin, U.S. Senator, West Virginia (scheduled to appear)

Frank McAllister, Chairman and CEO,

Steven P. McGowan, Member, Steptoe & Johnson PLLC

Hal P. Quinn, President and CEO, National Mining Association

Shelley Ilene Smith, President and General Counsel, GrayShell Consulting

Stephen T. Starbuck, Partner, Ernst &

The Hon. Earl Ray Tomblin, Governor, West Virginia (scheduled to appear)

Jack Williams, President, XTO Energy, a subsidiary of ExxonMobil

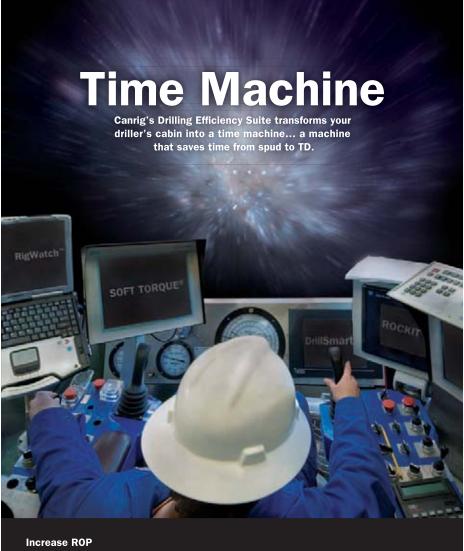
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GATEWAY

a result of the "price uplift" that would stem from the export of 525,000 barrels per day of bitumen to Asia.

He said it was likely that Canadian refiners would absorb that small additional cost because of the pressure on them to keep pump prices low to compete with fuel imports to Canada.

The issue of Chinese ownership of Northern Gateway also got an airing.

Mansell said that over 35 years the higher price of crude oil feedstock would cost refiners in Canada about C\$12 billion, but he offset by the C\$312 billion net benefit to Canada over the same period.

AFL President Gil McCowan argued that no one would believe Enbridge's rosy calculations, describing the "net benefit" claims as a "house of cards ... it is based on the assumption that oil producers in Western Canada, not just those with bitumen in the pipeline, will get higher prices for their product."

"There is also no guarantee that Chinese refiners will continue to pay the 'Asian premium' when bitumen starts flowing," he said.

Imperial adds to doubts

Imperial Oil Chief Executive Officer Bruce March added to the doubts, speaking outside the hearings.

He argued the current situation which has seen North American crude selling on the cheap is only temporary and will balance out over time, meaning that Asia is unlikely to be a more lucrative market than the United States, raising questions about the presumed benefits of Northern Gateway and Kinder Morgan's planned Trans Mountain expansion.

March said both Asia and the U.S. Gulf Coast are good markets.

"If you give these markets enough time, oil and energy prices have a way of equilibriating all across the world, particularly oil, because it's fungible, it moves, it's easily transportable," he said.

March suggested that over time there will be a combination of increasing Gulf Coast prices and a gradual lowering of those in Asia.

Even so, he agreed that new pipelines connecting to Asia are needed, depending on what volumes the world needs and how much Alberta can produce.

Sinopec has minor interest

The issue of Chinese ownership of

Northern Gateway also got an airing.

Currently 10 companies, including China's Sinopec and France's Total among six companies that have been identified, have minor financial interests in Northern Gateway, which Enbridge has indicated to eventually expand to 49 percent equity stakes.

A Calgary attorney, Barry Robinson, acting for environmental opponents, warned that state-owned Chinese companies do not always act "like rational free-market companies."

"Have you ever considered the scenario that China might want to close the loop and take a run at commercial control of the pipeline?" he asked.

Enbridge Vice President Paul Fisher offered a curt reply. "Absolutely not," he said.

Fisher also said the nationality of any companies involved is irrelevant to the regulatory hearing, insisting that was more a policy consideration for the Canadian and Alberta governments.

Enbridge spokesman Paul Stanway said questions about China's role were "fear mongering," arguing that "whoever owns the pipeline has to run it under Canadian regulations."

Contact Gary Park through publisher@petroleumnews.com

continued from page 1

LNG PLANS

America.

BG disclosed earlier this year it was assessing the feasibility of building the first LNG plant in the Prince Rupert area, although other proposals are in the works for the Kitimat port to the south.

For now BG is not willing to discuss its upstream options beyond saying that the gas for the potential LNG project would be sources from what is already and what will continue to be a very liquid market.

Based on what it has learned so far, Spectra is indicating it hopes to start construction about 2015, targeting an in-service date towards 2020.

The company will not discuss whether it has any thoughts of buying an upstream company.

'Warm reception' from First Nations

Spectra and BG expect to spend several years working with stakeholders and through the permitting process for the planned transportation system and are currently consulting with the British Columbia Environmental Assessment Office on the scope and issues it needs to address.

Spectra has also been in contact with key aboriginal communities along the planned pipeline route and reports a "warm reception and a lot of interest."

That is in contrast with the wall of First Nations resistance to the Enbridge and Kinder Morgan plans to ship oil sands bitumen from Alberta to British Columbia ports.

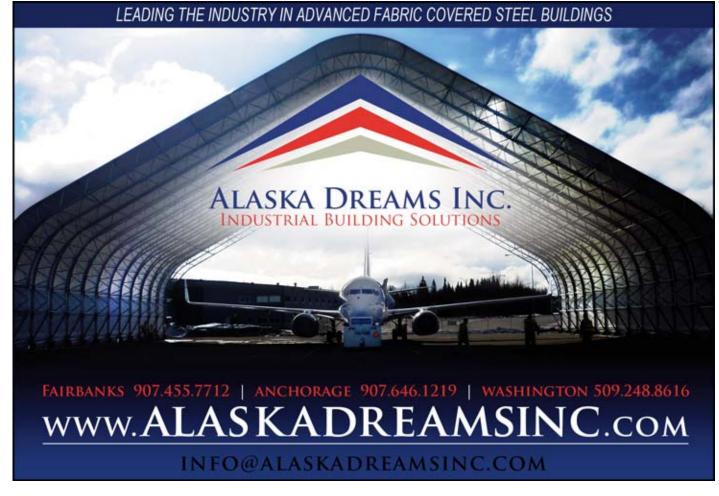
Based on what it has learned so far, Spectra is indicating it hopes to start construction about 2015, targeting an inservice date towards 2020.

Bloom said his company expects there will be significant growth in drilling and production activity to fill the pipeline.

Spectra President and Chief Executive Officer Greg Ebel said the partnership project offers British Columbia a "unique opportunity to access new markets, strengthen its energy infrastructure, engage stakeholders in economic growth and job creation and ultimately secure the province's position as a competitive energy leader."

—GARY PARK

Contact Gary Park through publisher@petroleumnews.com





EXPLORATION

in source rocks that have proved so successful elsewhere in North America.

Unlike other North Slope onshore and near shore explorers, Great Bear is able to drill year-round because its first six proposed test wells are in an existing transportation corridor of the Dalton Highway and the trans-Alaska oil pipeline.

To date the company has drilled one vertical test hole and is in the process of drilling another, both spud this past summer and both reportedly yielding core samples from all three of northern Alaska's source rocks, the Shublik, lower Kingak, and an assemblage called the Hue shale and HRZ or GRZ.

Once the first two vertical wells are finished, Great Bear has said it will immediately go back and do a lateral well at the first site.

Great Bear wants to complete the two vertical wells and two horizontal wells, and to drill another vertical well at a third site before the end of 2012, when it has to turn Nabors Drilling Rig 105AC over to Repsol for its winter drilling program.

Great Bear President Ed Duncan has not recently discussed the company's plans for 2013 in great detail. But on July 31, in response to a question about near-term expectations, Duncan said the company could be producing hydrocarbons by the end of the year.

"We expect to be testing and producing and ... selling produced hydrocarbons potentially by the end of the year, and certainly early next year," Duncan said.

Sans Cook Inlet, Nenana basin, Chukchi and Beaufort wells

Also excluded from this North Slope winter exploration report are Southcentral Alaska's Cook Inlet basin wells, the Nenana basin well Doyon hopes to drill in Interior Alaska, and Shell's drilling in its federal Burger and Sivulliq prospects in the Chukchi and Beaufort seas, respectively. All of Shell's holes will be completed during the Arctic Ocean's open water season before the North Slope exploration season onshore and in nearshore state waters gets under way in the last half of December.

Brooks Range's plans

"In regard to upcoming exploration, we plan a delineation well and one or two sidetrack(s) offsetting our Tofkat No.1 Kuparuk discovery close to the NPR-A boundary in the Tofkat unit. These wells will test Brookian 3D anomalies, confirm the size of our Kuparuk discovery and test the deeper Jurassic offsetting two high

Repsol expects to get a well test on Q1 and Q6, drilling a vertical and a horizontal hole on both, and testing the horizontals. Depending on how much time it has before the season closes, the company might try to sidetrack those locations.

flow rate Jurassic wells in ConocoPhillips' Nanuq field area," Brooks Range told Petroleum News in a Sept. 13 email. The company was in negotiations for a drilling rig.

Beechey Point unit drilling had been moved to winter 2014 per an extension from the state.

Telemark drilling was also deferred to 2014 "pending negotiations for a joint drilling agreement with Savant Alaska in the adjoining Badami unit," Brooks Range said.

There is a possibility one or two exploration wells will be drilled in the company's Kachemach unit.

"Decisions on proceeding ... will be made in the next few months and will be based on working interest owners' technical and capital budgeting priorities," Brooks Range said.

Linc aims for 5 wells

Linc Energy (Alaska) plans to drill five wells at the Umiat field on the border of NPR-A this winter, using the Kuukpik No. 5 drill rig, including a disposal well.

The other four wells are three vertical, two shallow and one deep, and a horizontal well in to the Lower Grandstand formation.

Repsol finishes last winter's program

This winter Repsol will essentially complete the five-pad program it initially proposed for last winter.

Using three rigs (Nabors 105AC, 99AC, 9ES), the company plans to get at least one vertical well drilled at Qugruk 1, Q6 and Q3 ice pads.

Q2, where last winter's shallow gas kick occurred, has been renamed Q6 and given a slightly different bottom hole location.

Repsol expects to get a well test on Q1

and Q6, drilling a vertical and a horizontal hole on both, and testing the horizontals. Depending on how much time it has before the season closes, the company might try to sidetrack those locations.

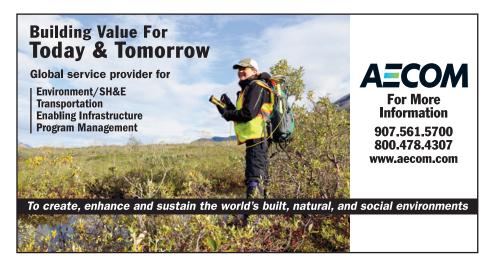
At Q3 it hopes to get a vertical test well drilled in the upcoming season.

UltraStar looking at one well

Earlier this summer, UltraStar executive Jim Weeks was optimistic the Alaskabased independent would be able to drill the North Dewline No. 1 well in the first quarter 2013.

But a final decision is not yet available from the company. •

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SHELL DRILLING

protocols for determining when to move its drilling fleet away from a potential seaice encounter. Smith said that Shell uses a combination of satellite images, radar and on-site reconnaissance to monitor sea-ice movements, and that the ability to temporarily relocate the drilling equipment is one of the requirements for working in regions where sea ice can be present.

"We started watching this ice when it was over 100 miles away," Smith said. "When the wind began to suddenly and consistently shift, we determined the ice could, potentially, impact our operations. That's when we made the call to disconnect from the well."

On Sept. 12 Smith said that the ice had moved over the Burger prospect but that Shell hopes to be able to move the drillship back on site around Sept. 16. Once the ice floe moves out of the area, the ice situation looks promising for the remainder of the open water season, Smith said.

Started Sept. 9

The ice-driven pause in the drilling must come as something of a disappoint-



The drillship Noble Discoverer on site in the Chukchi Sea, seen from the icebreaker Tor Viking

ment for Shell, after drilling finally commenced at Burger at 4:30 a.m. on Sept. 9, following a series of delays to the start of the company's Arctic outer continental shelf drilling program.

"Today marks the culmination of Shell's six-year effort to explore for potentially significant oil and gas reserves, which are believed to lie under Alaska's outer continental shelf," Smith said after the Noble Discoverer finally started auguring a drill bit into the seafloor. "We look forward to continued drilling progress throughout the next

several weeks and to adding another chapter to Alaska's esteemed oil and gas history. We're proud to be offshore Alaska, and we're extremely proud of the preparation we've put in place to do it right."

Shell has permission from the Bureau of Safety and Environmental Enforcement to drill the top section of the Burger well, pending the deployment of the company's oil containment barge, the Arctic Challenger. The Arctic Challenger has been undergoing a refit for the containment system in Bellingham, Wash. Smith said Sept. 12 that the vessel had gone through three days of successful sea trials and should be ready to sail north shortly.

Shell has said that it will likely take the Arctic Challenger 14 to 18 days to sail from Bellingham to the Arctic. Shell cannot drill into potential hydrocarbon bearing zones until the Arctic Challenger has been deployed.

Kulluk in Beaufort

The Kulluk, Shell's Arctic floating drilling platform, is currently in a holding position in the Beaufort Sea, waiting for the completion of the annual subsistence whale hunt in the region of Shell's Beaufort Sea drill sites. After the end of the whale hunt Shell plans to use the Kulluk to drill in the company's Beaufort Sea Sivulliq prospect.

Meantime, Shell is running short of time to complete a well in the Chukchi Sea, since under the terms of the company's approved exploration plan the company cannot drill into an oil bearing zone in the Chukchi after Sept. 24. Based on upto-date ice forecasts, Shell has asked the Department of Interior for permission to extend the drilling deadline by up to two weeks — in response Interior Secretary Ken Salazar has said that it would be premature to consider an extension to the drilling season until Shell's containment barge has been certified for use.

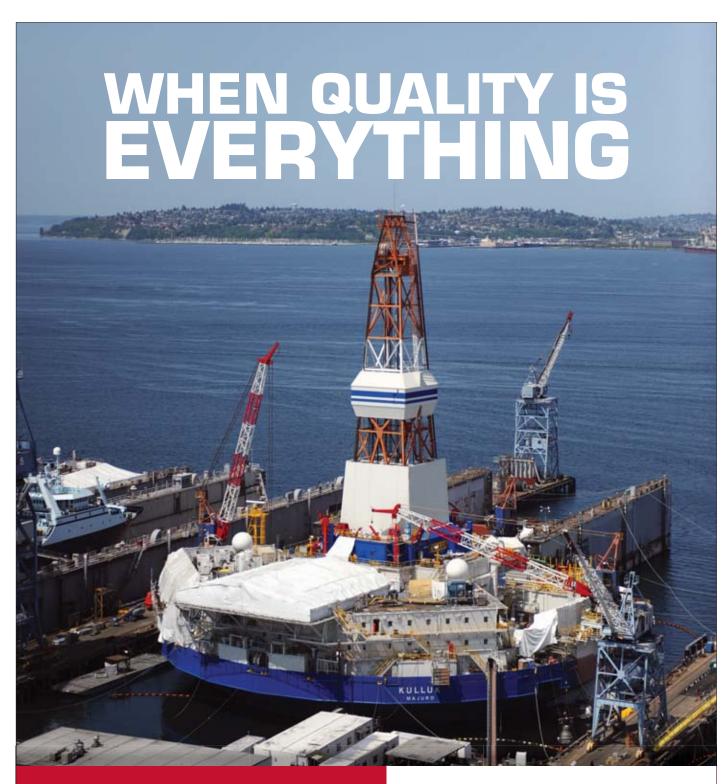
Environmentalist response

Following the ice-related suspension of the drilling at Burger, the Wilderness Society issued a press release saying that this latest twist in the saga of Shell's Arctic offshore drilling program highlights the extreme challenges of operating in Alaska's Arctic, with the size of the ice floe raising questions over the possibility of resuming the drilling this summer. Lois Epstein, the society's Arctic program director, said that the situation shows that sea ice presents a problem for drilling in the Chukchi, even in the summer.

"Chukchi Sea oil likely will be among the most expensive oil in the world to produce and transport to markets," Epstein said. "Today's ice conditions illustrate the difficulties Shell and others are likely to face for decades to come."

Environmental activist organization Greenpeace, which in July deployed a research vessel to the area of Shell's Chukchi Sea operations, slammed Shell's drilling project.

"Shell has ignored the world's best scientists, as well as millions of people around the world, who have all said repeatedly that the melting Arctic is a dire warning, not an invitation to make a quick buck," said Dan Howells, Greenpeace deputy campaigns director. "The company's Arctic drilling program this summer has not only been an epic PR failure, but a dangerous logistical failure as well. They've only proven one thing this summer, that oil companies are simply not equipped to deal with the unique challenges of operating in the Arctic."



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