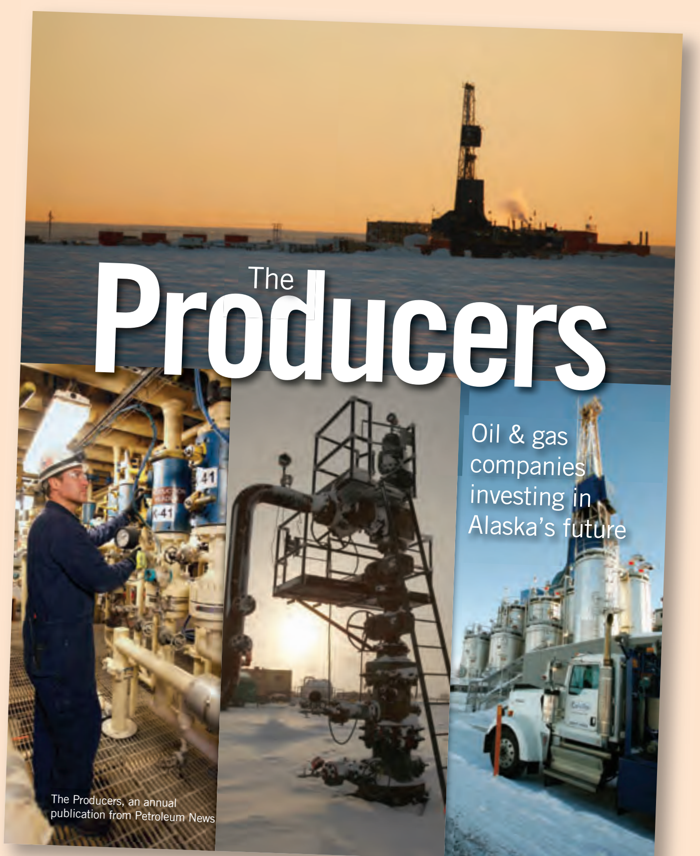
Petroleum news

page 5 Q&A: Murkowski continues to push for Alaska on NPR-A, ANWR issues

Vol. 19, No. 46 • www.PetroleumNews.com *A weekly oil & gas newspaper based in Anchorage, Alaska* Week of November 16, 2014 • $2.50

The Producers magazine enclosed



Inside this issue of Petroleum News is the latest issue of The Producers magazine, which features oil and gas companies investing in Alaska's future.

Buccaneer reorganization plan approved by bankruptcy court

A federal bankruptcy court has approved a reorganization plan for Buccaneer Energy Ltd., which allows the bankrupt company to move toward a vote in December.

Creditors now have until Dec. 2 to approve or reject the plan or to formally object to it.

If all proceeds as planned, Buccaneer would have until Dec. 5 to report on the results of the vote. The court has scheduled a hearing for Dec. 8 to potentially finalize the plan.

Additionally, on Nov. 7, Buccaneer closed on a sale of its Cook Inlet assets to AIX Energy LLC, its largest creditor, according to a filing from Buccaneer's lawyers.

The sale price was $44 million in the form of credits owed by Buccaneer.

—ERIC LIDJI

Sullivan heads to Washington, Walker forms transition team

The state won't certify returns from the Nov. 4 general election until as late as Nov. 28, but after a second round of ballot counting Nov. 11, The Associated Press declared Republican Dan Sullivan the victor in the race for the U.S. Senate, and Sullivan headed for Washington.

Incumbent Democratic Sen. Mark Begich, already back in D.C. as Congress resumed work after the election, refused to concede, saying he would wait until all the votes were counted.

"This was a hard fought race. As we move forward, I want to emphasize that my door will always be open to all Alaskans," Sullivan said in a Nov. 12 statement. "While we have challenges to address, the opportunities in Alaska and our country are limitless," he said.

"Sen. Begich believes every vote deserves to be counted in this election," campaign manager Susanne Fleek-Green said in an email to The Associated Press. "There are tens of thousands of outstanding votes and Sen. Begich has heard from

see **2014 ELECTION** page 24

EXPLORATION & PRODUCTION

Repsol plans 3 wells

Spanish major is permitting 5 locations for 3-well exploration program

By ERIC LIDJI

For Petroleum News

Repsol E&P USA Inc. plans to drill three exploration wells this coming winter to assess previous discoveries it made between the Kuparuk River and Colville River units.

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

The company is also proposing two routes for 40 to 50 miles of ice roads to access the drilling sites. Having already completed summer fieldwork, Repsol is proposing ice road preparation and construction into the start of the year, with drilling from January to April.

Speaking to analysts in May 2014, Martinez said, "We are working toward defining the most economical way to develop the area," but added that it was too early to comment further about the results of the wells or future development plans.

The program would involve three rigs drilling simultaneously.

The program will also include a small seismic program.

see **REPSOL WELLS** page 30

NATURAL GAS

Many moving parts

North Slope LNG project for Interior gas supply continues to take shape

By ALAN BAILEY

Petroleum News

With many stakeholders, several major interrelated components and an aggressive timescale, the Interior Energy Project presents something of a challenge. The project, with funding support from AIDEA, or the Alaska Industrial Development and Export Authority, is designed to bring affordable natural gas to Fairbanks and the Alaska Interior via a to-be-constructed liquefied natural gas plant on the North Slope and an LNG trucking operation on the North Slope Haul Road.

AIDEA has commissioned engineering firm MWH to manage the construction of the LNG plant. The Interior Gas Utility and Fairbanks Natural Gas, the two Fairbanks gas utilities, will arrange the LNG trucking operation and the provision of LNG storage facilities in Fairbanks. Fairbanks electric utility Golden Valley Electric Association is also involved in the project, with an interest in using North Slope gas as fuel for power generation.

However, one of the big uncertainties impacting the cost is the size of the LNG trailers that the trucks will haul from the Slope — the bigger the trailer, the lower the unit cost.

see **LNG PROJECT** page 31

GOVERNMENT

Hands across the Pacific

Canada, China embark on new era of apparent bilateral trade harmony

By GARY PARK

For Petroleum News

A five-day trip to China by Canadian Prime Minister Stephen Harper, who had set a primary goal of "reanimating" trade relations, ended Nov. 10 in apparent success.

Meetings with China's top leadership — the first one-on-one sessions granted to Harper in his eight years as prime minister — ended with C$2.5 billion in business deals and the creation of a currency trading hub for the Canadian dollar and Chinese yuan, without operating through the U.S. dollar, which is expected to save Canadian business millions of dollars a year.

Harper said he did not hear a single word of protest relating to Canada's restrictions on oil sands investment by foreign state-owned enterprises, SOEs — an issue that now seems to vex the Alberta government more than Beijing.

While that debate builds, lawyers with the firm of Osler Hoskin and Harcourt are reportedly working with Chinese SOEs on a way to reignite investment by acquiring resource land instead of companies.

"The Chinese leadership did not raise with me at any point the issue of Canada's investment rules," Harper told reporters.

"It would be difficult for (Beijing) to do so given that Canada's investment climate is much

see **TRADE HARMONY** page 32

contents

Petroleum News | *North America's source for oil and gas news*

Alaska - Mackenzie Rig Report

Alaska Rig Status

North Slope - Onshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Doyon Drilling			
Dreco 1250 UE	14 (SCR/TD)	Prudhoe Bay Y-38	BP
Dreco 1000 UE	16 (SCR/TD)	Prudhoe Bay MPL-36	BP
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD4	ConocoPhillips
AC Mobile	25	Kuparuk 2M-36	ConocoPhillips
OIME 2000	141 (SCR/TD)	Kuparuk 2F-21	ConocoPhillips
Kuukpik	5	Prudhoe Bay	Available
Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2	Kuparuk 2F-18	ConocoPhillips
Dreco 1000 UE	2-ES (SCR-TD)	Deadhorse, under contract to Repsol for winter exploration	Repsol
Mid-Continental U36A	3-S	Prudhoe Bay	Available
Oilwell 700 E	4-ES (SCR)	Prudhoe Bay	Available
Dreco 1000 UE	7-ES (SCR/TD)	Kuparuk	ConocoPhillips
Dreco 1000 UE	9-ES (SCR/TD)	Kuparuk	ConocoPhillips
Oilwell 2000 Hercules	14-E (SCR)	Prudhoe Bay	Available
Oilwell 2000 Hercules	16-E (SCR/TD)	Deadhorse, under contract to Brooks Range Petroleum at Mustang	Brooks Range Petroleum
Emsco Electro-hoist-2	18-E (SCR)	Prudhoe Bay	Stacked
Emsco Electro-hoist Varco TDS3	22-E (SCR/TD)	Prudhoe Bay	Stacked
Emsco Electro-hoist Canrig 1050E	27-E (SCR-TD)	Deadhorse, under contract to ExxonMobil for 2015	
Emsco Electro-hoist	28-E (SCR)	Prudhoe Bay	Stacked
Oilwell 2000	33-E	Prudhoe Bay	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse , under contract to Repsol for winter exploration	Repsol
OIME 2000	245-E (SCR-ACTD)	Oliktok Point	ENI
Academy AC electric CANRIG	105AC (AC-TD)	Deadhorse, under contract to Repsol for winter exploration	Repsol
Academy AC electric Heli-Rig	106-E (AC-TD)	Deadhorse, under contract to Great Bear for winter drilling	Great Bear Petroleum
Nordic Calista Services			
Superior 700 UE	1 (SCR/CTD)	Prudhoe Bay Drill Site E-05	BP
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay Well Drill Site 15-23	BP
Ideco 900	3 (SCR/TD)	Kuparuk Well 1A-25	ConocoPhillips
Parker Drilling Arctic Operating Inc.			
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DS W-59	BP

North Slope - Offshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
BP			
Top Drive, supersized	Liberty rig	Inactive	BP
Doyon Drilling			
Sky top Brewster NE-12	15 (SCR/TD)	Spy Island S126-NW2	ENI
Nabors Alaska Drilling			
OIME 1000	19AC (AC-TD)	Oooguruk ODSN-02	Caelus Alaska

Cook Inlet Basin – Onshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Miller Energy Resources			
Mesa 1000	Rig 37	Mobilized to North Fork to begin drilling this winter	Miller Energy Resources
All American Oilfield Associates			
IDECO H-37	AAO 111	In All American Oilfield's yard in Kenai, Alaska	Available
Aurora Well Services			
Franks 300 Srs. Explorer III	AWS 1	Sterling, Stacked out at D&D yard	Available
Doyon Drilling			
TSM 7000	Arctic Fox #1	North Kenai, stacked	Nordaq
Nabors Alaska Drilling			
Continental Emsco E3000	273E	Kenai	Available
Franks	26	Kenai	Stacked
IDECO 2100 E	429E (SCR)	Kenai	Stacked
Saxon			
TSM-850	147	Ninilchik Unit, Bartolowits pad drilling Frances #1	Hilcorp Alaska
TSM-850	169	Swanson River	Hilcorp Alaska

Cook Inlet Basin – Offshore

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
XTO Energy			
National 110	C (TD)	Idle	XTO
Spartan Drilling			
Baker Marine ILC-Skidoff, jack-up		Spartan 151 Upper Cook Inlet KLU#1	Furie
Cook Inlet Energy			
National 1320	35	Osprey Platform RU-1, workover	Cook Inlet Energy
Hilcorp Alaska LLC (Kuukpik Drilling, management contract)			
		Monopod Platform, Drilling Trading Bay ST A-31	Hilcorp Alaska LLC
Patterson UTI Drilling Co LLC			
	191	West McArthur River Unit #8	Cook Inlet Energy
Kenai Offshore Ventures			
LeTourneau Class 116-C, jack-up	Endeavor	Port Graham	Buccaneer Energy Ltd.

Mackenzie Rig Status

Canadian Beaufort Sea

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
SDC Drilling Inc.			
SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available

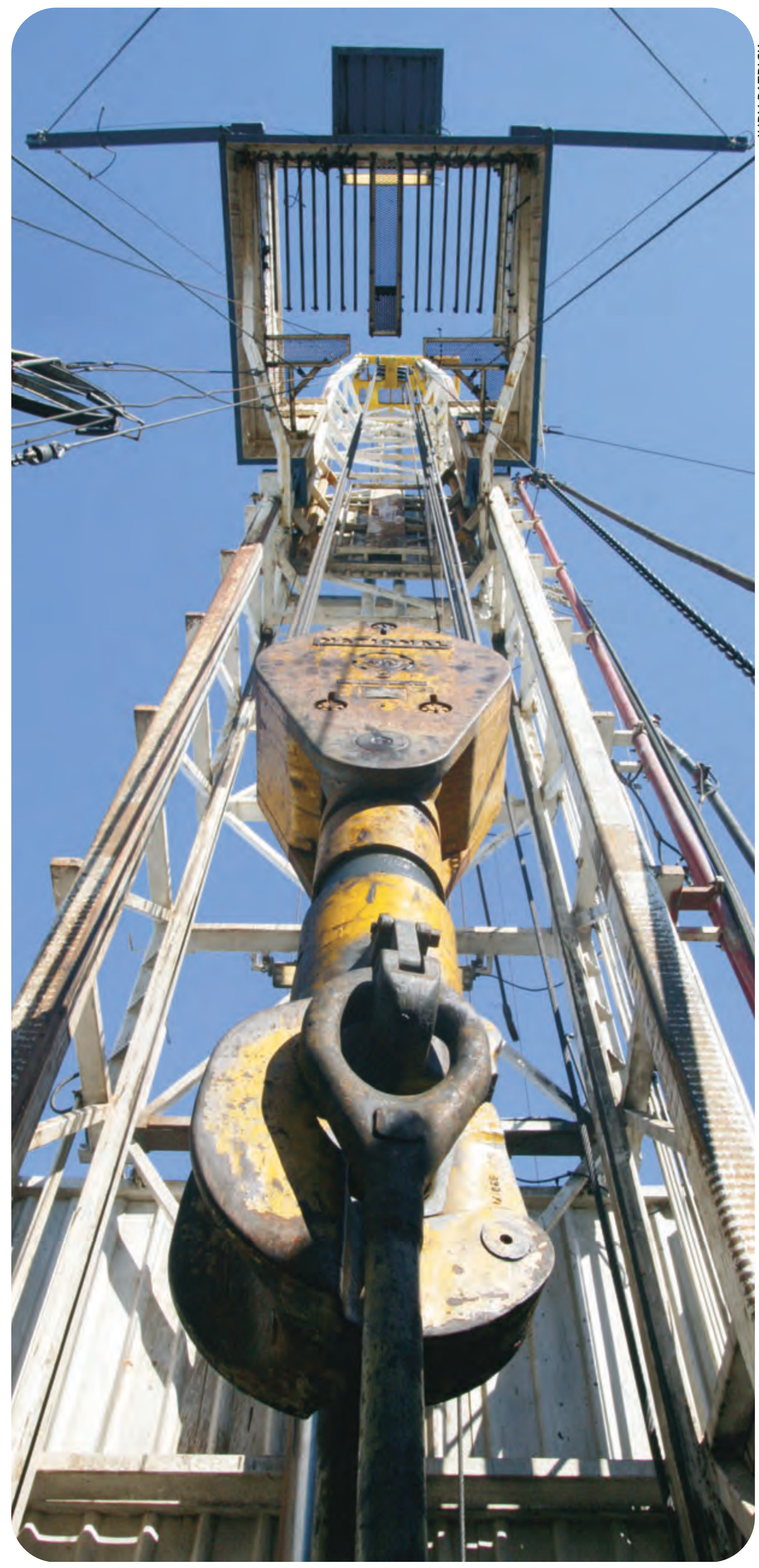
Central Mackenzie Valley

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
Akita			
TSM-7000	37	Racked in Norman Well, NT	Available

The Alaska - Mackenzie Rig Report as of November 12, 2014. 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



JUDY PATRICK

Baker Hughes North America rotary rig counts*

	Nov. 7	Oct. 31	Year Ago
US	1,927	1, 918	1,738
Canada	426	417	404
Gulf	53	55	60

Highest/Lowest		
US/Highest	4530	December 1981
US/Lowest	488	April 1999
Canada/Highest	558	January 2000
Canada/Lowest	29	April 1992

*Issued by Baker Hughes since 1944

● PIPELINES & DOWNSTREAM

Enbridge gets rough ride on pipeline

Company runs into new resolve from National Energy Board, questions on placement of valves in proposed re-direction of Line 9B

By GARY PARK

For Petroleum News

If Enbridge's initial push to send more western crude — oil sands bitumen and Bakken production — into Canada's major refinery centers were seen as a simple dress rehearsal for TransCanada's Energy East project it's time to rethink.

When Enbridge announced its intention to "re-reverse" the flow direction of Line 9B to pump 300,000 barrels per day into Ontario and Quebec and start weaning Canada of its crude imports, the C$700 million undertaking was quickly placed in the "easy peasy lemon squeezy" category by most observers.

That may have underestimated what could be a new resolve by Canada's National Energy Board to reinforce its role in protecting the environment.

Line 9B was supposed to have been in business any time soon.

Now Enbridge executives won't even take a stab at setting an in-service date.

"It's clear from our second look that we should have done a much better job of explaining our approach to the placement of valves along the route," a chagrined Chief Executive Officer Al Monaco told analysts. "And the NEB, I think, was right to question us on it."

The matter is "essentially in the NEB shop. We're ready to roll," he said.

But when, and if the line can start operations depends on whether the NEB accepts Enbridge's plan to add 15 remote-control valves to the system, raising the total to 60 to ensure protection of 320 water crossings.

Monaco said Enbridge believes it has "gone beyond what's required ... because we know that's what the public expects of us."

Two bruising lessons

That's a long way from the old days when pipeline companies simply said "trust us," and the NEB often did, while the public paid little or no attention.

If nothing else Enbridge has absorbed two bruising lessons from its benchmark pipeline rupture which spewed 20,000 barrels of crude into a tributary of the Kalamazoo River in Michigan and its inability to either win over or stifle opponents to Northern Gateway.

What seemed to startle Enbridge was the tone of a letter from NEB secretary Sheri Young telling the company that the federal regulator was "not persuaded" the conditions of an initial approval in March had been met.

The NEB said only that permission to start filling the pipeline will be delayed for several months because Enbridge failed to properly explain its criteria for identifying a "major water crossing" and only installed valves at six of the 104 it did indentify.

Enbridge hopes it can satisfactorily explain its rationale for determining a major water crossing.

New resolve

The apparent new resolve in the NEB was apparent in August when it summoned Plains Midstream Canada to a meeting after high-profile spills in Alberta in 2011 and 2012.

"Our objective with the Line 9B project has always been to meet, if not exceed, regulatory requirements and to assure our stakeholders of our commitment to operate our pipeline safely and protect the environment," Monaco said.

"We have responded to the board's request for clarification of our approach and additional information. We continue to work with the board to understand and respond to its questions and to meet its requirements."

What Enbridge and other pipeline companies must also have grasped is that the NEB will no longer accept their word on matters of public stewardship. ●

Contact Gary Park through publisher@petroleumnews.com

Petroleum news

www.PetroleumNews.com

Kay Cashman	PUBLISHER & EXECUTIVE EDITOR
Mary Mack	CEO & GENERAL MANAGER
Kristen Nelson	EDITOR-IN-CHIEF
Susan Crane	ADVERTISING DIRECTOR
Bonnie Yonker	AK / NATL ADVERTISING SPECIALIST
Heather Yates	BOOKKEEPER & CIRCULATION MANAGER
Shane Lasley	NORTH OF 60 MINING PUBLISHER
Marti Reeve	SPECIAL PUBLICATIONS DIRECTOR
Steven Merritt	PRODUCTION DIRECTOR
Alan Bailey	SENIOR STAFF WRITER
Eric Lidji	CONTRIBUTING WRITER
Wesley Loy	CONTRIBUTING WRITER
Gary Park	CONTRIBUTING WRITER (CANADA)
Rose Ragsdale	CONTRIBUTING WRITER
Ray Tyson	CONTRIBUTING WRITER
Judy Patrick Photography	CONTRACT PHOTOGRAPHER
Mapmakers Alaska	CARTOGRAPHY
Forrest Crane	CONTRACT PHOTOGRAPHER
Tom Kearney	ADVERTISING DESIGN MANAGER
Renee Garbutt	CIRCULATION SALES
Ashley Lindly	RESEARCH ASSOCIATE
Dee Cashman	RESEARCH ASSOCIATE

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

NEWS
907.522.9469
publisher@petroleumnews.com

CIRCULATION
907.522.9469
circulation@petroleumnews.com

ADVERTISING
Susan Crane • 907.770.5592
scrane@petroleumnews.com

Bonnie Yonker • 425.483.9705
byonker@petroleumnews.com

FAX FOR ALL DEPARTMENTS
907.522.9583

Petroleum News and its supplement, Petroleum Directory, are owned by Petroleum Newspapers of Alaska LLC. The newspaper is published weekly. Several of the individuals listed above work for independent companies that contract services to Petroleum Newspapers of Alaska LLC or are freelance writers.

OWNER: Petroleum Newspapers of Alaska LLC (PNA)
Petroleum News (ISSN 1544-3612) • Vol. 19, No. 46 • Week of November 16, 2014
Published weekly. Address: 5441 Old Seward, #3, Anchorage, AK 99518
(Please mail ALL correspondence to:
P.O. Box 231647 Anchorage, AK 99523-1647)
Subscription prices in U.S. — $98.00 1 year, $176.00 2 years
Canada — $185.95 1 year, $334.95 2 years
Overseas (sent air mail) — $220.00 1 year, $396.00 2 years
"Periodicals postage paid at Anchorage, AK 99502-9986."
POSTMASTER: Send address changes to Petroleum News, P.O. Box 231647 Anchorage, AK 99523-1647.

● GOVERNMENT

Murkowski continues to push for Alaska

State's senior US senator wants to see easier NPR-A development access, ANWR opened to exploration, approval for crude oil export

By STEVE QUINN
For Petroleum News

The election results are in, for the most part, and U.S. Sen. Lisa Murkowski returned to Washington poised to run the Senate's Energy and Resources Committee and the Appropriations Committee's Interior-Environment Subcommittee, which covers ANWR. Should this play out when a new Congress convenes in January, Alaska's first state-born senator will follow the footsteps of her father Frank Murkowski 20 years later as Energy and Resources chair.


SHANE LASLEY
SEN. LISA MURKOWSKI

Serving as ranking member, Murkowski has long addressed the country's needs to develop federal lands and waters, approve the Keystone XL pipeline and open up the Arctic National Wildlife Refuge for exploration.

She has also been a proponent for the U.S. exporting its resources as it continually becomes self-sufficient and able to meet domestic demand.

The following is an edited transcript of an interview between Petroleum News and Murkowski, and questions presented and answer by email.

Petroleum News: From a resource development standpoint, what do you see as this country's priorities? Is it developing federal lands and/or waters? What about transportation? The Keystone line remains as divisive as ever. Why is that?

Murkowski: My priorities will be the same as they have been for some time. And we should be focusing on new production, infrastructure, permitting reform, exports, and a lot of other policy areas to make sure that our energy renaissance keeps going.

Rising North American production is offsetting production outages around the world. As a result, we've seen both crude and gasoline prices fall dramatically — Brent is down in the $80s from the $100s mid-year, and gasoline is down from the $3.70s to below $2 in many places.

It is a mistake to respond to this increased production by keeping federal areas closed off to development. Exploration and development takes years, even decades — and now is precisely the time we should be thinking about the future. For this reason, I remain committed to supporting expanded offshore development, including in the Arctic Coastal Plain and the NPR-A.

I think the administration probably wishes it had never let the Keystone decision go this long. But the longer it's waited, the harder it has become for them to make what should have been an easy decision. I don't think the line is that divisive; I think it's supported by a strong majority of the American people, but opposed by a highly vocal minority.

Q AND A

Petroleum News: Speaking of NPR-A. There is a state and federal lease sale coming up Nov. 19. You've weighed in with some criticism. What's missing?

Murkowski: The frustration you saw expressed a few weeks ago was you've got an administration asking for congratulations because they will be making available another round of leases in the NPR-A. The problem that we are facing is that it's very difficult to get anyone to bid on these leases when they know getting access to them is practically impossible. When I say that all you have to do is look at the history. It took almost five years to get the permit for a bridge at CD-5. Right now there is a big back and forth over whether or not a road will be allowed to provide a connection to that bridge and to the pad. If you can't have access to these places, it begs the question why anyone is going to spend good money to even lease in these areas.

Petroleum News: A while back news of North Slope oil being shipped to Asia made big news. Why is that important and can this mean for the rest of the country?

Murkowski: I think it gives us a reminder of Alaska's potential when it comes to exports. It's been since 2004 when we saw exports coming out of Alaska. There was a time when we engaged in a fair amount of oil export trade to Asia, to South Korea where this shipment went, but also to Japan, to China and to Taiwan. What we are seeing is a positive sign. I'm hoping the rest of the country looks at this and recognizes that the United States, not just Alaska but the United States, can do more when it comes to participating for global exports for our crude oil, so I think it's good to see and hopefully we are going to be seeing more of it.

Petroleum News: Trade routes change all of the time, including parts of the country where our oil typically goes — California. They are now getting it from North Dakota. Do you think this can help Alaska?

Murkowski: I do. I think what we are seeing in the Lower 48 is I've been calling it a misalignment of what is happening to production coming out of places like North Dakota and the Bakken, and the Eagle Ford (Texas). We are seeing a large quantity of the sweet crude coming out of the north, but it's going down to the refineries in the south, where they are simply not set up to accommodate this type of crude. We are in a mismatch. What Alaska is able to offer allows us a

see **MURKOWSKI Q&A** page 27

● FINANCE & ECONOMY

EIA drops forecast crude oil spot price

Agency projecting Brent will average $83 per barrel next year, down $18 from October projection, citing significant uncertainties

By KRISTEN NELSON
Petroleum News

North Sea Brent crude oil spot prices fell during October, averaging $95 a barrel at the beginning of the month and $84 at the end, the U.S. Energy Information Administration said in its November Short-Term Energy Outlook.

"The causes included weakening outlooks for global economic and oil demand growth, the return to the market of previously disrupted Libyan crude oil production and continued growth in U.S. tight oil production," the agency said Nov. 12.

EIA said Brent averaged $87 a barrel in October, the first month since November 2010 that Brent had averaged below $90 a barrel.

The agency is now forecasting that Brent will average $83 a barrel in 2015, down $18 a barrel from its October forecast.

With WTI forecast to average $78 per barrel in 2016, the agency said it "expects to see some reduction in drilling activity because of marginal economic returns in some areas."

"There is significant uncertainty over the crude oil price forecast because of the range of potential supply responses from the Organization of the Petroleum Exporting Countries (OPEC), particularly Saudi Arabia, and U.S. tight oil producers to the new lower oil price environment," EIA said.

Down $10 from September

The North Sea Brent average of $87 a barrel in October was down $10 from September, EIA said.

"The combination of robust world crude oil supply and weak global demand contributed to rising global inventories and lower crude oil prices," EIA said.

The West Texas Intermediate crude oil spot price averaged $93 a barrel in September and fell to $84 in October. EIA said high refinery runs contributed to the narrowing of the WTI discount to Brent from an average of $8 a barrel in the first half of the year to $3 a barrel in July.

With recent lower-than-expected European and Asian demand combined with growth in global liquids supply depressing benchmarks like Brent, the WTI discount to Brent again fell to $3 a barrel in October.

EIA said it expects WTI to average $80 a barrel in the fourth quarter and $78 a barrel next year, drops of $11 and $17 per barrel respectively from the agency's October forecast.

EIA expects the discount of WTI to Brent to widen slightly from current levels, averaging $6 a barrel next year.

The agency said futures contracts for February 2015 delivery traded during the five-day period ending Nov. 6 averaged $79 a barrel, compared to $95 per barrel for February delivery this time last year.

Saudi Arabia

EIA said it has made "significant changes" to its global oil balance forecast for this month's outlook and "expects that global oil markets will be looser than projected" in October's outlook, as oil supply outpaces consumption "by a larger amount," with a resulting global stock build of 400,000 barrels per day in the fourth quarter and a build of the same amount in 2015.

EIA said its global forecast model was revised upward by 200,000 bpd to an average of 92.9 million bpd in 2015, "mostly reflecting a smaller decline in Saudi Arabia's production compared with last month's forecast." The agency revised its global demand forecast down by 200,000 bpd to average 92.5 million bpd in 2015, "based on weaker global economic growth prospects for next year."

Going forward, EIA believes the role of Saudi Arabia in the oil market is "highly uncertain" because that country has said it "would rather maintain its export market share than cut production to keep prices higher."

The agency said this is a different role for Saudi Arabia, which in the past "often played the role of the swing producer, cutting its production to accommodate supply growth elsewhere or increasing its output level to make up for a supply shortfall."

EIA said it assumes Saudi Arabia will continue to play some swing role, but to a lesser extent because of its sensitivity to loss of market share, and is projecting Saudi Arabia will cut its production below its current 9.5 million bpd to avoid further downward pressure of prices as non-OPEC supply grows, but will maintain production above 9 million bpd through 2015.

Non-OPEC production

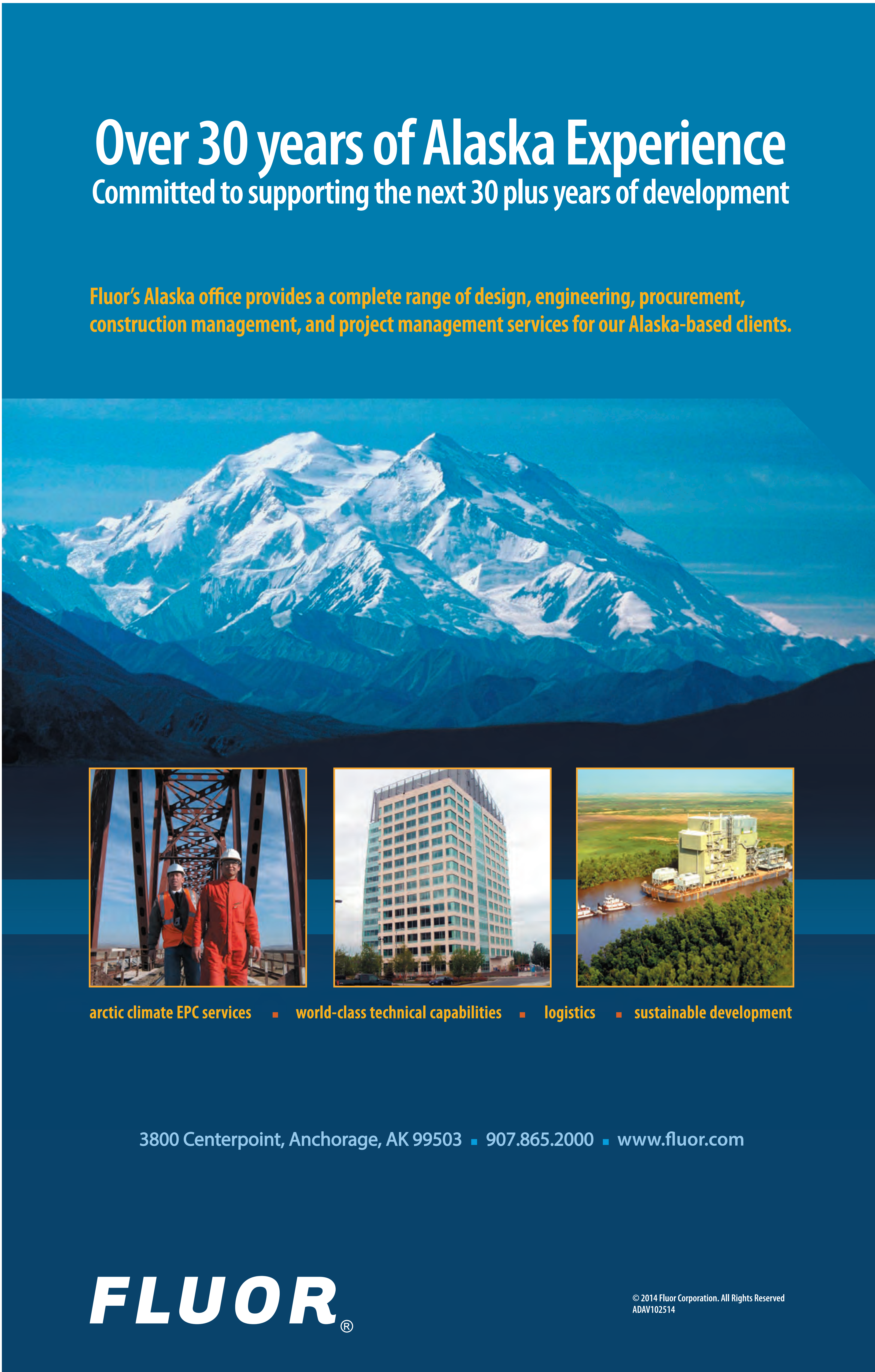
Non-OPEC liquids production grew by some 1.4 million bpd last year, averaging 54.2 million bpd, and is projected to grow by 1.9 million bpd this year and by 900,000 bpd in 2015, with the United States the leading contributor to non-OPEC growth, increasing by 1.5 million bpd this year and an estimated 1.1 million bpd in 2015.

EIA said it revised U.S. liquids growth down by 100,000 bpd for 2015 because of the recent decline in crude oil prices and the expectation that WTI will average near $80 through 2015.

EIA is forecasting U.S. crude oil production to average 8.6 million bpd this year, up from 7.5 million bpd in 2013, and to grow to 9.4 million bpd in 2015.

With WTI forecast to average $78 per barrel in 2016, the agency said it "expects to see some reduction in drilling activity because of marginal economic returns in some areas. This will primarily occur in noncore areas of emerging and mature tight oil basins, where low-producing wells become less attractive at lower oil prices and companies scale back expensive exploration and research drilling." ●

Contact Kristen Nelson at knelson@petroleumnews.com


Over 30 years of Alaska Experience
Committed to supporting the next 30 plus years of development
Fluor's Alaska office provides a complete range of design, engineering, procurement, construction management, and project management services for our Alaska-based clients.
arctic climate EPC services ▪ world-class technical capabilities ▪ logistics ▪ sustainable development
3800 Centerpoint, Anchorage, AK 99503 ▪ 907.865.2000 ▪ www.fluor.com
FLUOR®
© 2014 Fluor Corporation. All Rights Reserved
ADAV102514

● ALTERNATIVE ENERGY

Alaska wind farms learn from experience

Integrating wind technology into rural power systems requires robust diesel power and ways to use excess power production

By ALAN BAILEY
Petroleum News

With rural communities in Alaska suffering from the excessive cost of diesel powered electricity generation, wind farms have been sprouting up at remote locations across the state as a means of providing more affordable rural energy. And, as the rural wind energy business matures, people have learned some key lessons in how to make the wind technology work effectively and reliably for isolated communities, where electricity is essential for day-to-day living, but where electrical loads are low.

During a Nov. 6 meeting of the board of AEA, or the Alaska Energy Authority, Sean Skaling, AEA deputy director for alternative energy and energy efficiency, said that key lessons learned include the need for robust diesel generation systems, to integrate the varying wind power into a stable overall electricity supply. Also, to make the most economical use of the wind power it is generally necessary to have some form of secondary load that can be brought into play, to use excess power during wind power peaks, Skaling said.

Skaling said that there are now 24 operational wind farms in Alaska, with a total installed capacity of 67 megawatts, representing about 3 percent of the state's total electricity load. Just a few years ago the total wind farm capacity only accounted for about 0.3 percent of total load, he said.

Wind power grants

For a number of years AEA has been providing state grants to support the development of wind power systems. And as part of its rural energy grant process, AEA guides projects from the reconnaissance of potential wind farm sites, through feasibility studies and wind farm design to eventual construction. The idea is to evaluate the feasibility of a potential wind farm site, and to evaluate its potential economic value to a community, before committing funds to design and construction, Skaling explained. At present there are 45 active wind farm grants at various stages of the evaluation, design and construction process, he said.

Once a wind farm has been completed, it becomes owned and operated by the community that it serves, with the community taking responsibility for operation and maintenance. But, given the investment of state money in the ventures, the AEA grants include requirements for maintenance schedules and operations plans, with provisions for AEA to verify that the schedules and plans are being implemented.

Sara Fisher-Goad, AEA executive director, commented that as the availability of state funds tightens in the future, one option may be for AEA to go through a feasibility study and some portion of a design, to determine whether a proposed wind farm makes sense, but then seek alternative financing options to bring the farm to fruition.

Need for diesel

Skaling emphasized the importance of having a strong diesel power generation system, with modern controls, that enables the integration of the fluctuating wind power into a rural power generation arrangement.

"The biggest challenge is building the wind on top of a diesel system that can handle it," he said, adding that correctly sizing the power generation facilities for maximum efficiency is also very important.

Fisher-Goad cited the example of the village of St. George, on the Pribilof Islands in the Bering Sea. AEA and the Denali Commission approved funding for a wind farm to supply power for the village but subsequently realized that village's existing powerhouse was incapable of handling the wind power integration, she said. As a consequence the wind power project had to be put on hold while the diesel powerhouse was improved. Now, after some frustration with the wind power delay, the village has an effective diesel power system and the wind farm is being commissioned, Fisher-Goad said.

Unalakleet

The village of Unalakleet in western Alaska provides another interesting case study. Kris Noonan, AEA program manager for rural power, told the AEA board that when this village upgraded the capacity of its existing wind farm from 400 kilowatts to 600 kilowatts the result was some significant instability in the village power grid. Essentially, the village's old mechanically controlled diesel power plant could not integrate the additional wind power, Noonan said. AEA helped the village install a new diesel power plant with electronic controls, he said.

But Unalakleet continued to experience issues relating to the generation of excess wind power during period of strong wind conditions. Rather than resolving this problem by curtailing the wind power output and thus eroding the economics of the wind farm, AEA has worked with the Unalakleet utility to find system improvements that enable all of the wind farm turbines to run continuously, Noonan said.

In fact, AEA has found that a village tends to need a secondary load, perhaps a heating loop in a school or some electric boilers, that can be brought into play when the wind peaks. It will probably be necessary to have a secondary load available, even with wind power providing as little as 8 percent of a village's electricity usage, Skaling said.

"You need some place to put that energy, otherwise you're going to be curtailing wind and it will be less economic," he said.

Kodiak

The island of Kodiak has implemented a 9-megawatt wind farm that has replaced what used to be diesel

see WIND FARMS page 9

GOVERNMENT

House, Senate organize for new session

Chenault chosen House speaker for fourth time, Meyer will lead Senate; Gardner, Tuck chosen as minority leaders in Senate, House

By KRISTEN NELSON
Petroleum News

While results from the Nov. 4 general election have not been certified, the Alaska House and Senate have announced organization plans for the 2015 session.

Mike Chenault, R-Nikiski, was chosen speaker of the House for a record fourth term, the House majority said in a Nov. 6 statement.


MIKE CHENAULT

As reported in the Nov. 9 issue of Petroleum News, the Senate majority announced its organization Nov. 5, with Kevin Meyer, R-Anchorage, as Senate president and John Coghill, R-North Pole, as majority leader.

The House chose Charisse Millett, R-Anchorage, as majority leader. Craig Johnson, R-Anchorage, returns as Rules chair.

Mark Neuman, R-Su-Valley, and Steve Thompson, R-Fairbanks, will co-chair House Finance, with Neuman in charge of the operating budget and Thompson the capital budget.

Bob Herron, D-Bethel, will serve as majority whip.

Chenault said it was an honor to be chosen and "a humbling feeling to get the backing of so many good people. We can continue to build a family atmosphere, honor the institution of the legislature, and the votes Alaskans entrusted us with." He said the caucus would be "focused and ready to take on the operating budget, gasline updates, implementing the ballot initiatives and all the rest."


KEVIN MEYER

In a Nov. 5 statement Meyer said the Senate majority would "focus on the priorities of Alaskans and our communities — affordable energy, reducing the size and scope of our government budgets to live within our revenue means, arctic policy and education."


BERTA GARDNER

Finance, committee chairs

Majority members of the House Finance Committee are Cathy Munoz, R-Juneau; Bryce Edgmon, D-Dillingham; Tammie Wilson, R-North Pole; Dan Saddler, R-JBER/Eagle River; Lynn Gattis, R-Wasilla; and Lance Pruitt, R-Anchorage.

Standing committee chairs in the House are: Resources, Ben Nageak, D-Barrow, and Dave Talerico, R-Interior Alaska; Judiciary, Gabrielle LeDoux, R-Anchorage; Labor and Commerce, Kurt Olson, R-Soldotna/Kenai; State Affairs, Bob Lynn, R-Anchorage; Community and Regional Affairs, Cathy Tilton, R-Wasilla; Education, Wes Keller, R-Wasilla; Health and Social Services, Paul Seaton, R-Homer; Transportation, Neal Foster, D-Nome, and Shelley Hughes, R-Palmer.


CHRIS TUCK

Joint committee chairs are: Legislative Budget and Audit, Mike Hawker, R-Anchorage, chair (House control); Legislative Council, Herron, vice chair (Senate control); Select Committee on Ethics, Millett; Armed Services, Lora Reinhold, R-Eagle River, co-chair; Administrative Regulation Review, Jim Colver, R-Mat-Su, vice chair (Senate control).

House special committee chairs are: Energy, Liz Vasquez, R-Anchorage and Colver; Fisheries, Louise Stutes, R-Kodiak; Military and Veterans Affairs, Herron.

House, Senate minorities organize

Senate Democrats announced their leadership choices

see NEW SESSION page 11

continued from page 8

WIND FARMS

power, Skaling said. A hydropower facility, which came into operation in the 1980s and which in the days of diesel generation supplied 80 percent of Kodiak's electricity, remains a major source of power on the island while also being used to integrate the variable output from the wind farm. But the hydropower facility tends to be sluggish in responding to sudden changes in wind strength, with a 30 to 90 seconds delay in its response if the wind suddenly cuts out. The power utility uses a battery to fill in the resulting power supply gaps. However, after taking many hits in its power balancing role, the battery has a limited lifespan — the utility is going to install a flywheel system to smooth out the energy fluctuations, Skaling said, adding that the port of Kodiak is also installing an electrically powered crane.

With an electricity rate now 15.8 cents per kilowatt hour, Kodiak has saved about $4.5 million per year in fuel costs, Skaling said.

"That's real savings to the community," he said.

Home heating?

AEA has also investigated the potential for using wind generated electricity to heat homes and buildings in rural Alaska, but has found this to be economically very challenging. For example, with a 10 percent replacement of fuel oil by wind-generated heat, breakeven economics would require a fuel oil cost of $9 per gallon and a wind power cost of 3 cents per kilowatt hour, Skaling said.

"It's basically a high hurdle to jump over," he said.

Assistance and research

Meantime, as much improved wind modeling and wind mapping enable better evaluations of prospective wind power applications and better understandings of wind-farm performance, AEA is continuing to provide communities with technical assistance. And the agency is partnering with the Alaska Center for Energy and Power in wind-farm related research, Skaling said.

One line of research relates to the effectiveness of wind turbine foundations in Arctic conditions. In another project AEA is about to test a system called SpiDAR for measuring wind strengths. This system uses an upwards directed radar beam to measure wind velocities over a wider range of altitudes and in more detail than can a conventional met tower. The system has been used successfully in the Lower 48 states but AEA wants to test its capabilities in the cold, dry conditions of an Alaska winter. An initial test will take place at Delta Junction, at a location next to an existing met tower, Skaling said. ●

Contact Alan Bailey at abailey@petroleumnews.com

ENVIRONMENT & SAFETY

Another report from Exxon Valdez case

Federal judge expresses frustration at slow progress in resolving continuing liabilities from 1989 Prince William Sound oil spill

By ALAN BAILEY
Petroleum News

A court case dating back to 1991 and relating to damages from the 1989 Exxon Valdez oil spill in Alaska's Prince William Sound has still not been resolved. In an Oct. 15 status report to the court, the federal government and the state of Alaska, parties in the case, said that work is still in progress on a restoration plan for dealing with oil remaining in the subsurface of beaches impacted by the spill and that the team working on the plan has not yet reached the point of being able to prepare an accurate cost estimate for any remaining remediation work.

Slow progress

Federal District Court Judge H. Russel Holland responded tersely to the status report, saying that, while he understands that progress is being made on the plan, he cannot figure out how the work on the plan has yet to make a determination of whether further remediation work in the sound remains to be done. The restoration plan

The judge commented that the fact that two attorneys involved in the case have passed away since the case began provides a somber reflection on the case's longevity.

relates to a demand in 2006 from the federal and state governments for $92 million from ExxonMobil for habitat restoration in impacted beaches — the settlement with ExxonMobil for damages relating to the Exxon Valdez disaster contained a "reopener" clause allowing governments to ask for up to $100 million to pay for remediation of environmental damage not covered in the original damage settlement for the spill.

ExxonMobil has not yet paid on the $92-million demand. The restoration plan includes conducting studies to identify any remaining environmental damage and estimate the cost of dealing with this damage.

"Bluntly, the court does not understand why the Trustees are some eight years into their evaluation process without reaching some point of finality on whether there are or are not unknown injuries to the environment which might be the subject of the reopener provision of the consent decree," Holland wrote in his response to the latest status report. "Perhaps in a further report the United States can provide the court with a better understanding of where the parties are in resolving a possible re-opener claim."

The judge commented that the fact that two attorneys involved in the case have passed away since the case began provides a somber reflection on the case's longevity.

Residual oil

While ExxonMobil has maintained that the spill cleanup from Exxon Valdez has long been completed, environmental groups have argued that oil from the spill has been degrading at slower rates than expected and still lingers in the region. The governments involved in the lawsuit also say that oil remains, embedded in Prince William Sound beaches for example.

Public Employees for Environmental Responsibility, or PEER, an organization that has been following the Exxon Valdez claims saga, has pointed out that, under a statute of limitations arrangement, the reopener claim will expire in June 2016, enabling ExxonMobil to block any claim after that time.

"The governments' glacial pace has neglected long-lingering damages to both Alaska's environment and its economy. Further delays may threaten their ability to collect anything at all," said PEER Executive Director Jeff Ruch.

Rick Steiner, a retired University of Alaska professor who has been urging the court to force ExxonMobil to pay on the reopener claim, says that the government's Exxon Valdez restoration fund still has $200 million that could also be used to act on findings from the restoration plan.

Six phases

The Oct. 15 status report filed by the federal government and the state of Alaska says that the restoration plan involves six phases: locating lingering oil through field sampling and modeling techniques; identifying factors that have slowed the natural removal of the oil; identifying remediation techniques; the pilot testing of these techniques; evaluating remediation alternatives; and implementing the remediation options.

Progress has been made on the first four phases of the plan but the report on the results of test remediation, the fourth phase, has not yet been completed — the draft report is undergoing peer review, the status report says. The testing involved trying out a remediation technique at four sites in Prince William Sound and evaluating the possible use of that technique at other sites known to harbor lingering Exxon Valdez oil. The completion of phase four of the restoration plan will entail applying the learnings from the pilot testing to "all known and predicted oiled sites," the status report says.

The additional phase four work will refine the size of the reopener claim against ExxonMobil by providing a more accurate cost estimate for dealing with lingering oil at specific sites, the status report says.

The status report also says that another report, a report into linkages between the distribution of lingering oil in Prince William Sound and the distribution of potentially impacted species, is still undergoing peer review but that progress on remediation testing is not impacted by that report. ●

Contact Alan Bailey
at abailey@petroleumnews.com

● NATURAL GAS

LNG Canada lifts hopes

Shell-led consortium embarks on regulatory phase, estimating C$40B for project; says BC tax regime a 'step in the right direction'

By GARY PARK
For Petroleum News

In the midst of gathering gloom over British Columbia's once-extravagant LNG hopes, a partnership led by Shell Canada has provided a sudden lift by starting an environmental assessment of its plans for spending up to C$40 billion on the LNG Canada project.

Along with that a project executive has described the British Columbia government's newly-announced tax regime as a "step in the right direction" — the most positive reaction yet to the province's plans for imposing an extra charge on the LNG sector.

However, Susannah Pierce, LNG Canada's director of external affairs, said that while "moving the project forward," the partnership has a "number of new steps that we need to get through, including the overall cost of this facility and how that meets our expectations, (before moving) to a positive final investment decision."

The joint venture involves Shell with a 50 percent ownership stake, PetroChina with 20 percent and Japan's Mitsubishi and South Korea's Korea Gas with 15 percent each.

The application involves a two-phase development, each designed to export 13 million metric tons a year, with construction of the first phase expected to be completed within six years of permits being issued.

Pierce said the plans submitted to the British Columbia Environmental Assessment Office cover the project's "economic and social benefits, environmental effects and mitigation measures to avoid or reduce those effects."

LNG Canada said construction spending could range from C$25 billion to C$40 billion, with the range reflecting uncertainty about the costs of labor and plant components.

In a separate element, TransCanada has been hired to build the C$4.7 billion Coastal GasLink pipeline from northeastern British Columbia to the liquefaction plant and marine terminal at Kitimat.

A 180-day time limit has been set on the environmental review, allowing LNG Canada to make its final investment decision in 2016, assuming it is able to secure Asian customers for the LNG.

While the environmental application is a milestone, the proponents sounded a cautionary note that they "must ensure the project is economically viable."

Pierce said discussions are under way with the Canadian government on ways to reduce federal taxes and make Canadian LNG globally competitive.

She said LNG is "working in a fairly high-cost environment in British Columbia and Canada," posing a challenge to "make the economic case."

The application said the plant would be one of the lowest emitters of greenhouse gas emissions among LNG facilities anywhere in the world because it would use natural gas turbines to liquefy the gas and because of an expected agreement to obtain electricity from BC Hydro that would require the consortium to pay some of the cost of upgrading a transmission line from Prince George, in north-central British Columbia, to Kitimat.

The power contract includes a new energy and demand charge of C$83.02 per megawatt hour before taxes, compared with the average rate of C$54.34 per megawatt hour paid by other industrial customers in the province.

The project has the support of the Haisla First Nation near Kitimat and the Coastal First Nations, with other aboriginal communities involved in continuing discussions.

"The Haisla people strongly support this project but have always believed it should be as green as possible," said Haisla chief councillor Ellis Ross.

Part of the appeal is the possibility of employment and business contracts for First Nations stemming from jobs for 4,500 peaking at 7,500 during the construction phase and as many as 450 full-time jobs for the first phase of operations.

In addition, LNG Canada estimates tax revenues during the 25-year operating life of the project would range from C$17 billion to C$39 billion. ●

Contact Gary Park through publisher@petroleumnews.com

continued from page 9

NEW SESSION

Nov. 7, naming Berta Gardner of Anchorage as minority leader.

Senate minority committee assignments are: Gardner— Education, Rules; Dennis Egan of Juneau — Transportation, Legislative Council; Johnny Ellis of Anchorage — Health and Social Services, Labor and Commerce; Donny Olson of Golovin — Finance, Community and Regional Affairs; Bill Wielechowski of Anchorage — Judiciary, Resources, State Affairs.

"Addressing the urgent fiscal crisis while maintaining state infrastructure and continuing to provide essential state services such as public education and public safety will be our top priority," Gardner said.

House Democrats announced their organization Nov. 7, with Chris Tuck of Anchorage returning as minority leader, and Max Gruenberg of Anchorage returning as the House Democratic whip.

Geran Tarr, also of Anchorage, will serve as House Democratic floor leader.

Democrats who will serve on House Finance are Les Gara of Anchorage, David Guttenberg of Fairbanks and Scott Kawasaki of Fairbanks.

Tarr and Andy Josephson, D-Anchorage, will serve on House Resources.

"The historic results of Tuesday's General Election show the desire of the people of Alaska for change," Tuck said.

"We look forward to working with the Senate and the Governor to set a new course for the State of Alaska," said Gruenberg. ●

Contact Kristen Nelson at knelson@petroleumnews.com

PIPELINES & DOWNSTREAM

RCA gives Unocal more time for transfer

State regulators have once again extended the deadline for a Union Oil Company of California subsidiary to transfer its small ownership in the trans-Alaska oil pipeline.

The Regulatory Commission of Alaska is now giving Union Pipeline Co. until Jan. 25, 2015, to request a formal transfer of its interest or to explain why it needs more time.

The Regulatory Commission of Alaska is now giving Union Pipeline Co. until Jan. 25, 2015, to request a formal transfer of its interest or to explain why it needs more time.

The previous deadline was Oct. 25.

Union Pipeline had asked for the additional time, saying that it still needed to resolve "several transfer-related matters" with the three other owners, BP Pipelines (Alaska) Inc., Exxon Mobil Pipeline Co. and ConocoPhillips Transportation Alaska Inc.

The parties are in arbitration but are also litigating certain portions of the dispute, according to Union Pipeline. "The litigation has been time-consuming and is likely to continue for a significant period of time. Unocal is evaluating all its options regarding how best to proceed with these matters," the company wrote in an Oct. 24 filing.

Back in June 2012, Unocal announced plans to sell its 1.36 percent interest in the pipeline. The sale has been held up by tariff-related disputes for more than two years.

A Koch Industries subsidiary also announced a sale of its share of the pipeline in June 2012 and closed the sale to BP, ConocoPhillips and ExxonMobil by the end of the year.

—ERIC LIDJI

● EXPLORATION & PRODUCTION

Hilcorp planning Blossom pad, wells

The Ninilchik unit drilling pad would target shallow gas reserves unreachable from existing Grassim Oskoloff pad

By ERIC LIDJI
For Petroleum News

As part of its continued focus on reviving the Ninilchik unit, Hilcorp Alaska LLC wants to build a new pad at the Cook Inlet unit and drill as many as two exploration wells.

The proposed Blossom pad would be a mile north of the existing Grassim Oskoloff pad at the onshore unit along the coastline of the southern Kenai Peninsula near Ninilchik.

The proposed 2.8-acre pad would sit on private land outside the unit but would directionally target shallow offshore gas reserves within the unit. Any produced gas would be processed at Grassim Oskoloff facilities. The reserves cannot be reached from existing pads due to "geometry considerations," according to information from Hilcorp.

The proposed 2.8-acre pad would sit on private land outside the unit but would directionally target shallow offshore gas reserves within the unit.

The pad would require a small gravel road connecting to an existing gravel access road.

The first well would head northwest to a measured depth of some 11,750 feet and a vertical depth of some 8,300 feet to a bottom hole location beneath ADL 389737. The depth and trajectory of the second well would depend on the results of the first.

Hilcorp would test each well for seven days.

Construction would begin in December with drilling scheduled to begin in January.

The Alaska Department of Natural Resources is taking comments through Dec. 5.

The next plan of development for Ninilchik is scheduled for March 2015.

Full steam ahead

Since acquiring the Cook Inlet assets of Marathon Oil Corp. and Union Oil Company of California in two deals in 2011 and 2012, Hilcorp has been primarily focused on rejuvenating existing units by performing well maintenance and improving infrastructure.

But the company has also been conducting limited exploration at existing fields.

In this capacity, Hilcorp has devoted more resources to Ninilchik than to any other unit.

A four-well program in 2013 and 2014 explored potential reserves near the existing Susan Dionne, Paxton and Falls Creek pads but overlooked Grassim Oskoloff. The earlier program led to the construction of the Bartolowitz pad just south of the Falls Creek pad.

Earlier this year, Hilcorp proposed the 6,500-foot GO No. 8 well to target the Sterling and Beluga formations above the Grassim Oskoloff participating area, west of the Grassim Oskoloff pad and evaluating the GO-7 well with an eye toward converting it to produce from the Beluga pool. The plans made no mention of exploration to the north.

The next plan of development for Ninilchik is scheduled for March 2015.

In a 2007 report, Netherland, Sewell & Associates estimated 1.1 billion cubic feet of proved and probable (2P) reserves at the Grassim Oskoloff field. Generally, "probable" means at least a 50 percent chance of recovered volumes meeting the 2P estimate. ●

Contact Eric Lidji at ericlidji@mac.com

● NATURAL GAS

LNG sellers, buyers talk differences

LNG Producer-Consumer Conference 2014 in Tokyo hears views on cost, price from those buying natural gas and those producing LNG

By BILL WHITE

Researcher/writer for the Office of the Federal Coordinator

Asian LNG consumers said the market has taken its first steps away from costly oil-linked pricing and other contract terms they have chafed under in recent years, and they anticipate further, more extensive reforms in the coming years.

Liquefied natural gas producers acknowledged the marketplace is indeed evolving but that a fundamental truth underpins the industry: New LNG export projects are extraordinarily expensive and need the support of high enough prices to justify undertaking the sizable construction investments.

These two views emerged from the LNG Producer-Consumer Conference 2014 on Nov. 6 in Tokyo, sponsored by the Japan Ministry of Economy, Trade and Industry and the Asia Pacific Energy Research Centre.

The first two such conferences that the Japanese government called — two years ago and last year — were notable for the palpable animosity LNG buyers aimed at producers. The Asian LNG price is the world's highest — much higher than natural gas prices in North America and Europe — and buyers argued the price was unfair, unjustified and unsupported by supply-and-demand fundamentals. They felt they were being bilked.

At this year's conference, some thawing was evident. Buyers didn't belabor the "Asian price premium" theme as in previous years. For their part, sellers were less dug in with warnings about the perils of change.

That friction exists between buyers and sellers is nothing unique to the LNG marketplace. Such tension is as old as commerce.

That Japan has stepped forward to lead the discussion about what happens next makes sense considering Japan is the world's No. 1 LNG consumer, taking 37 percent of the LNG produced last year.

Japan's economy has been double-whammied by LNG imports since 2010: Its demand soared just as the oil-linked price also was soaring.

Multiple speakers, from Japan, Taiwan, South Korea, India and the United States endorsed the concept of developing an Asia gas market that could become the basis of a new way to price the fuel in Asia.

Global oil prices 2011-2013 averaged four times the price of a decade earlier. Demand soared due to the shutdown, after the 2011 earthquake and Fukushima nuclear disaster, of all of the country's nuclear-power reactors. Electric utilities imported more LNG, coal and oil as replacement fuels. Rising fuel imports caused Japan to start running painful trade deficits that have grown annually and continue to grow this year.

An example of how one Japanese buyer has adapted to create more maneuverability for itself since 2011 came from Akihisa Mizuno, president and director of Chubu Electric Power, one of Japan's larger electric utilities.

Chubu has been signing more purchase contracts for short- and mid-term lengths rather than the 15- or 20-year contracts that sellers prefer, Mizuno told the over 1,000 people attending the Nov. 6 conference. Chubu also has signed more contracts that don't lock in an LNG shipment to a single destination.

And some recent contracts have strayed from the decades-old tradition of linking the LNG price to oil prices by blending a U.S., British, Asian or other natural gas price index into the formula, he said. In addition, this year Chubu has taken steps to form purchasing alliances with other LNG buyers in Japan and India in an effort to increase market power.

A change in the marketplace, at least in a small way, seemed clear at the conference, but less clear was whether the balance of power has shifted from sellers to buyers.

Paralyzing unknowns

If change is coming in steps to the Asia LNG industry, it's because a handful of gigantic unknowns loom, and no one is exactly sure how to bet them.

These include:

•How quickly will Japan restart its nuclear-power reactors? Before the 2011 earthquake and Fukushima nuclear disaster, Japan's 48 reactors supplied 32 percent of the nation's electricity. Today it's 0 percent. Two reactors likely will restart in early 2015, Takayuki Ueda, commissioner of Japan's Agency for Natural Resources and Energy, said at the LNG conference. Applications to restart 18 other reactors are pending, he said. LNG imports have risen 24 percent since 2010 to offset the loss of nuclear power.

•How much will Japan's utility reform reduce demand? In the face of rising electricity rates post-Fukushima, the Japanese government in June 2014 decided to open its residential electricity market to full competition starting in 2016, ending the reign of 10 regional monopolies. Other reforms also are getting rolled out.

•How fast will China's demand for natural gas grow, and how much will be met by domestic production vs. pipeline imports vs. LNG imports? How quickly can China develop its substantial shale gas resources? This year's conference included its first speaker from China, who was bearish on China's LNG outlook. Dai Jiaquan, director of the Oil Market Department at CNPC Economic & Technology Research Institute, said pipeline gas imports beat LNG on price. Further, LNG is losing its price advantage over oil and is uncompetitive with coal as a power-plant fuel. China's LNG import ter-

see **SELLERS & BUYERS** *page 14*

continued from page 13

SELLERS & BUYERS

minals were used at just 52 percent of capacity last year, a rate that will fall to 41 percent in 2015, he predicted. LNG's best use is for gas storage and for extra power at peak times at power plants, he said.

•How quickly will renewable energy catch on throughout Asia?

•How much LNG will North America export, and how much will those exports change the market? The first exports from the U.S. Lower 48 are scheduled to sail from Cheniere Energy's new plant at Sabine Pass, Louisiana, in late 2015. Cheniere's LNG challenges the status quo in two ways. First, it is priced at U.S. market prices, plus a liquefaction fee and a shipping fee. This challenges the Asia LNG pricing norm that uses a formula based on oil prices. (The Cheniere price model would have beat oil-linked prices in Asia since 2009 if it had been used, but at today's $80 oil it's questionable.) Second, the LNG buyer may deliver the gas anywhere in the world. This challenges the Asia LNG delivery norm that requires a cargo to land and be used at a specific port, a "destination clause" that protects the LNG seller from seeing that gas back out on the market in competition. Two other U.S. plants began construction in 2014 and a decision on another is imminent. More in the Lower 48 and Canada are proposed. All would tap North America's abundant shale gas resource. Small volumes from North America might not affect contract terms elsewhere very much. Large volumes could affect terms a lot.

These and other factors have slowed some decisions to build new LNG plants in recent years, even as growing market demand has pushed developers to propose multiple projects.

This hesitation is a problem, said Peter Coleman, chief executive of Woodside Energy, an Australian LNG producer. LNG projects take a long time to develop. Investments are needed now to prevent supply shortages in 2021 and beyond, he said.

Trillions in investment needed

Despite about 80 million metric tons a year of LNG capacity (almost 4 trillion cubic feet of natural gas a year) under construction — which will boost worldwide capacity by roughly one-third — forecasts at the conference predict many, many more plants will be needed.

Jean-Pierre Mateille, vice president for trading at Total Gas & Power, said industry capacity must double to 500 million metric tons a year by 2030.

Rob Franklin, president of ExxonMobil Gas and Power Marketing, said an additional 200 million metric tons will be needed by 2025 beyond what's under construction now.

The industry needs to expand at six times the pace of the 1990s and twice the pace of the 2000s, Franklin said. And there is no such thing as low-cost LNG development these days, he said. Franklin estimated the total cost for the new construction through 2025 at $2.5 trillion.

Coleman with Woodside agreed LNG investments aren't for the meek. "Even the cheap ones are $5 billion. The expensive ones are $50 billion."

The producers were unanimous that long-term sales contracts must continue as the foundation of LNG projects.

Franklin called them "critical enablers of new investment."

Coleman said LNG project developers bear so many risks, including price volatility, infrastructure problems, skilled labor shortages, regulatory delays, cost overruns and gas supply adequacy, to name some. Projects need long-term contracts with strong pricing to go ahead.

No one builds an LNG project for the spot market, he said.

Roger Bounds, global head of Shell LNG, said long-term contracts are even a mainstay of the new U.S. LNG plants under development, which are a new model for how to market LNG. Rather than being owned by the same companies that produce the gas being liquefied, the U.S. LNG projects generally are independent businesses whose only function is to build the plant and provide liquefaction services. Others produce the gas, pipe it to the plant, find buyers and ship LNG to them.

"I don't see any evidence of a loss of appetite for long-term contracts," Bounds said.

The buyers bite back

Speakers from the buyers' side of the LNG market had little to say about the length of contracts.

But everything else about their customary way of doing business seemed to be up for discussion.

They had a booster in Maria van der Hoeven, executive director of the International Energy Agency.

Buyers and sellers have a shared interest in a flexible, efficient and competitive LNG market in Asia, she said. "That means saying 'no' to some of the status quo of today."

LNG buyers took shots at two targets in particular throughout the conference:

•Destination clauses that lock in LNG cargos to unload at specific ports and only those ports.

•Today's norm of LNG prices in Asia linked to oil on an approximate energy-equivalent basis.

Van der Hoeven took shots at them, too. They both must go away, she said.

LNG producers would be wise to recognize that restrictive destination clauses are headed for extinction. An LNG producer that hesitates to remove them from sales contracts delays the inevitable and risks losing market share to nimbler competitors, Van der Hoeven said.

Some destination flexibility exists in today's market, spurred in part by a ban on the clauses for cargoes delivered to Europe. But Mateille of Total and Bounds of Shell noted that another factor is creating additional flexibility for some LNG cargoes: the rise of so-called portfolio players. These are companies such as Total, Shell, BP and BG Group that have access to LNG supplies from a variety of plants around the world and have contracts to deliver to a variety of customers. The companies can mix and match LNG supply and customers to optimize their portfolios.

As for oil-linked prices, Asia must develop the mechanisms of an efficient and transparent gas market so that the gas market can set prices, not the oil market. These mechanisms include trading hubs and third-party access to infrastructure. All this will take time, Van der Hoeven said.

Multiple speakers, from Japan, Taiwan, South Korea, India and the United States endorsed the concept of developing an Asia gas market that could become the basis of a new way to price the fuel in Asia.

It was clear, however, that such a market is a long way from reality, although initial steps have begun. Singapore has built LNG storage and some traders have set up shop in that nation. In 2013, Shell moved its LNG headquarters to Singapore from Europe.

In 2014, the Tokyo Commodities Exchange started an over-the-counter market for LNG to try to stimulate buying and selling outside of traditional contracts. About 20 trading firms or utilities are signed up, said Tatsuya Terazawa, who is in charge as Japan's director-general for commerce, distribution and industrial safety policy.

The effort is just seven weeks old, and it's not clear that any trades have actually occurred. Mateille of Total said he hears the marketplace is all buyers and no sellers.

But Terazawa said the long-term aspi-

see **SELLERS & BUYERS** *page 16*

Alaska, Oregon, Canada tout projects in Tokyo

The LNG Producer-Consumer Conference 2014 involved more than liquefied natural gas makers describing their business models and buyers explaining their woes.

The over 1,000 people attending from across the world also heard pitches for a handful of proposed North American LNG projects, including Alaska LNG.

Joe Balash, Alaska commissioner of natural resources, stressed the project's strengths. These include partners in the project — North Slope producers ExxonMobil, ConocoPhillips, BP, pipeline company TransCanada and the state — that are aligned and well-qualified to deliver an estimated $45 billion to $65 billion development on time and on budget.

Other strengths Balash cited include:

*Alaska is closer to the target Asian markets than almost every other LNG project.

*Most of the natural gas resource underpinning the project is developed already.

*The colder Alaska temperatures allow LNG equipment to operate more efficiently than it would in warmer climates.

Balash was a panelist with representatives of two proposed Oregon LNG export projects. Backers of both Oregon terminals touted that their plants would be relatively proximate to Asia, would be supplied by abundant gas resources in Western Canada and the U.S. Rockies, and enjoy local support.

Also speaking was Greg Rickford, Canada's minister of natural resources, who outlined all the reasons "Canada is ready to become a major exporter of liquefied natural gas" from 18 proposed plants on its west and east coasts. His reasons mirrored those cited by the western U.S. projects, including abundant gas, government support and the relatively short shipping time from proposed sites in British Columbia to Asia.

— BILL WHITE

● EXPLORATION & PRODUCTION

Great Bear planning three-well program

Returning to exploration after two years of data acquisition and interpretation; seeking conventional and unconventional

By ERIC LIDJI
For Petroleum News

Great Bear Petroleum Operating LLC plans to drill three wells this coming winter to explore for conventional oil resources and learn more about unconventional plays.

All three wells — Alkaid No. 1, Phecda No. 1 and Talitha No. 1 — would be located just west of the Dalton Highway and trans-Alaska oil pipeline corridor. The proposed well locations are all southwest of the two vertical test wells that Great Bear drilled in 2012 (see map).

Great Bear plans to use one rig for the program, Nabors 106AC or an equivalent rig. The company told Petroleum News in October that it had already secured a rig for the season.

The drilling schedule begins in January 2015 with Alkaid No. 1 on ADL 391704, moves some three miles south to drill Phecda No. 1 on ADL 391704 and then moves some 10 miles south to drill Talitha No. 1 on ADL 391660. The company said it might rearrange the order of the wells based on weather, drilling times, well results and other factors. The company also intends to drill laterals or sidetracks, depending on time and results.

While Great Bear gave state officials a timeline from December 2014 to May 2015 for the program, the company told Petroleum News it might continue drilling later into the year, after winter, using approved all-year drilling sites located near the Dalton Highway.

The program requires two short ice roads from the haul road to two of the three ice pads — a three-mile road to Alkaid and a three-to-four-mile road to Talitha. The Phecda pad is adjacent to the haul road. For that reason, Great Bear plans to locate its temporary camp facilities at the Phecda pad, barring some unforeseen reason to use a different location.

The Alaska Department of Natural Resources is taking comments through Dec. 10.

Since it drilled Alcor No. 1 and Merak No. 1 in 2012, Great Bear has been conducting fieldwork on its central North Slope leasehold to determine future drilling locations.

The initial program envisioned six drilling locations hugging the eastern edge of the pipeline corridor to collect samples from Shublik, lower Kingak and Hue shale/HRZ, the three source rock formations underlying the region south of the Prudhoe Bay unit.

The goal was to bolster the slim collection of existing data about the region by obtaining information through a north to south transect. By understanding the geochemical and mechanical properties of the source rocks, Great Bear hoped to gain a better understanding of how the thermal history of the source rocks varies across the region.

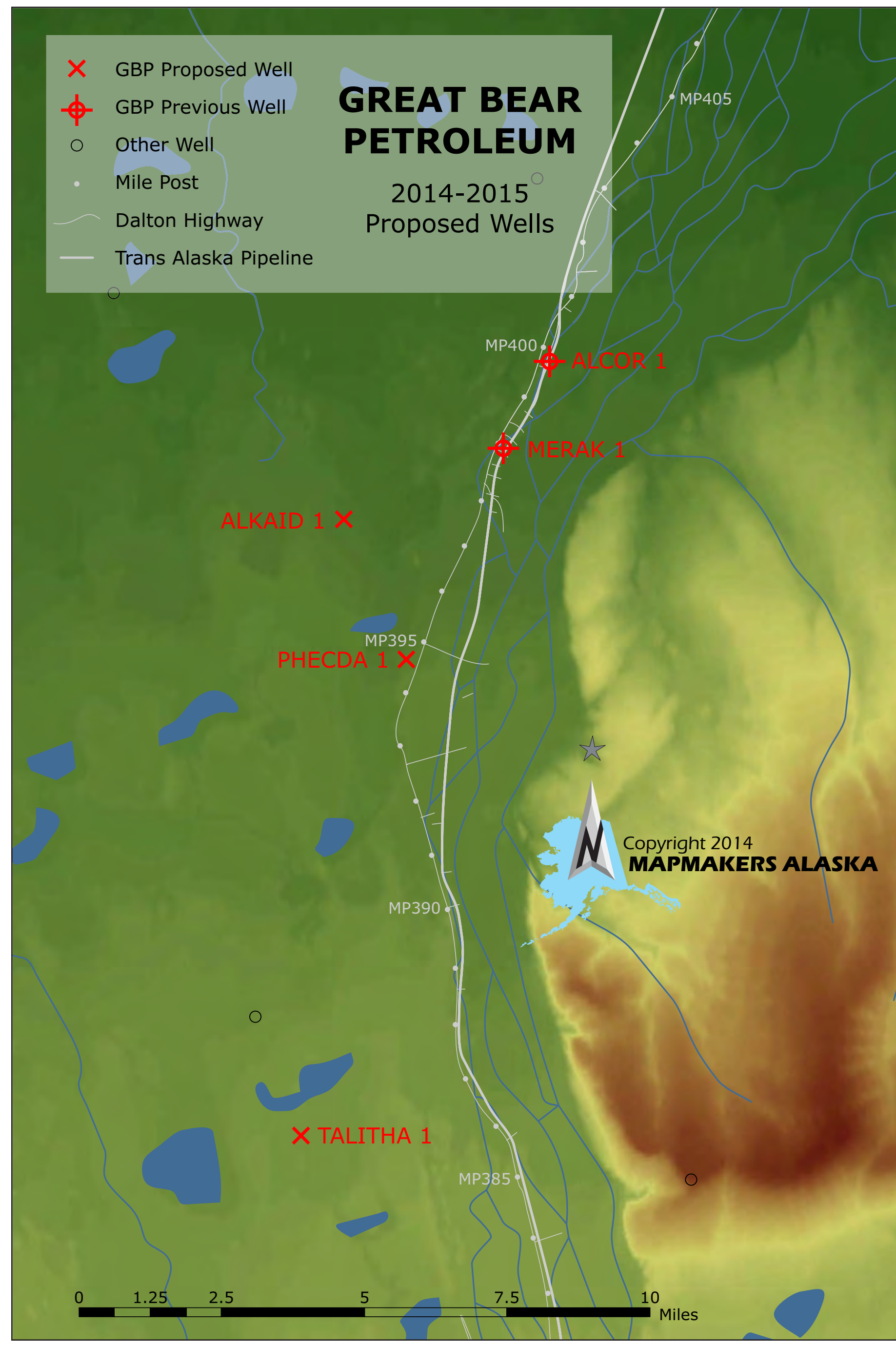
After drilling, logging and collecting samples from the two most northerly wells, Great Bear suspended the program, in part because its rig contract expired at the end of 2012.

Geochemical testing of the samples took nearly a year, by which time Great Bear had decided to launch a surveying program to better identify "sweet spots" for drilling. While oil generally permeates source rock formations, certain factors improve productivity. And the varying temperatures within a formation can turn oil to wet gas and then to dry gas.

The surveying included 3-D seismic and Light Detection And Ranging, LiDAR, as well as other resources studies. The information suggested the presence of some conventional oil targets in the area, which would allow Great Bear to look for two things at once.

"The conventional plays can provide a good mechanism for driving infrastructure development across our leases, while the unconventional is developing," Great Bear President and Chief Executive Officer Ed Duncan recently told Petroleum News. ●

Contact Eric Lidji at ericlidji@mac.com



GOVERNMENT

Alberta, BC best of pals

Alberta and British Columbia are making a fresh stab at rebuilding neighborly relations.

After years of prickly dealings, with Enbridge's Northern Gateway pipeline at the core of the tensions, the two provinces have promised to try melting the deep freeze.

Things started out promisingly when Alberta Premier Jim Prentice made his first out-of-province trip to British Columbia after being sworn into office.

When asked by reporters if they had moved beyond the rancor that was evident under Prentice's predecessor Alison Redford, British Columbia Premier Christy Clark opted for a diplomatic response, by choosing to heap praise on Prentice.

"There hasn't been a premier in Alberta's history who has understood British Columbia's uniqueness as well as Premier Prentice does," she declared, noting that Prentice had served in the cabinet of Prime Minister Stephen Harper as minister of the environment and for aboriginal

see **GOOD NEIGHBORS** *page 17*

continued from page 14

SELLERS & BUYERS

ration is big, hoping that the market will involve many more traders from Japan and elsewhere and set a benchmark LNG price that's meaningful to the larger Asia market. Eventually — soon, Terazawa said — a futures market will roll out, allowing LNG traders to hedge against price risks.

Falling oil prices

The recent plunge in world oil prices was background noise at the conference, without any revelations about how long the price slump will last or what the drop might mean for oil-linked LNG prices.

Oil has fallen from about $100 a barrel at the end of August to around $80 now.

Bounds of Shell noted that LNG prices adjust to oil prices on a time lag. The break to LNG buyers paying oil-linked prices mostly will show up next year, he said.

Besides, the lower price should remind LNG buyers that oil-linked prices can have value, too, he said. U.S. natural gas prices have fallen about half as much in that same time span.

Coleman of Woodside Energy said some more expensive LNG projects have negative free cash flow at $90 or $100 oil prices. So the low price can be a strain. But he also was sanguine about the drop, saying, "The industry will go through this natural cycle."

Mateille of Total said North American exports to be sold in Asia at U.S. gas prices plus liquefaction and shipping costs would be cheaper than oil-linked prices when oil costs more than $80 a barrel. If the oil price keeps falling to $70 or $60, the classic oil-linked contract will look very good to Asian buyers, he said. ●

Editor's note: This is a reprint from the Office of the Federal Coordinator, Alaska Natural Gas Transportation Projects, online at www.arcticgas.gov/print/lng-sellers-asian-buyers-talk-differences-tokyo

NATURAL GAS

Summer work essential to LNG permits

Field work by crews for Alaska LNG in second summer of work on soils, archaeology, other data required for permitting project

By JEANNETTE LEE

Researcher/writer for the Office of the Federal Coordinator

Armed with bug dope and bear spray, field crews hired by Alaska LNG spent their second consecutive summer making detailed records of soils, archaeology and other basic data needed for permitting and building a proposed multibillion-dollar liquefied natural gas project.

Alaska LNG plans to use the information in its permit applications to federal, state and local government agencies. The data on geology, topography, wildlife and past human activity will also help the joint venture make major engineering and investment decisions.

Early one August morning at a field camp in Trapper Creek, about 100 road miles north of Anchorage, a crew of archaeologists gathered under partly cloudy skies for a briefing on safety, weather and the day's plan.

Field camp manager Matt Adkins from project contractor URS reported that a young moose had recently forced a driver to slam on his brakes. A helicopter flown by Alaska State Troopers on the hunt for a missing tourist would be sharing the skies with URS copters that day. Trumpeter swans were nesting and should be avoided.

Officially known as a "cultural resources crew," this was one of 11 teams studying the southern half of the proposed 800-mile pipeline corridor during the 2014 summer field season. They deployed daily between the mining area of Livengood, north of Fairbanks, to Nikiski, the proposed site of the LNG plant and export tanker port on the Kenai Peninsula. Over five months, crews logged thousands of measurements on water quality, fish populations, soils, vegetation and more.

Alaska LNG chose to focus on the 400-mile southern section during the past two summer field seasons because the partners (ExxonMobil, ConocoPhillips, BP, TransCanada and the state of Alaska) initially knew less about it than other parts of the route.

The northern half, from the North Slope to Livengood, is less of a mystery. The sponsors have extensive survey data from construction in the 1970s of the trans-Alaska oil pipeline, which carries North Slope oil to Valdez, and from previous plans to pipe natural gas out of the North Slope through Canada to the Lower 48 states. Those gas pipelines would have

see **FIELD WORK** *page 18*

OFFICE OF THE FEDERAL COORDINATOR

Eric Ball, a field technician with subcontractor Northern Land Use Research Alaska, takes notes during a cultural resources study conducted along the Parks Highway north of Trapper Creek on Aug. 7, 2014.

continued from page 16

GOOD NEIGHBORS

issues.

"We have so much that we have in common that we want to work together on and, in order to make that work, we need to also understand how we're different," she said.

Prentice said he discussed a wide range of issues with Clark, including trade, Asia-Pacific markets and Northern Gateway.

"In keeping with the candor, the frankness, the respect that we have for each other, it was an opportunity to sit down and discuss issues."

He said the meeting laid the groundwork for future discussions.

Clark said Northern Gateway and related trade initiatives are a key topic, especially given that the two provinces along with Saskatchewan represent a trading bloc that produces C$500 billion in gross domestic product.

"We have an opportunity in front of us to really grow the national economy," she said.

But neither leader was ready to comment on the chances of meeting Clark's insistence that she will not endorse Northern Gateway until she is satisfied that her demands for environmental protection, the concerns of First Nations, disaster preparedness and revenue-sharing have been met.

—GARY PARK

Contact Gary Park through publisher@petroleumnews.com

continued from page 17

FIELD WORK

turned east toward Canada near Fairbanks, while the LNG project pipeline route heads south.

The Alaska Gasline Development Corp., the state-owned corporation participating in the LNG project, also has data on much of the proposed route and plans to share it with the other partners.

All told, there were six cultural crews, one fish crew, one hydrology crew, two wetlands crews and one contaminated-site crew collecting field data along the pipeline route in summer 2014. A hydrology crew also worked on the North Slope, the source of the project's feed gas, and a field staff of three carried out land acquisitions and appraisals in Nikiski. An additional three civil survey crews helped the scientific teams reach and work at the various field targets. About 250 contract employees worked on the environmental, regulatory and land issues that were the focus of the summer 2014 field season.

The field work is part of what's known as pre-front-end engineering and design, an essential, early stage in the life of a megaproject that helps proponents determine whether to build or not to build. Alaska LNG anticipates spending about $500 million for pre-FEED through 2015, $30 million of which was slated for summer field work in 2014.

OFFICE OF THE FEDERAL COORDINATOR

Field camp manager Matt Adkins of project contractor URS and archaeologist Lori Hansen of subcontractor Northern Land Use Research Alaska sift soil for artifacts during a shovel test conducted along the proposed Alaska LNG project pipeline route north of Trapper Creek.

Prepping for permitting

After the morning briefing at the Trapper Creek camp, the Alaska LNG cultural resources crew drove 20 miles north to survey a densely vegetated area bordering the southbound lane of the Parks Highway, the main stretch of road connecting Anchorage and Fairbanks.

Led by crew chief Ben Lipke, an archaeologist with subcontractor Northern Land Use Research Alaska, they briefly trudged down an all-terrain vehicle trail before pushing into a green riot of birch, willow, ferns, shrubby alder and painfully prickly devils club. There were berries, too, but gathering them, as well as hunting or fishing, is not allowed.

The crew members all had wilderness survival training: what to do when encountering a bear or moose; how to survive a helicopter crash; how to make fire without matches.

Ray King, a wilderness safety specialist working for Anchorage-based Wild North Resources, kept watch with a 12-gauge shotgun, bear spray and an air horn as the team searched the proposed pipeline corridor for any signs that humans had used the area long ago.

In Alaska, that could mean ancient tools of stone, antler or bone, ceramics, cans, a 19th-century trapper's cabin, or abandoned mines. On this particular day, with the team working in what they call "a low-probability area," the big finds were telltale depressions in the forest floor where soil and gravel had been excavated to build the 43-year-old Parks Highway.

Plants had so completely recolonized the "borrow pits," as they're called in construction parlance, that to a non-specialist they looked like natural hollows in the landscape. Still, the team carefully measured and documented them.

"We try to collect as much mundane historical data as we can to add to the state historical record," Lipke said.

The main purpose of such meticulous work is to provide baseline data for the project's environmental impact statement, a basic requirement of the National Environmental Policy Act. The act is the legal cornerstone of U.S. environmental protections.

The EIS is how government agencies would show they both understand the environmental consequences of giving the project the go-ahead and have considered ways to lessen or altogether avoid them. In the case of Alaska LNG, the Federal Energy Regulatory Commission would prepare the EIS. Other agencies would then use the document in deciding whether to issue permits for the project.

Field data are building blocks for EIS

Before FERC drafts the EIS for the project, the Alaska LNG sponsors must document in detail the baseline data that would reveal the project's potential impacts and any mitigation measures they would take to minimize the environmental consequences of building and running a gas treatment plant on the North Slope; the pipeline and compressor stations; and a liquefaction plant and export terminal on the Kenai Peninsula.

Alaska LNG is gathering data for 13 "resource reports," required by FERC as building blocks for the EIS, containing information about how natural, cultural and socioeconomic environments could be

see **FIELD WORK** *page 19*

continued from page 18

FIELD WORK

altered for better or for worse over the life of the project. The reports would include data on air and water quality, wildlife numbers, earthquake faults, employment, road traffic patterns and archaeological sites.

Government agencies, led by FERC, would verify the information in the reports, request additional information from the sponsors as needed, and add some of their own data and work. Natural Resource Group, a third-party contractor selected and supervised by FERC but paid for by Alaska LNG, would help prepare the EIS.

Under Alaska LNG's proposed schedule submitted to FERC Sept. 5, 2014, the sponsors would submit the final resource reports and a complete project application by September 2016. (The schedule is subject to change.)

Numerous federal agencies would refer to the EIS when preparing their own permits for the project. Permission to build bridges would come from the Coast Guard. Permits related to impacts on wildlife would come from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Dredging disposal permits would come from the U.S. Army Corps of Engineers.

In addition to the go-ahead for construction and operation, the EIS is required for securing final export authority from the Department of Energy. That approval would allow Alaska LNG to send its product to countries that do not have a free-trade agreement with the United States, most notably much of Asia. Because granting export authority to Alaska LNG would qualify as a major federal action, the Energy Department needs to consider the EIS in its decision, just as FERC must consider the EIS in approving construction and operation.

The public would have opportunities to vet the draft resource reports and comment on the EIS.

Preserving the historical record

The National Environmental Policy Act is one of the two major laws requiring the protection, to the extent possible, of cultural resources affected by federal government decisions. The other is Section 106 of the National Historic Preservation Act. Both acts apply to all lands, no matter who owns them. (Other cultural resource laws, like the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the Alaska Historic Preservation Act apply to specific landowners.)

Like NEPA, the National Historic Preservation Act requires federal officials to stop, look and listen before making decisions that impact historic properties and the human environment, according to an NHPA handbook.

"The applicants will assist us by doing the legwork, collecting information, producing reports and making recommendations, but we as a federal agency are responsible for compliance with the NHPA," said Laurie Boros, a staff archaeologist at FERC based in Washington, D.C.

Alaska's State Historic Preservation Office at the Department of Natural Resources reviews any federal undertaking and consults with the federal agencies responsible for determining whether historic, prehistoric or archaeological sites may be "adversely affected." Examples of adverse effects include: physical destruction of or damage to all or part of a property; alteration of a property; or removal of a property from its historic location.

OFFICE OF THE FEDERAL COORDINATOR

Crew chief Ben Lipke of subcontractor Northern Land Use Research Alaska consults a Munsell soil color chart during a cultural resources study conducted along the proposed Alaska LNG project pipeline route north of Trapper Creek on Aug. 7, 2014. Soil color reveals information about the amount of organic matter, moisture, drainage conditions and the prevalence of minerals in an area.

With his crew constantly crisscrossing Alaska's patchwork of state, federal, municipal and tribal lands, Lipke carries a bundle of access permits with him to every work site. On that August day, the crew planned to conduct "ped surveys" (short for "pedestrian surveys") on Matanuska-Susitna Borough land and state land managed by the Department of Transportation and the Department of Natural Resources.

Lipke and his team thought they wouldn't find much. There were no rivers, lookout points, good camping spots, rich food sources or other natural features that might have attracted people in the past. Local historic preservation officials had said they were not aware of any significant archaeological sites in the immediate area.

But the crew nonetheless prepared to dig atop a small rise that, because it was elevated, may have been used by people as a resting spot or lookout. The "shovel tests" began with crew members marking the sites of three test holes by tying pink ribbons to adjacent vegetation. The shovel tests could be spaced anywhere from 16 to 50 feet apart, Lipke said.

Eric Ball, a field technician working for Northern Land Use Research Alaska, used the edge of a shovel to trace a neat 20-inch square in the top layer of roots and moss, then dug it out and set it aside. Ball then hefted a shovelful of soil onto the screen of archaeologist Lori Hansen. She sifted it onto a blue tarp and examined the leftover rocks for signs of "lithic reduction," that is, the telltale striations or other markings showing that some long-ago human fashioned the stone into a tool.

"You know it when you see it," said Hansen, working this summer for Northern Land Use Research Alaska. Hansen spends the rest of the year as a collection assistant at the University of Alaska Museum of the North archaeology lab.

The crew beat on the screens to loosen the damp soil, which grew colder and colder with each shovelful. They dug through layers of volcanic soil, or "tephra," until they hit sediments deposited by a glacier called "glacial till," a sign the crews could stop digging because it corresponded with a time period predating human occupation in the area.

The bottom of each hole was a glimpse back to the end of the late Pleistocene about 14,000 years ago. None contained human artifacts.

"My folks think we're out here finding diamond skulls and gold, but actually it's more like this," said Lia Digrappa, an archaeologist field technician with Northern Land Use Research Alaska. Digrappa gestured at the rocks, roots and wet soil the color of milk chocolate.

Soil colors paint geologic picture

From an archaeological perspective, the day's dig may have been ho-hum, but the data on soil types, thicknesses and permafrost depth could help Alaska LNG's engineers design the pipeline route.

The teams measured the thickness of each soil layer. They also made tiny piles of soil scraped from the different layers and matched them against the Munsell soil color chart, which is reminiscent of paint swatches.

Soil color reveals information about the amount of organic matter, moisture, drainage conditions and the prevalence of minerals, like iron, in an area. The data will ultimately go into an enormous central database and allow Alaska LNG to piece together a general characterization of the soils in the different regions where construction is planned.

Lipke jotted the results of the shovel tests on his waterproof notepad. He also entered the information in a field mapping and data collection program called ArcPad 10.2 on his tablet. At the end of the shovel tests, the crew filled in the holes, tamped the root and moss mat into place, and took photos of each test site.

"Then, we rinse and repeat," said Lipke.

In a span of about four hours, the team dug seven test holes and measured the ATV trail and three borrow pits. They often cover 10 to 25 acres a day.

see FIELD WORK page 21

● ENVIRONMENT & SAFETY

Enviros sue over incidental take rule

Object to a new regulation allowing unintended minor disturbance to Chukchi Sea walrus and polar bears from exploration activities

By ALAN BAILEY
Petroleum News

Environmental law firm Earthjustice, on behalf of six environmental organizations, has sued the U.S. Department of the Interior over the issue in June 2013 of a temporary rule, allowing the incidental take of small numbers of walruses and polar bears during oil and gas exploration operations in Alaska's Chukchi Sea. The U.S. Fish and Wildlife Service issued a final version of the rule in June 2013.

"The Fish and Wildlife Service needs to do a much better job of protecting walrus mothers and calves struggling to survive in the dramatically changing Chukchi Sea," said Earthjustice attorney Erik Grafe on Nov. 10, when announcing the lawsuit. "Today's challenge seeks to protect walruses from suffering potential serious harm and harassment at the hands of companies like Shell Oil, which crashed and burned during its Arctic Ocean drilling efforts in 2012. Walruses are already under tremendous stress from climate change — their sea ice home is literally melting away."

The lawsuit has been filed in the federal District Court for the District of Columbia.

Harassment authorization

Under the terms of the MMPA, or Marine Mammals Protection Act, the Fish and Wildlife Service can authorize the incidental harassment of certain marine mammal species by people or organizations conducting offshore activities. The idea is to allow the minor disturbance of a few animals without triggering an MMPA violation.

In January 2012 the Alaska Oil and Gas Association and ConocoPhillips requested a rule that would allow the incidental disturbance of small numbers of walruses and polar bears in the Chukchi Sea during exploration activities such as conducting seismic surveys and drilling exploration wells.

In January 2013 Fish and Wildlife published a draft version of the requested rule for public comment, before publishing a final version of the rule in June of that year. The new rule allows the incidental, non-lethal disturbance of small numbers of walruses and polar bears as a consequence of exploration activities in the Chukchi Sea and along the adjacent coastline from June 11, 2013, to June 11, 2018. The rule includes stipulations such as mitigation measures and marine mammal monitoring that companies must implement, to avoid more than minor animal disturbance.

Under the new rule, a company must still obtain a wildlife harassment authorization in the form of a letter of authorization from Fish and Wildlife for its offshore activities, but the terms and conditions of that authorization will presumably reflect the content of the rule.

Negligible impact?

In its court filing, challenging Fish and Wildlife's new Chukchi Sea rule, Earthjustice claimed that the agency had been arbitrary in concluding that oil industry activities would have a negligible impact on the walrus population, especially in the area of the Hanna Shoal, a shallow-water walrus feeding area about 75 miles off the Chukchi Sea coast. In adopting its new rule, Fish and Wildlife recognized the potential need for additional wildlife mitigation and monitoring in the Hanna Shoal area but deferred this issue for consideration during the reviews of requests by companies for letters of authorization, Earthjustice claimed, commenting that the issuance of a letter of authorization does not involve a public process.

Earthjustice also said that Fish and Wildlife had infringed NEPA, or the National Environmental Policy Act, by making a finding of no significant environmental impact from Chukchi Sea exploration activities while also recognizing the importance of not disturbing the huge numbers of walruses that habitually congregate in the Hanna Shoal area between July and September. Under NEPA, a finding of potential significant impact would have triggered the need for a formal environmental impact statement prior to issue of the new rule.

The Earthjustice court filing also says that the Chukchi Sea Burger prospect where Shell wants to conduct exploratory drilling is near the Hanna Shoal area. ●

Contact Alan Bailey
at abailey@petroleumnews.com

FINANCE & ECONOMY

9th Circuit rejects Shell pre-emptive appeal

A panel of judges from the U.S. Court of Appeals for the 9th Circuit has rejected a highly unusual lawsuit, filed by Shell in 2012, attempting to pre-empt litigation against the company's Chukchi Sea oil spill response plan. Shell filed the lawsuit in federal District Court in Alaska against 13 environmental organizations as part of the run-up to the company's summer Chukchi Sea drilling program. The company, anticipating legal action against its planned drilling, asked the court to declare the approval of its response plan by the Bureau of Safety and Environmental Enforcement to be legally valid.

In the event this court case became consolidated with a subsequent appeal against the spill response plan. However, District Court Judge Ralph Beistline refused to dismiss Shell's pre-emptive lawsuit and the case eventually made its way to an appeal in the 9th Circuit.

In a Nov. 12 court opinion 9th Circuit Judge Dorothy Nelson said that Shell's lawsuit amounted to a request for a declaratory judgment over the application of the Administrative Procedures Act, or APA, the federal act that governs how agencies carry out their permitting obligations. But under that act any dispute regarding the legality of Shell's permits would be between an aggrieved person and the government agency, in this case the Bureau of Safety and Environmental Enforcement. Shell has no legal obligations under the APA to the environmental groups, Nelson wrote.

"Indeed, since it is the Bureau and not Shell, that can be sued under the APA, it would be odd to conclude that a case or controversy exists merely because Shell seeks to know who would prevail if the environmental groups asserted an APA claim against the Bureau," she wrote.

Moreover, the possibility of a district court finding the Bureau's actions unlawful in a case such as this would lead to an untenable situation in which the court could adjudicate over the agency's actions, without agency intervention in the lawsuit and with the resulting judgment not being binding on the agency, Nelson wrote.

—ALAN BAILEY

continued from page 19

FIELD WORK

For the sake of project expedience, not finding any items or structures of historical or archaeological value at all is ideal, but if such objects are to be found, Alaska LNG would prefer to come across them before rather than during construction.

"We'd want to find it now because we're developing the route and the engineers need to know how to tweak the alignment," said Wes Cornelison, an Anchorage-based natural resources group manager with URS.

Alaska LNG plans to design its proposed 42-inch-diameter pipeline to safely go through permafrost, cut through forests and cross rivers. If structures, objects or sites qualifying as a historic property are unavoidable, FERC would assess possible adverse effects. Project sponsors are required to submit a plan to the federal government detailing their response should cultural artifacts be found while work is underway.

If there is an adverse effect, the agency would consult with state and/or tribal historic preservation officers and others, including Indian tribes, local governments, permit or license applicants, and members of the public to seek ways to avoid, minimize or mitigate the effects.

Alaska LNG would stake and/or put up exclusion fences around known archaeological sites.

The 2014 field work took place within a 300-foot-wide span that gives Alaska LNG wiggle room for planning the route. After identifying the final path of the pipeline, the sponsors would need to obtain right-of-way permission from property owners to use their land for construction and operations.

Alaska LNG senior project manager Steve Butt of ExxonMobil told the Alaska Gasline Development Corp., the state partner in the project, at a meeting in May 2014 that the companies are convinced they can build the $45 billion to $65 billion project without harming any resources. They need baseline data as part of their effort to prove that to regulators.

"We need to have a thorough understanding of the environment in which we will work so we can demonstrate conclusively that we have not adversely impacted it," Butt said.

Returning to camp

After the crew finished for the day, they hiked the short distance back to the road with packs full of field gear: radios, satellite phones, personal locator beacons connected to the Air Force-Army base in Anchorage, Delorme InReach Trackers (which can transmit calls, texts and emails to cell phones), shovels, screens, trowels, extra clothing, sunscreen, leftover food and water.

Their work camp, at Mile 102 of the Parks Highway, was the former site of the Talkeetna Bluegrass Festival. In a gravel clearing where banjos once twanged, subcontractor Cruz Construction had built boxy modular housing that slept 35 people.

The lounge had a large flatscreen TV and couches. The cafeteria served comfort food like chocolate chip pancakes and bacon, but upon request from crew scientists there were also more nutritious options, like energy bars and upmarket, not-from-concentrate fruit juices.

Outside were baby blue picnic tables with umbrellas and one of the four helicopters URS used for aerial surveys. While clearly a hub of industry, signs of the site's previous life as a rollicking concert venue were still obvious.

A sagging shack, labeled "SHOWERS," was decorated with colorful stencils of flowers and crescent moons. A large, flower-bedecked cross presided over the wide gravel clearing. Propped against it was a sign whose message to rowdy festivalgoers could well be a slogan for one of the world's many projects to move gas super-chilled to minus 260 degrees Fahrenheit:

"Be Cool," it said.

Editor's note: This is a reprint from the Office of the Federal Coordinator, Alaska Natural Gas Transportation Projects, online at www.arcticgas.gov/summer-field-work-essential-alaska-lng-permits.

● GOVERNMENT

Last big icebreaker endures despite age

Polar Star, last of US fleet capable of breaking through thickest ice, heads to Seattle; will deploy on Antarctic resupply mission

By ELLEN KNICKMEYER
Associated Press

The last U.S. icebreaker capable of crushing through the thickest ice of the Antarctic and Arctic resumed its mission after the latest repairs to postpone its already past-due retirement.

Climate change makes the 38-year-old Polar Star Icebreaker's science and security missions ever more vital, according to scientists and other backers of rebuilding the country's dwindling ice fleet.

The ship headed home to Seattle Nov. 11 before starting its new assignment, said Coast Guard Spokeswoman Chief Warrant Officer Allyson Conroy.

Earlier Nov. 11, crew members of the U.S. Coast Guard's Polar Star Icebreaker drilled before leaving the former naval shipyard at Mare Island, across the bay from San Francisco. Shipyard workers replaced worn, 18-foot-high propellers for refitting and carried out other work on the country's sole remaining heavy icebreaker, now eight years beyond its scheduled decommissioning date. The icebreaker is expected to head for Antarctica shortly after Thanksgiving.

The U.S. Coast Guard has one other icebreaker, a medium-size one, which mainly works in the Arctic. The National Science Foundation has a still-lighter icebreaker for research.

Antarctic resupply mission

By late January, the Polar Star will loom over the western Antarctic on its key annual mission — breaking through ice for the yearly resupply of U.S. researchers at the McMurdo Research Station and another research center at the South Pole.

With 75,000 horsepower and a hull strong enough to batter through six feet of ice at running speed, the Polar Star is the only operational U.S. vessel capable of getting the food, fuel and research material to the two Antarctic research stations.

If they "didn't get that resupply, it would shut down or severely curtail the amount of science" at the two U.S. Antarctic centers, Capt. Matt Walker, the Polar Star's commander, said from the Polar Star, with the icebreaker's gangway up for departure.

"It puts a huge weight of responsibility that we cannot fail, we cannot suffer catastrophic casualty to our equipment, because the resupply of McMurdo wouldn't occur," Walker said. "We have no redundancy in the U.S. system."

Engine troubles in 2010 took the only other heavy U.S. icebreaker, the Polar Sea, out of service.

The U.S. Coast Guard has one other icebreaker, a medium-size one, which mainly works in the Arctic. The National Science Foundation has a still-lighter icebreaker for research. The Russian government, by contrast, has 18 icebreakers, including four, nuclear-powered and operational heavy icebreakers. Russia on Nov. 10 announced the planned start of work on a new icebreaker to supply that country's growing military presence in the Arctic and tug Russian combat ships through Arctic ice.

No funding proposals

While the Obama administration, Congress and the Coast Guard all say maintaining at least one heavy icebreaker is essential for maintaining U.S. security and science, no funding proposals have yet gained momentum to have a new heavy U.S. icebreaker built before age forces the Polar Star out of service, any time from five to 20 years from now.

Without active heavy icebreakers, "the control of the Arctic is in the hands of Russia," California U.S. Rep. John Garamendi, the ranking Democrat on the House subcommittee that oversees the Coast Guard and maritime affairs, said Nov. 11.

The Arctic is estimated to hold more than 10 percent of the world's undiscovered oil reserves, nearly one third of undiscovered gas reserves, and remains a strategically critical area for the United States, congressional researchers said earlier this year.

Melting ice means traffic has increased in the Bering Strait, between Russia and Alaska, 118 percent since 2008. More melting means more vessels will be coming within harm's way of ice.

Meanwhile, researchers say study of the 1.5 million-year-old ice of the Antarctic is critical to tracking the Earth's increasingly variable weather and the course of man-made climate change.

Melting ice means traffic has increased in the Bering Strait, between Russia and Alaska, 118 percent since 2008. More melting means more vessels will be coming within harm's way of ice.

Politics becoming an issue

For American researchers, too, growing differences this year between the Russian and U.S. governments over Ukraine, Syria and other foreign-policy matters are increasing doubts about the Russia-U.S. logistical cooperation in science that bloomed after the Cold War seem more uncertain.

"The idea of sharing space stations or icebreakers with them — you feel a little less secure relying on them, because of the tensions, and the fact we're sort of poking each other in the eye lately," said Ted Scambos, senior research scientist at the National Snow and Ice Data Center in Colorado and a veteran Antarctic researcher. For Walker, the Polar Star's captain, each yearly run to the Antarctic is a run at unlocking critical secrets held in its ice.

"I think it's critical to humankind to be able to conduct the research work that they do in the Antarctic," he said. "It's fundamental to be able to predict or ascertain information about the climate change. The only place you can get that kind of information is Antarctica." ●

EXPLORATION & PRODUCTION

US drilling rig count down 4 to 1,925

Oilfield services company Baker Hughes Inc. says the number of rigs drilling for oil and natural gas in the U.S. declined by four the week ending Nov. 7 to 1,925.

The Houston firm said in its weekly report that 1,568 rigs were drilling for oil and 356 for gas. One was listed as miscellaneous. A year ago there were 1,754 active rigs.

Of the major oil- and gas-producing states, Texas gained five rigs, Kansas increased two and North Dakota and Pennsylvania were up one each.

New Mexico lost four, Louisiana and West Virginia each dropped three and Alaska, Ohio and Utah declined by one apiece.

Arkansas, California, Colorado, Oklahoma and Wyoming were unchanged.

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

—ASSOCIATED PRESS

FINANCE & ECONOMY

Miller shareholder case nears conclusion

A federal judge in Tennessee has granted preliminary approval of a financial settlement between Miller Energy Resources Inc. and some of its shareholders.

The settlement would resolve lawsuits investors filed after Miller's stock price tanked in 2011. The suits were consolidated into a single case, with the Oklahoma Firefighters Pension and Retirement System designated as lead plaintiff.

The shareholders alleged Miller executives overstated the value of Alaska oil and gas assets acquired in 2009, and violated accounting principles. This had the effect of artificially inflating the price of Miller's stock, with investors suffering losses after the fraud was exposed, the plaintiffs alleged.

The shareholders alleged Miller executives overstated the value of Alaska oil and gas assets acquired in 2009, and violated accounting principles.

Miller denied misleading investors and defended its asset valuation.

In July, Miller said it had reached a reached a settlement of the class-action case. The settlement involves a payout of $2.95 million, with the money coming from the company's insurer, Miller said. Now lawyers are working through the details of notifying potential claimants and finalizing the settlement.

A "final fairness hearing" on the proposed settlement is scheduled for Feb. 3 in U.S. District Court in Knoxville, where Miller is headquartered.

Judge Thomas A. Varlan preliminarily approved the settlement in an Oct. 8 order.

The judge certified a class consisting of "all persons and entities who purchased or otherwise acquired shares of common stock of Miller during the period between December 16, 2009 and through and including August 8, 2011, inclusive, and who were damaged thereby."

The case number is 3:11-cv-386.

Miller Energy trades on the New York Stock Exchange. The company, through its Anchorage-based subsidiary Cook Inlet Energy LLC, operates a number of producing oil and gas properties in Alaska including the Osprey offshore platform, the West McArthur River oil field, and the North Fork natural gas field.

—WESLEY LOY

● FINANCE & COMMERCE

EIA tells US to get used to cheap gas

By JONATHAN FAHEY

Associated Press Energy Writer

Those low gas prices on station signs aren't going away soon, the government says.

In a dramatic shift from previous forecasts, the Energy Department predicted Nov. 12 that the average price of gasoline in the U.S. will be below $2.94 a gallon in 2015. That's a 44-cent drop from an outlook issued just a month ago.

If the sharply lower estimate holds true, U.S. consumers will save $61 billion on gas compared with this year.

Rising oil production, particularly in the U.S., and weak spots in the global economy have led to a sharp reduction in oil prices over the past four months. Not seeing much of a change ahead, the government cut its forecast for global oil prices next year by $18 a barrel to $83.

As a result, U.S. drivers will pay on average 45 cents less for a gallon of gas next year compared to this year. Based on expected gasoline consumption, that's a savings of $60.9 billion.

That may not seem like a lot in the context of a $17.5 trillion U.S. economy, but economists say it matters because it immediately gives consumers more money to spend on other things. Consumer spending accounts for 70 percent of the U.S. economy.

"It would be a reversal of the trend over the last few years where consumers can't stretch a dollar far enough," says Tim Quinlan, an economist at Wells Fargo.

Quinlan says the price of gasoline is one of the three big drivers of consumer confidence, along with stock prices and the unemployment rate. "Lately all three are moving in the right direction," he says.

After falling for 48 straight days, the average gasoline price in the U.S. is $2.92, the lowest since December of 2010, according to AAA. That was also the last full year when the average came in below $3 a gallon.

While it's not unusual for gas to hit its low for the year in late fall, the government is now saying that these prices aren't just a low point, but instead will be the norm next year.

Adam Sieminski, administrator of the Energy Information Administration, the Energy Department's statistical arm, attributed the lower pump prices to lower prices for crude oil and weak fuel demand. The EIA did hedge its bet on lower oil prices though, as it cautioned

see CHEAP GAS page 25

continued from page 1

2014 ELECTION

rural Alaskans that their votes deserve to be counted and their voices deserve to be heard. He will honor those requests."

The Nov. 11 tally showed 119,579 votes for Sullivan, 48.58 percent, and 111,668 votes for Begich, 45.37 percent.

Libertarian and nonaffiliated candidates took 3.67 and 1.92 percent of the vote, respectively, with 0.46 percent write-in votes.

Walker names transition team

The Associated Press said Nov. 12 that it will not be calling the governor's race until more absentee and questioned votes are counted. Gail Fenumiai, the state elections director, told AP votes will also be counted Friday, Nov. 14, and then Monday through Wednesday as necessary.

The challengers, Bill Walker and Byron Mallott of the "unity" ticket, held 117,130 votes, 47.94 percent, and incumbent Gov. Sean Parnell, running with Anchorage Mayor Dan Sullivan, had 113,126 votes, 46.3 percent, as of the Nov. 11 count.

"The governor's going to respect the process until every Alaskan's vote is counted," Parnell spokesman Luke Miller told AP Nov. 11.

Walker and Mallott didn't declare victory but did name co-chairs of their transition team Nov. 12.

Walker said in a statement that "while the outcome of the election is not yet certain," with the Dec. 1 date for swearing in the governor, "we have begun the preliminary steps toward transition so that in the event Byron and I are sworn into office, the transition can be as smooth and efficient as possible."

Co-chairs of the transition team are Ana Hoffman and Rick Halford. Halford, a Republican, served in the Alaska Legislature for more than 20 years, with multiple terms as Senate president and Senate majority leader. A commercial pilot, he lives in Chugiak and Aleknagik. Hoffman was born and raised in Bethel, is a graduate of Stanford University and the University of Alaska Fairbanks and is president and CEO of Bethel Native Corp. and co-chair of the Alaska Federation of Natives.

The transition will address a number of policy topics, each of which will become the focus of a subcommittee within the transition team, the campaign said in the Nov. 12 statement: economic development; infrastructure; consumer energy; education; health care; public safety; rural national guard revitalization; corrections; fiscal policy; intergovernmental relations; administration; Arctic policy and climate change; fisheries; wildlife; natural resources and the environment; oil and gas; and subsistence.

Close House races

While most victors in races for the Alaska Legislature were clear election night, two House races remained close, both for open seats. As of Nov. 12, Democrat Matt Claman was leading Republican Anand Dubey 3,782, 50.39 percent, to 3,696, 49.24 percent, in district 22 in Anchorage, and Republican Chere Klein was leading nonaffiliated Daniel Ortiz by 3,190, 49.91 percent, to 3,181, 49.77 percent, in district 36 in Southeast.

—KRISTEN NELSON

The Associated Press contributed to this story.

Contact Kristen Nelson at knelson@petroleumnews.com

NATURAL GAS

DOE announces gasification project funding

The U.S. Department of Energy has announced that it is providing funding for four projects that are developing technologies for converting carbon-based materials into hydrogen-rich syngas, a material that can become a feedstock for power generation, chemical manufacture, hydrogen and transportation fuels. Syngas is produced by a chemical reaction triggered by the heating of material such as coal with water and oxygen — the extraction of waste carbon dioxide from the reaction products leaves a flammable mixture of carbon monoxide, hydrogen and methane.

"By partnering with industry on promising pathways for high-efficiency, low-pollution power generation and syngas production, the department is demonstrating its commitment to innovative solutions for growing the economy and using coal while protecting the environment," said Energy Secretary Ernest Moniz in a Nov. 6 announcement. "Advances in the gasification process will allow industry to develop technologies that may open pathways to carbon use in beneficial new ways while also advancing an important method for reducing greenhouse gas emissions."

The Department of Energy says that gasification plants can achieve higher power generation efficiency than conventional coal-fired plants and can act as the basis for what is referred to as an integrated gasification combined cycle power plant. A power plant of this type uses syngas generated from coal while also having capabilities to remove impurities from the gas.

The selected projects involve the development of advanced gasifier designs for the low-cost conversion of coal to high-hydrogen syngas for power plants; the development of technologies for the capture of carbon dioxide from the process; and the evaluation of the use of syngas as a feedstock for liquid fuels.

—ALAN BAILEY

PIPELINES & DOWNSTREAM

Pipeline transfers conditionally approved

The Regulatory Commission of Alaska has approved the transfer of five North Slope pipelines from BP Transportation (Alaska) to Hilcorp Alaska subsidiary Harvest Alaska, subject to the sale closing and approval of right-of-way transfers by the Department of Natural Resources.

The sale, announced April 22, involves all of BP's interests in the Endicott and Northstar oil fields and a 50 percent interest in Liberty and Milne Point. Hilcorp Alaska will become operator at Endicott, Milne Point and Northstar.

Hilcorp became operator of Chevron's Cook Inlet assets in 2012 and of Marathon's Cook Inlet assets in 2013 and its subsidiary Harvest Alaska is the operator of the Cook Inlet pipelines associated with those assets.

RCA said in a Nov. 7 order that BP and Harvest filed joint applications in May, supplemented in September and October, for transfer of BP's 98.58 percent interest in the Northstar oil and gas pipelines, BP's 50 percent interest in the Milne Point natural gas liquids and oil pipelines and BP's 57.89 percent interest and Amoco's 10.57 percent interest in the Endicott pipeline.

BP and Harvest have told the commission that transfers of controlling interests to Harvest will not affect existing rates on the pipelines.

The commission said the transfers would be effective the later of the transactions closing or transfer or right-of-way leases by DNR.

Four of the pipelines are in use. The Milne Point natural gas liquids line was purged and disconnected in 2006 from the Oliktok Pipeline. The applicants told RCA that while the Milne Point NGL line was not currently in operation, there is a continuing need for the line, which may be required again to transport NGL in support of oil production.

—KRISTEN NELSON

continued from page 23

CHEAP GAS

that OPEC could cut production in order to push prices higher.

The global price of crude has fallen by $35 a barrel, or 30 percent, since late June and closed at $80.38 Nov. 13.

Oil production around the world has been strong in recent years. A boom in the U.S. has pushed domestic production up 70 percent since 2008. At the same time, demand for fuels is growing more slowly than expected in Asia and Europe because of weak economic growth.●

Need to stretch your dollar?

Advertise 12x in Petroleum News, competitive rates with lots of complimentary extras, including:

Exposure in the weekly Petroleum News

- You make the List
- Your employees are spotlighted
- Your news gets in Oil Patch Bits

OIL PATCH BITS

BUSINESS SPOTLIGHT

COMPANY LIST

Exposure in the semiannual Arctic Oil & Gas Directory

STANDLAONE PHOTOS

- Your news gets featured
- Company photos promote your business
- You're included in the buyer's guide

LISTINGS SECTION

NEWS ITEMS

PHOTO FEATURES

COMPANY PROFILES

If your annual contract exceeds $7,100

We'll profile your company We'll have our writers work with you on a two-page Q&A company profile that will appear in the Arctic Oil & Gas Directory. Afterwards, you can frame it or use it as a company brochure or flyer.

We'll give you free online advertising When Petroleum News readers click on articles each week they will see your ad, which will appear in rotation on the current story pages. The size of your annual contract determines the size of your online ad.

WEB ADS

Contact **Susan Crane**, advertising director | Phone **907-770-5592** | Contact **Bonnie Yonker**, AK / NATL advertising specialist | Phone **425-483-9705**

continued from page 5

MURKOWSKI Q&A

chance to deal with the downward pressure that we see on Alaska North Slope crude by providing for more outlets for Bakken and other Lower 48 crudes. So I think this is good not only for Alaska by allowing and encouraging greater Alaska exports, but it also helps with the price issues that we see and the price spreads between what we have with the premium ANS as the Lower 48 crude, so there are lots of different reasons to encourage this. But as you point out, the markets change, and as they change, the adaptability that we have in Alaska to be able move, whether it's moving the product to the West Coast or moving the product to the Asian market.

Petroleum News: Speaking of Asian markets, the state and producers have their eye on the Asian markets as potential customers for North Slope gas. Do see that as a viable path for natural gas as well? As you know we've had a lot of plans on the table and even supporters remain cautious.

Murkowski: You're right, we've have had a lot of plans on the table, and we've had a lot of plans on the table for many, many years. I certainly count myself among those Alaskans who were anxious about getting the timing on this, anxious about getting Alaska's gas to market. We don't want to be squeezed out of the worldwide market out there. But we do want to recognize the progress.

The fact that we do have the administration, the producers — Exxon, BP and Conoco — as well as TransCanada who have agreed on a proposal and they are working with that. That is encouraging. We know that we have an opportunity for our gas, in terms of the market, outside of our country. Because of the shale gas, the Lower 48 is not necessarily our market. It is clear the Asian market is a positive one for us. If you think about where we are right now in this process with the producers, TransCanada and the state, the proposal that is moving forward is progressing, and that's critical

We are coming up to a pre-FEED stage right now. That's a year to 18 months or so. We've got some important milestones coming up with regards to license to export — the pre-file application with FERC that was accepted this past month. Things are moving. They are progressing. While there is still a long way to go, there is reason for optimism on this and I certainly stand ready to do what I can at the federal level on this. The Legislature is going to have to be ready to deal with the fiscal terms on this still next year. That's going to be important.

When people get perhaps frustrated with the pace, I do think that they need to stop and appreciate is what we are talking about with this gas line project, this is unprecedented in the size and scope. Right now we are talking about a project that is in the ballpark of $65 billion. It is world class. We say it's big for Alaska and it's big for the country. It is big for the world. I think we need to keep that in mind that this is no ordinary project. It is quite an undertaking to advance it. We are making progress.

Petroleum News: Are you seeing more willingness with the administration for export in general?

Murkowski: First on the natural gas side. What we have seen is the administration has a process they are moving forward. Within the queue, they have done a little bit of realignment to help expedite the process, though not nearly fast enough from my perspective. I believe the export of LNG out of this country is good for this country and it's good for our friends and allies. I can't tell you the number of Japanese people, for instance, who have come to visit me who have urged the administration to expedite the process for lots of good reasons. I have had many different conversations with the secretary of energy about this.

I think he clearly gets it. I think you do have a reluctance among some of the administration and some members of Congress who seem to be concerned that if we export, it's going to result in less gas available here in this country, and our prices are going to go up. I think it's an issue, quite honestly, that's a matter of economics. If there is a higher demand for the natural gas because you have greater markets outside of this country, I think that will help increase production, which will, in turn decrease the cost.

I think on natural gas, we will continue to have the debate in the Senate about whether or not we need to do more to move forward more quickly on the applications that are still pending

I think the debate is internal within the Democratic Party because every Republican, at least in the Senate, has made it very, very clear they are most favorable of export of our LNG out of this country.

That's the natural gas side. One the oil side, it is very interesting. I took point on this issue in January when I spoke down in Houston to a gathering of international energy leaders. I was the first member of Congress to outline the reasons why lifting the ban on oil exports was sound and good for the country. At that time, I made very clear that I wasn't proposing to introduce legislation. What I wanted to do was advance the conversation, get people talking about it. We haven't had a conversation about exporting our oil in this country for decades. We just didn't think we had the resource for export. What's happened is with all that's coming out of the Bakken and out of the Eagle Ford, it's really been a revolution, an energy revolution, for the country, so let's figure out a way not only for Americans to gain but our allies and friends around the world.

So what has happened is my purpose, which was to kick start the conversation, we really have done just that. Marc Summers, who was one of President Obama's policy advisors in his first term, came out with a speech a couple of weeks ago that laid down as well as anything I have read, the reason for exporting our oil. When you have somebody as high profile as Summers and somebody who was very prominent with this administration coming out in support, you know you've made some headway. I think next session you will not only further discussion and debate on it, but I think you will see some proposals for legislation to help lift that ban.

Petroleum News: OK, on to ANWR. Is this still worth pursuing after all these failed attempts? With Lower 48 boosting production does it make it more difficult to press this argument? Do you feel as though you're in a race to at the very least keep these and other lands from being permanently locked from development? Is the state on the right track to shift 20,000 acres? Also does it help that Exxon and its partners are strategically poised with bringing Point Thomson on line?

Murkowski: There's no question that ANWR is still worth pursuing. We're still very dependent on foreign oil, for starters, and even as we fully end that dependence, we can also sell Alaska's oil around the world. Remember, this is our most promising onshore conventional field. It's very close to existing infrastructure and a very long oil pipeline. And it's our best option for refilling a national security asset — the trans-

see **MURKOWSKI Q&A** *page 29*

Oil Patch Bits

Van Gorkom new shareholder at Guess & Rudd PC


JOSH VAN GORKOM

Guess & Rudd P.C. is pleased to announce that Josh Van Gorkom has become a shareholder of the firm. Since joining Guess & Rudd in 2010, Van Gorkom has represented insurance companies, insurance brokers, banks, Native corporations, oil and gas companies, mining companies, municipal governments, small businesses and individuals in a broad range of litigation and administrative matters, including appeals to the Alaska Supreme Court and the 9th Circuit Court of Appeals. In addition, he works with the firm's natural resources group on a variety of transactional matters. Van Gorkom is a graduate of Augustana College in Sioux Falls, South Dakota, and of Valparaiso University School of Law in Valparaiso, Indiana.

Editor's note: Van Gorkom's name was incorrect in the brief which ran in last week's issue. Petroleum News apologizes for the error.

Jensen Maritime and Vigor to unveil new design

Jensen Maritime and Vigor will unveil the design for a new 352-foot catcher processor/factory trawler at the Pacific Marine Expo on Nov. 19 in Seattle, Washington The design is the product of collaboration between Jensen, the design architect, Vigor, the shipbuilder, and three major fishing customers. It is scalable and can be adapted to meet the needs of any of the fleets in the Pacific Northwest and Alaska.

Designed to maximize fishing capability as well as operational efficiency, the vessel has more than 1,200 square meters of processing space and can be set up for a variety of processing needs, from surimi to fillets to fish meal. Hold volume is split between a frozen product hold and a pair of fish meal holds, for a total hold capacity of more than 3,090 cubic meters. The vessel also holds 195 cubic meters of fish oil in dedicated tanks.

Propulsion is configured around two ABB Azipod thrusters with 360 degree azimuthing and reversible prop rotation, providing the ultimate in maneuverability to stay on the fish. Other propulsion options, such as conventional twin screw diesel-electric, are available. Both methods allow the operator to minimize the number of generators necessary to provide power, depending on the operational scenario.

Vigor will be at booth #633 and Jensen will be at booth #835 during the Pacific Marine Expo taking place Nov. 19-21 at CenturyLink Field Event Center.

CGG launches PowerLog Frac software

CGG announced the release of PowerLog Frac, a new tool to petrophysically analyze well

see **OIL PATCH BITS** page 31

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

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

continued from page 27

MURKOWSKI Q&A

Alaska pipeline — with American oil.

We're talking about fields that could produce for decades — all the while creating thousands of new jobs, generating billions of dollars in revenue for every level of government, and helping to stabilize if not outright reduce oil prices. There is zero downside to opening the coastal plain.

With Republicans in control of the Senate, the odds of a wilderness bill going anywhere are dramatically lower. But even in a Democratic Senate with 60 members, not too long ago, we didn't see that move. Permanently abandoning close to $1 trillion worth of resources is not something that is high on very many priority lists around here.

I do think the state is on the right track in seeking to regain those 20,000 acres, and I've supported their efforts. As I recently wrote to Interior: you could take a major step toward solving this by producing the official refuge map, so go ahead and do that for us. And, yes, I do think Point Thomson helps us make the case for opening this tiny fraction of the coastal plain. The 10-02 Area that we're talking about is in the non-wilderness part of the refuge. If we can produce energy on one side of an artificial boundary, why not the other?

Petroleum News: On to the Arctic: you recently visited Iceland for the Arctic Circle. With all the focus on the races, this seemed to be off the radar, but in six months the U.S. takes over as Arctic Council chair. What did you learn about what other countries are doing and what can the U.S. accomplish with its two years as chair. Can Alaska be a hub of sorts for advancing this nation's Arctic policy?

Murkowski: While the U.S. is just starting to realize the reality that it's an Arctic nation, the other members of the Council are well aware that they are. The interest in the Arctic goes well beyond the eight Arctic nations, too, as evidenced by the 1,400 participants from 40 countries at the Arctic Circle Assembly.

The rest of the world is recognizing the growing importance of the Arctic, and it's time the U.S. does the same.

We are an Arctic nation because of Alaska, but the Arctic needs to be a national priority — not just a regional or state issue. Alaska and Alaskans can help lead the effort, but in order for the U.S. to achieve the full benefit of being an Arctic nation, it needs to be a national priority.

My hope is that the U.S. term as chair will follow the same direction Canada did as far as focusing on development for the benefit of those who live there.

Petroleum News: As a follow-up, I hear how the administration is viewing this as a chance to advance a climate change agenda ahead of an economic development purpose? Does this concern you? Would this be an opportunity missed if the agenda remains too narrow?

Murkowski: We cannot forget that there are people who live in the Arctic. Climate change is an important topic to be part of the conversation, but the people who live there are affected in very real ways if we insist on only talking about climate change and ignoring everything else.

It's important to remember that the U.S. chairmanship on the Arctic Council will span through the next presidential election. The U.S. agenda needs to be one that will survive that election if it is to be successful.

An agenda focused entirely on climate change will not have the broad support of Alaska stakeholders, and it will not survive to the end of the U.S. chairmanship.

> *"But whether it's oil, rare earths, or some other commodity that we import in great volume and at great cost, there is no substitute for doing it ourselves. If we have the resources, and we need to use the resources, we should find ways to produce them."*
> ***—U.S. Sen. Lisa Murkowski, R-Alaska***

Petroleum News: You've used the words all of the above when it comes to energy and resources. Do you believe Alaska can serve as a blueprint for that with the state's portfolio of oil, hydro, wind, etc?

Murkowski: Absolutely. Our state has great opportunity for all types of energy development, including geothermal, hydropower, wind, biomass, tidal energy, marine hydrokinetic, coal, methane hydrates, unconventional fuels, and more. You name it, we have it. I'm not really aware of anything that we lack, actually. Our energy sources are already being used successfully and there is a lot of opportunity for growth and expansion.

The biggest problem that we've seen is that this administration is happy to borrow the phrase 'all of the above' — but in this administration's application, we see that it doesn't include all 50 states, and certainly not Alaska. We have repeatedly seen very one-sided policy decisions that have harmed, and not helped, my home state.

Petroleum News: Your office recently released a report on an unstable region, in this case Iraq. There are other regions in question. What could this mean for our country in taking the lead as a producer and supplier?

Murkowski: I released those reports on Iraq because no other situation so clearly illustrates the importance of energy in the 21st century. We must do a better job of integrating energy policy with national security policy because the two are inextricably linked.

I understand that some markets are global. But whether it's oil, rare earths, or some other commodity that we import in great volume and at great cost, there is no substitute for doing it ourselves. If we have the resources, and we need to use the resources, we should find ways to produce them. ●

Contact Steve Quinn at squinnwrite@gmail.com

continued from page 1

REPSOL WELLS

The Alaska Department of Natural Resources is taking comments through Dec. 5.

All over the map

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

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

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

The leasehold includes several clusters. To date, though, Repsol has devoted the majority of its energies to exploring the area between the Kuparuk River and Colville River units.

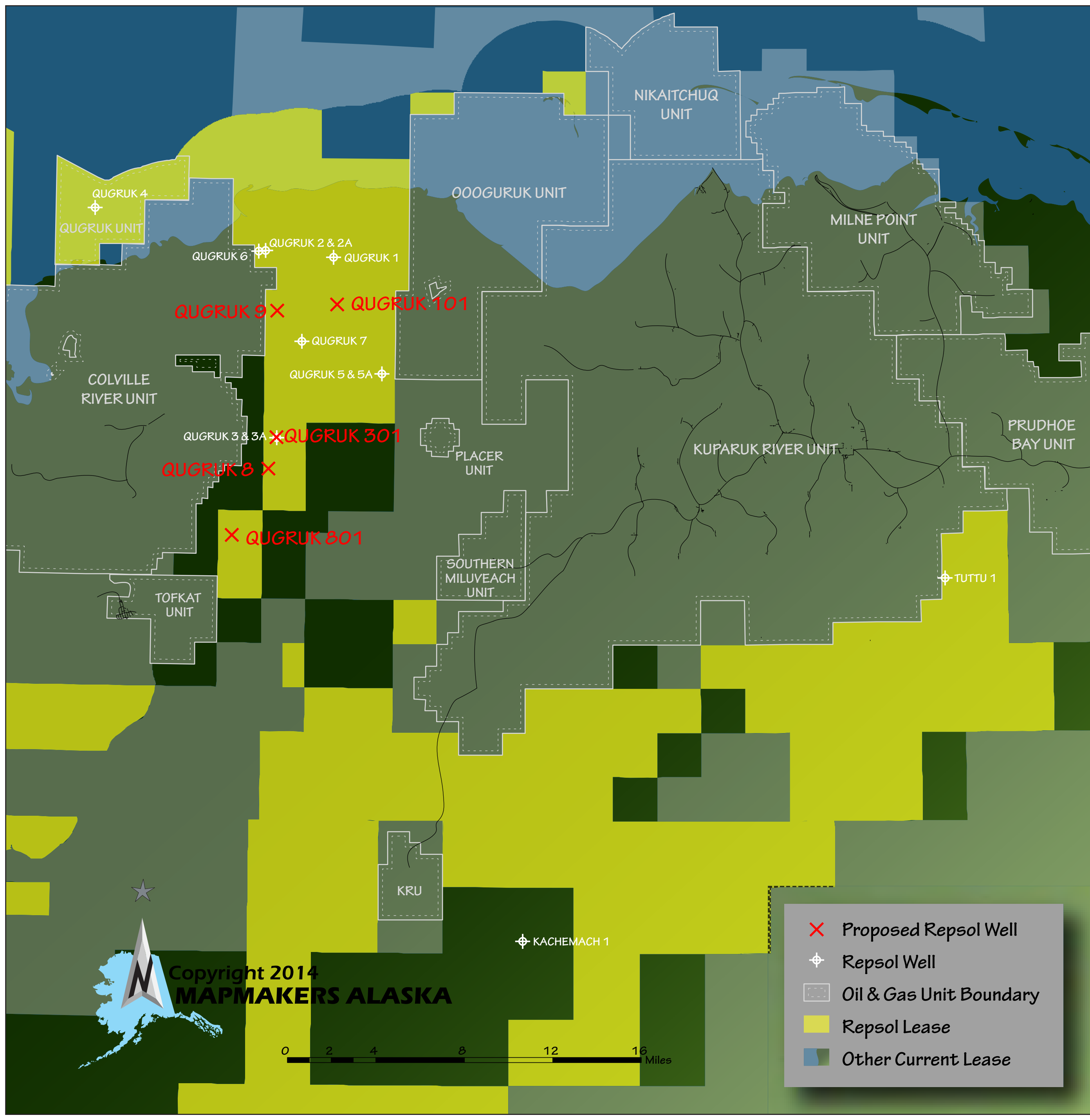
In early 2012, Repsol drilled Qugruk No. 4 in an offshore area off the Colville River delta and the Kachemach No. 1 well much farther south near the Kuparuk River unit Meltwater satellite. Qugruk No. 4 has since been incorporated into the Qugruk unit.

In early 2013, Repsol drilled Qugruk No. 1 and Qugruk No. 6 in the northern end of the leasehold and the Qugruk No. 3 well some 10 miles to the south. All three wells encountered hydrocarbons. Repsol performed drill stem tests on Qugruk No. 1 and Qugruk No. 6 and also performed some early geotechnical work for development.

In early 2014, Repsol filled in gaps in its previous exploration efforts, drilling the Qugruk No. 5 and Qugruk No. 7 wells in the area between Qugruk No. 1 and Qugruk No. 3. (That winter, Repsol also drilled the Tuttu No. 1 well just south of Prudhoe Bay and Kuparuk.)

Those wells "finished with positive results," according to Repsol Chief Financial Officer Miguel Martinez. Speaking to analysts in May 2014, Martinez said, "We are working toward defining the most economical way to develop the area," but added that it was too early to comment further about the results of the wells or future development plans.

Earlier in the year, Repsol Alaska Project Manager Bill Hardham addressed the question of development by saying, "I feel confident it's coming. It's not a matter of if, but when."



Rig assignments

Repsol is proposing five well locations for this coming winter. When overlain atop a map of its previous exploration wells, the locations offer two different impressions: of a continued assessment of a large leasehold and of a focused assessment of one area.

The proposed Qugruk No. 101 and Qugruk No. 9 wells would be nestled between Qugruk No. 1 and Qugruk No. 6 from early 2013 and Qugruk No. 5 and Qugruk No. 7 from early 2014. That would continue previous work to explore the area between previous wells.

But the other three well locations are clustered around previous exploration.

The proposed Qugruk No. 301 well would be almost identical to Qugruk No. 3 from early 2013. The proposed Qugruk No. 8 and Qugruk No. 801 wells would be one mile and five miles to the south, respectively, into unexplored sections of the leasehold.

The proposed rig assignments offer some clarity.

Repsol is proposing Nabors 105AC to drill either Qugruk No. 101 or Qugruk No. 301, Nabors 99E to drill Qugruk No. 9 and Nabors 2ES to drill either Qugruk No. 8 and Qugruk No. 801. Those assignments suggest Repsol intends to cover the leasehold.

Two ice road routes

Given the conditional nature of the program — with three wells to be chosen from five locations — Repsol is also proposing two different routes for an ice road system.

The first option starts with a 3.76-mile demobilization road that would connect Kuparuk River unit Drill Site-2M to a 32.5-mile main road starting at the Mustang pad, at the nearby Southern Miluveach unit operated by Brooks Range Petroleum Corp. The main road would connect to a temporary camp and an ice airstrip near the Colville River before branching to the north (to reach Qugruk No. 101 and Qugruk No. 9) and to the south (to reach Qugruk No. 301, Qugruk No. 8 and Qugruk No. 801) with a camp in each region.

The second option is a 5.1-mile demobilization road from DS-2M and a 31.8-mile main road from the Mustang pad to a camp and an ice airstrip located southwest of the locations in the first option. From there, the road would branch south to reach Qugruk No. 801 and north to reach the others wells, with two temporary camps along the way.

Seismic program

In addition to drilling and routine well testing, Repsol plans to conduct micro-seismic fracture mapping on the Qugruk No. 301 and Qugruk No. 8 wells this coming

see **REPSOL WELLS** *page 31*

continued from page 1

LNG PROJECT

"It is a very complicated project. There are many, many moving parts," Chris Brown, vice president and regional manager for MWH Americas Inc., told the AIDEA board on Nov. 6. Brown and other MWH executives were updating the board with the latest status of the project.

December close

Brown said the project team is continuing to drive for a financial close in December. That would enable a decision on whether to proceed with the final design and construction of the LNG plant. The plan is to be able to start delivery of North Slope gas to Fairbanks in a couple of years' time.

"We want to keep the pressure on," Brown said. "We remain on track for first gas in the third quarter of 2016."

Brown said that the project has seen significant progress, with the levels of certainty around the construction plans increasing while the estimated costs have been trending lower.

Jim Kuiken, senior vice president of MWH Americas Inc., commented that the supply agreement for the feed of gas into the LNG plant forms the foundation to a multi-tiered set of major project components. In addition to setting a key cost parameter for gas in Fairbanks, the supply agreement would spell out the tie-in point for gas piped into the plant, thus enabling finalization of the plant design. With that design complete, finishing touches could be put to the contract for engineering, procurement and construction of the plant.

Gas supply agreement

For the gas supply agreement, the project team plans to use a modified version of an existing supply contract that Golden Valley had previously agreed with BP. Discussions between the Interior Energy Project and BP have been in progress for some time but an agreement on the contract has not yet been finalized. However, with the required contract changes being relatively straightforward, the project team anticipates completing the agreement by the end of November or early December, Brown said.

The engineering, procurement and construction contract, the tier above the gas supply agreement in the layers of interrelated project components, is progressing well, Kuiken said. The LNG plant design must be firmed up before another contract, the contract for operating the plant, can be completed, he said.

The gas supply agreement and the contracts for constructing and operating the plant feed into gas cost parameters for the gas offtake agreements with the Fairbanks utilities. All of these components then need to come together as a package that can be presented to the AIDEA board at financial close for the project.

"We're really orchestrating quite an involved ballet here, with many players, to come to this financial close," Kuiken told the board.

Cost estimates

Kuiken said that cost estimates for the LNG plant construction and operation are coming in largely on schedule. In August the project team had estimated a cost of around $235 million for the construction of the plant. But with more definition around the engineering and the project plan, the uncertainty in the estimate is narrowing, with that $235 million figure representing the upper bound of the possible cost range he said.

Given the stack of detailed design drawings that are now available for the plant, the estimates for the costs of concrete, steel, hardware, equipment and other physical items are now well defined, Kuiken said. However, the project team is considering a "compelling proposal" from one supplier that may impact the cost estimate, he said. And competitive bidding for the work involved in facility construction may also improve the project economics.

Kuiken said that complex negotiations are in progress with the various parties involved in the project, figuring out some touchy and interrelated issues such as who will accept financial responsibility for the various uncertainties and risks associated with the project, and what the profit margins will be.

These negotiations should last two or three weeks, enabling completion of the engineering, procurement and construction contract in early December, as planned, Kuiken said.

Gas offtake agreements

Brown said that the project has reached agreement with the Fairbanks utilities on the contractual approach for the utility gas offtake agreements and that it should be possible to agree on term sheets for the offtake by mid-November. However, details of the agreements would then have to be worked out and approved by utility boards prior to the financial close for the LNG plant construction.

A major component of the cost of gas in Fairbanks will stem from the cost of trucking the gas from the North Slope. Estimates for the cost have in the past tended to land in the range of $5 to $6 per thousand cubic feet of gas, Brown said. But following further investigation the project is now modeling a cost that is a little under $5, he said.

Utilities have moved towards the concept of establishing a shared trucking consortium, rather than each separately contracting with trucking contractors, Brown said.

Size of trailers

However, one of the big uncertainties impacting the cost is the size of the LNG trailers that the trucks will haul from the Slope — the bigger the trailer, the lower the unit cost. Ted Leonard, executive director of AIDEA, said that AIDEA is working on a contract with Fairbanks Natural Gas to design a relatively large 13,500-gallon trailer. That design would factor into estimates of the trucking costs, Leonard said.

Dan Britton, president and CEO of Fairbanks Natural Gas, said that, while drivers would likely use their own tractors in the trucking operation, maximum efficiency in the use of the relatively expensive trailers would probably require the continuous use of a pool of trailers, swapped around between the tractors as needed.

Brown commented that one of the possible trucking risks is the availability of drivers for the trucks. ●

Contact Alan Bailey at abailey@petroleumnews.com

continued from page 28

OIL PATCH BITS

log data and directly feed results into fracture simulation software. Completions engineers use the resulting models to design better hydraulic fracturing projects and improve well performance.

PowerLog Frac is new and intuitive petrophysics-based software which generates formatted rock and fluid properties to allow engineers to run multiple frac scenarios with increased accuracy in hours instead of days by eliminating manual calculations and spreadsheets.

Frac design and analysis are currently applied in only a very small percentage of hydraulic fracturing projects due to the time needed to acquire input data for the models. Fracture simulation can now be implemented as part of a standard completion process.

PowerLog Frac was created by CGG GeoSoftware in collaboration with Baker Hughes Inc. as part of a joint software development agreement. The new software increases industry access to Baker Hughes frac design expertise. Baker Hughes will use PowerLog Frac in its pressure pumping operations to generate scenarios immediately and directly drive its fracture simulation design software.

Editor's note: All 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.

continued from page 30

REPSOL WELLS

winter.

The process involves arranging sensors around the well site. The sensor pick of vibrations that naturally occur during drilling activities, rather than creating surface-level vibrations.

"This micro-seismic fracture mapping will allow Repsol to understand the azimuth orientation of the maximum principal stress within the productive reservoir," the company told state officials in an October 2014 plan of operations. "This azimuth orientation will ultimately dictate the trajectory of the horizontal laterals planned for production wells to optimize reservoir production over the life of the reservoir." ●

Contact Eric Lidji at ericlidji@mac.com

continued from page 1

TRADE HARMONY

freer than the investment climate here," he said.

In making that comment, Harper indirectly conveyed his view that the temperature has been lowered after a tumultuous few months between the two countries which saw Canada copy finger pointing by the U.S. over cyber-hacking that has been traced to Chinese sources.

Continued unhappiness at home

But he returned home to face continued unhappiness over foreign investment rules imposed in December 2012 that have caused a dramatic drop in the development of Alberta's oil sands by China's SOEs.

When the Canadian government approved the US$15.1 billion takeover of Nexen by CNOOC it slapped a ban on outright takeovers of oil sands companies by foreign firms, other than on an unexplained "exceptional basis," sending the industry into a tailspin.

CIBC World Markets said offshore participation plunged by 90 percent in 2013 from 2012 which was largely blamed on rules that allow the government to review and block any transactions valued at more than C$330 million.

The law firm of Norton Rose Fulbright Canada, NRFC, rated 2013 as a "troubling year" for M&As in the Canadian oil and natural gas sector.

In a variation from the CIBC numbers, it estimated activity totaled US$10.2 billion, off 80 percent from US$50 billion in 2012, although the firm noted that the value of global transactions feel 50 percent in the same period.

But NRFC said that although investment by Chinese SOEs was on the downswing, other Asian investors showed interest in deal-making on a "smaller, strategic scale."

Call for reform

However, University of Calgary assistant professor of economics Trevor Toombe is among those calling for reform of the Investment Canada Act to prevent the government from arbitrarily turning away foreign investors.

"Clear, enforceable, non-discriminatory rules will become increasingly important as Canada's energy sector grows," he said. "Trade depends on investment."

Although Harper was seen as responding to deep-seated unease among Canadians about foreign SOEs having too much control over a strategic resource, the new Alberta administration under Premier Jim Prentice — once a loyal right-hand man in Harper's government — is calling on the Canadian government to take a fresh look at its foreign investment rules.

Harper's 2012 guidelines, which he said were intended to send a message that Canada was "not for sale to foreign governments," has had the unintended consequence of turning off the taps on investment money and blocked the progress of a new wave of oil sands projects.

Ron Hoffman, Alberta's newly named senior representative for the Asia-Pacific Basin, said the guidelines have caused "confusion (because of) some looseness in the language."

He said Alberta believes foreign companies, such as CNOOC and Sinopec, should be entitled to credit for a "positive" track record in the province and is urging clarification around what constitutes a state-owned company — a question that is especially important to the Chinese government which notes that many of its companies engage in public trading.

'Lost opportunity'

For now, evidence of a "tremendous lost opportunity" is accumulating, Ian Wild, an executive vice president at ATB Financial, told the Globe and Mail, noting his company is involved in 10 "sets of discussions" with Chinese companies that want to buy into Alberta's energy, real estate, construction and service sectors.

While that debate builds, lawyers with the firm of Osler Hoskin and Harcourt are reportedly working with Chinese SOEs on a way to reignite investment by acquiring resource land instead of companies.

They argue that pure exploration properties are not normally considered businesses and thus not subject to Investment Canada review.

Peter Glossop, a lawyer with the firm, said the "initial visceral reaction" to Canada's new investment regulations is giving way to a realization that there are other ways of doing business.

But the hit to Canada's reputation as a friendly destination for foreign investment — combined with the British Columbia government's long wavering over its LNG tax regime — has spurred Chinese investors to look elsewhere, especially Africa, Central Asia and Southeast Asia.

It hasn't helped that the Nexen assets have been poor performers, resulting in the replacement of long-time Nexen Chief Executive Officer Kevin Reinhart with a Chinese executive to tackle the company's persistent headaches with its Long Lake oil sands project.

The fallout from the December 2012 intervention by Harper is mirrored in comments by Rafi Tahmazian, a senior portfolio manager with Canoe Financial, who bluntly said the investment potential ended with the Nexen-CNOOC deal.

"A lot of companies with oil sands leases need access to incremental capital, but the Canadian market is too small to handle that kind of financing," he told the Globe and Mail.

He said proposed pipelines such as Keystone XL, Northern Gateway and Energy Easy could be industry catalysts, "but they all have mountains to climb" given their dependence on oil sands production to fill the systems.

Hundreds of billions needed

For the oil sands sector to boost output by 50 percent to 3 million bpd over the next six years and to 5.2 million bpd by 2030 will need capital spending of C$600 billion-C$700 billion, the Canadian Energy Research Institute estimates.

Peter Tertzakhian, an energy economist, said the inability to attract capital could see the oil sands slow down over the next five or 10 years, while investors turn to North Dakota and Texas, where the production risks are less and the returns are strong.

Whether the grand hopes for the oil sands have evaporated, or are just taking a timeout, may be determined by how the Harper government responds to the call for change and the mood he encountered in Beijing.

Even so, not everyone believes the investment rules will kill off investment in Canada's oil patch.

Erica Downs, the senior analyst for Asia at New York-based Eurasia Group, said that despite concerns over the slow pace of new pipeline projects and LNG development along with the restrictions on investment, Canada will remain a destination for China's oil and gas sector.

She said the completion of PetroChina's acquisition of 40 percent of the Dover oil sands project from Athabasca Oil for C$1.1 billion "demonstrates PetroChina's commitment to operating in Canada over the long-term."

However, that participation is "likely to move at a slower pace as a result of the challenges that all companies operating in Canada face," Downs said. ●

Contact Gary Park through publisher@petroleumnews.com