Petroleum news

Celebrating 20 years: 1996-2016

page 5 Stoltze: Treat Permanent Fund with care, exercise spending caution

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This week's Mining News

NORTH OF 60 MINING news

page 12 USGS highlights foreign reliance for 47 minerals in annual report

www.MiningNewsNorth.com The weekly mining newspaper for Alaska and Canada's North Week of February 7, 2016

NEWS NUGGETS

Compiled by Shane Lasley

Novagold balance sheet healthy; junior focuses on permitting Donlin Gold Mine

Novagold Resources Inc. Jan. 28 reported year-end 2015 financial results and provided project updates for its 50 percent-owned Donlin Gold and Galore Creek projects. Novagold's highlight for the year was the publishing of a draft environmental impact statement for the Donlin Gold project. "Our most important achievement in 2015 was the publication of the Donlin Gold draft EIS, a major milestone in the permitting process for the project," said Novagold President and CEO Greg Lang. "Novagold and its joint-venture partner Barrick Gold are particularly gratified with the professionalism of all the parties involved in the process and the level of constructive engagement of the Native corporations, local communities, various levels of government and non-governmental organizations. We are all working together to achieve an important common goal of permitting this world-class project." The November release of this environmental document by the U.S. Army Corps of Engineers triggered a five-month comment period, which runs through April 30, for the plan to develop this 39-million-ounce gold project in western Alaska. A series of meetings to accept public input on the Donlin Gold draft EIS are scheduled during the comment period. Six of these meetings have been held over the past two weeks and the balance are scheduled to be held before the end of March. Work at the Galore Creek copper-gold project, which is equally co-owned by Novagold and Teck Resources Ltd., primarily focused on the continued optimization of the integrated mining, waste rock and water management concepts. For the year ended Nov. 30, 2015, Novagold reported US$31.7 million in loss from operations, or US$6.3 million less than the US$38 million in 2014. The company reported lower general and administrative expenses and smaller investments in both the Donlin Gold and Galore Creek project in 2015 compared with the previous year. Novagold reported a net loss of US$32 million for 2015, or about US10 cents per share, compared with US$40.5 million, or US13 cents per share, in 2014. Novagold said it ended its year with US$127 million in cash and term deposits, which the company says is enough to complete permitting of Donlin Gold, fund activities at Galore Creek and fulfill other current obligations In 2016, Novagold expect to spend roughly US$25

see **NEWS NUGGETS** page 13

SHANE LASLEY

Northwest Arctic Borough says Red Dog is a highly profitable mine that can afford increased payments under a severance tax that took effect at the beginning of 2016.

FISCAL POLICY

Tax chasm widens

Northwest Arctic Borough argues Red Dog can afford higher severance tax

By SHANE LASLEY
Mining News

Nearly three weeks after Teck Alaska, operator of the Red Dog Mine in northwest Alaska, sued the Northwest Arctic Borough over a steep tax hike implemented at the beginning of the year, the chasm between the two sides seems to have only widened.

In preparation for its plans to "aggressively pursue a satisfactory legal resolution" to the charges brought by Teck, Northwest Arctic Borough has released information outlining its perspective on the argument.

In a Jan. 26 statement, the borough said during the past 25 years, Red Dog has evolved from an uncertain prospect located in the remote Northwest Alaska Arctic to a world-class zinc mine that "has made C$5.2 billion in gross profits for Teck since 2005."

Considering the profitability of the zinc mine and the Northwest Arctic region's growing needs, the borough contends that the US$11.5 million per year average that Red Dog has recently paid to the local borough and school district is not adequate.

"The borough's leadership will not sit idle while a multinational mining company refuses to pay its taxes for a billion-dollar mine that pays large corporate salaries and shareholder dividends," the borough wrote.

Replacing PILT

Since Red Dog began production in 1989, the Northwest Arctic Borough has been the recipient of payments in lieu of taxes paid by the mine.

These "PILT" payments are the result of agreements negotiated between the Red Dog Mine and Northwest Arctic Borough every five years. The latest negotiated agreement expired at the end of 2015.

Northwest Arctic Borough said it spent six months in negotiations with Teck Alaska but the two sides could not come to a PILT settlement before the latest agreement expired.

"The borough expended considerable time, effort, and money to negotiate with Teck in good

see **TAX CHASM** page 14

The tax chasm widens, as the Northwest Arctic Borough argues Red Dog can afford a higher severance tax. Read more on page 11.

Move over Clive Cussler. Make room for Craig Bieber

Note to readers: What follows is part book review, and part insight into striking it rich in Alaska's oil industry.

A couple of months ago Alaska novelist Craig Bieber asked me to review his latest novel, "Moon over the Midnight Sun."

I wasn't planning a flight anytime soon, so I was reluctant to say yes.

The only place I read fast-paced suspense novels with macho-macho males, criminals and violence is on an airplane. I

see **BOOK REVIEW** page 18

State gas team updates legislators on organization, decision making

An issue which bothered a number of legislators in last year's special session on buying out TransCanada's role in the Alaska LNG Project was how the state's gas team was organized, and who was running things.

The state is not a working interest owner, she said, but has to function the same way. The state's partners refer to this as a synthetic WIO, Rutherford said.

In Jan. 29 presentations to the House and Senate Resources committees members of the state AKLNG gas team addressed that issue, presenting statutory authorities, roles; agency organization and

see **GAS TEAM** page 19

UTILITIES

Toward unification

Railbelt utilities report on forming transmission grid system operator

By **ALAN BAILEY**
Petroleum News

At the end of January the Alaska Railbelt electric utilities reported to the Regulatory Commission of Alaska on the status of efforts to create a single operating entity for the Railbelt electricity transmission grid. Currently various sectors of the grid are owned and operated by five independent electric utilities and the state of Alaska.

Following a directive from the Alaska Legislature to investigate whether there would be benefit in transferring management of the grid to some form of independent operator, at the end of June the RCA reported that there would indeed be significant advantage in a transition to a single operating company.

Chugach Electric and ML&P told the commission that they have been discussing the development of a power pooling and joint dispatch arrangement called "the Anchorage Pool."

However, there are two distinct components to grid management and operation that need to be addressed. One is the potential formation of a transmission company which would conduct the day to day operation and maintenance of the grid,

see **GRID UNIFICATION** page 22

FINANCE & ECONOMY

Alberta spares oil sands

NDP bases royalties on 'revenues minus cost,' opting for stand-pat in oil sands

By **GARY PARK**
For Petroleum News

RACHEL NOTLEY

For decades as it groped around in Alberta's political wilderness, the New Democratic Party was free to lash out at the province's petroleum industry.

And it did so with abandon, accusing companies of greed, blaming successive Conservative administrations for pandering to the industry and telling Albertans they were being deprived of their rightful share of revenues.

On getting elected last May, the NDP under Premier Rachel Notley wasted no time appointing a panel to review and recommend a possible overhaul of the royalty regime.

However, through no fault of its own the NDP government was caught in a downdraft — facing one of the most stunning declines in oil prices on record, leading to thousands losing their jobs with little hope of ever again working in the oil patch.

The review panel findings were released Jan. 29, having been accepted in whole by the Notley government which has largely opted for the status quo.

In a nutshell: There will be no changes to oil sands royalties; a flat royalty of 5 percent will be

see **OIL SANDS ROYALTIES** page 18

PIPELINES & DOWNSTREAM

TAPS reaching a milestone

Final steps of electrification near as pump station 1 upgrades go into action

By **ALAN BAILEY**
Petroleum News

Having started up the new electrically powered pumping system at pump station 1 of the trans-Alaska oil pipeline in October, Alyeska Pipeline Service Co. is in the process of completing the electrification upgrade of the pump station, Alyeska engineering manager Rob Annett told Petroleum News Feb. 1.

JUDY PATRICK

The trans-Alaska oil pipeline

Alyeska operates the pipeline system on behalf of the oil companies that own the line. Pump station 1 is the facility that accepts oil delivered from the North Slope oil fields and pumps that oil into the northern end of the pipeline.

Completion of the work at pump station 1 will mark the end of a major multi-year project in which Alyeska has replaced the aging turbine-powered pumps that were originally installed on the pipeline with a system of modern electrically powered pumps that can flexibly handle varying

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

Alaska - Mackenzie Rig Report

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

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 MPU L-47	Hilcorp
Dreco 1000 UE	16 (SCR/TD)	Standby	BP
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD5-10	ConocoPhillips
AC Mobile	25	Kuparuk 2S-03	ConocoPhillips
OIME 2000	141 (SCR/TD)	Kuparuk 2S-13	ConocoPhillips
	142	Rig Up	ConocoPhillips
TSM 7000	Arctic Fox #1	Tight Hold	Caelus
Kuukpik Drilling	5	Placer Well #3	ASRC Exploration LLC
Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2	Kuparuk 2F-18	ConocoPhillips
Dreco 1000 UE	2-ES (SCR-TD)	Deadhorse	Available
Mid-Continental U36A	3-S	Deadhorse	Available
Oilwell 700 E	4-ES (SCR)	Deadhorse	Available
Dreco 1000 UE	7-ES (SCR/TD)	Kuparuk	ConocoPhillips
Dreco 1000 UE	9-ES (SCR/TD)	Deadhorse	Available
Oilwell 2000 Hercules	14-E (SCR)	Deadhorse	Available
Oilwell 2000 Hercules	16-E (SCR/TD)	Mustang location	Available
Oilwell 2000 Canrig 1050E	27-E (SCR-TD)	Point Thompson	Exxon
Oilwell 2000	33-E	Deadhorse	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse	Available
OIME 2000	245-E (SCR-ACTD)	Oliktok Point	ENI
Academy AC electric CANRIG	105AC (AC-TD)	Deadhorse	Available
Academy AC electric Heli-Rig	106AC (AC-TD)	Deadhorse	Available
Nordic Calista Services			
Superior 700 UE	1 (SCR/CTD)	Prudhoe Bay Drill Site 9, Well 02	BP
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay Well Drill Site 9, Well 49	BP
Ideco 900	3 (SCR/TD)	Cold stacked at Milne Point	Available
Parker Drilling Arctic Operating Inc.			
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DSW-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)	Stacked	
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 LLC			
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	Stacked out west side of Cook Inlet	Available
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

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

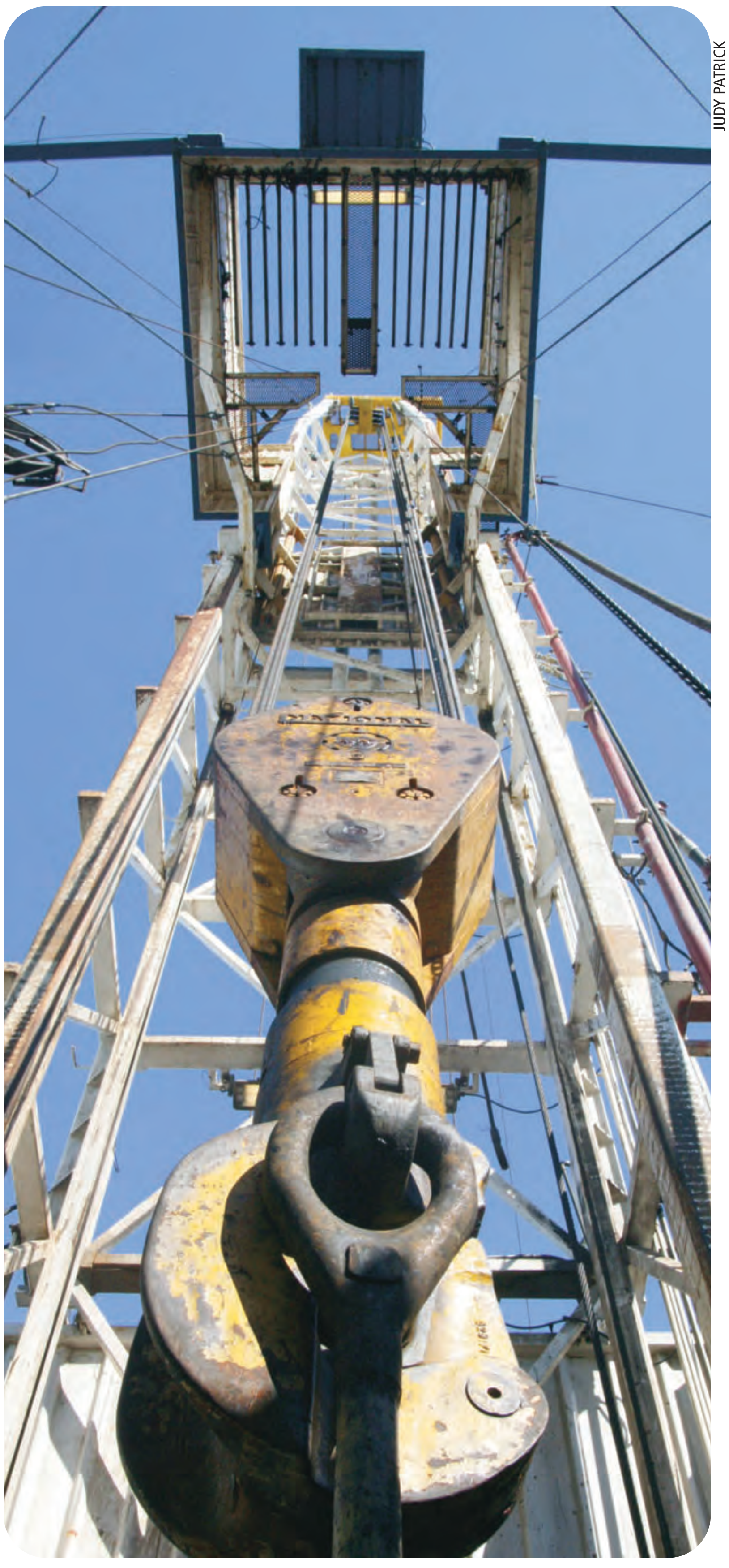
Central Mackenzie Valley

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 February 3, 2016.
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*

	Jan. 29	Jan. 22	Year Ago
United States	619	637	1,543
Canada	231	250	394
Gulf of Mexico	28	29	47

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

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● EXPLORATION & PRODUCTION

ANS crude output down marginally from December

Slope averages 549,679 bpd; Prudhoe output up month over month, all other reporting areas down; Cook Inlet also marginally down

By KRISTEN NELSON
Petroleum News

Alaska North Slope crude oil production averaged 549,679 barrels per day in January, down 0.2 percent from a December average of 550,893 bpd, a drop of just 1,214 bpd.

The only area reporting month-over-month increases was at BP Exploration (Alaska)-operated Prudhoe Bay, which averaged 316,925 bpd in January, up 1.1 percent from a December average of 313,440 bpd.

Information for January comes from the Alaska Department of Revenue's Tax Division which reports North Slope oil production consolidated by major production centers and provides daily production and monthly averages. More detailed data, including Cook Inlet and individual North Slope fields and pools, is reported by the Alaska Oil and Gas Conservation Commission on a month-delay basis.

As reported by the Tax Division, Prudhoe Bay volumes include satellite production from Aurora, Borealis, Midnight Sun, Polaris, Sag River, Schrader Bluff and Ugnu, as well as from the Hilcorp Alaska-operated Milne Point and Northstar fields.

Milne Point production, as reported by AOGCC for December, averaged 18,707 bpd, down 1.4 percent from a November average of 18,971 bpd, while Northstar averaged 5,574 bpd in December, down 6.4 percent from a November average of 5,957 bpd.

Drops at other facilities

Other North Slope production volumes reported by the Tax Division saw month-over-month declines ranging from 1 percent to 2.5 percent.

The smallest month-over-month decline was at Hilcorp-operated Endicott, which averaged 9,738 bpd in January, down 1 percent from a December average of 9,831 bpd. Endicott volumes include production from Eider, Minke and Sag Delta, as well as from the Savant Alaska-operated Badami field to the east.

AOGCC figures show that Badami averaged 1,206 bpd in December, up 37 percent, 327 bpd, from a November average of 879 bpd.

Production reported for the BP-operated Lisburne field, part of greater Prudhoe Bay, averaged 28,301 bpd in January, down 1.2 percent from a December average of 28,637 bpd. Lisburne includes volumes from Niakuk, Point McIntyre and Raven.

The ConocoPhillips Alaska-operated Alpine field averaged 56,464 bpd in January, down 1.3 percent from a December average of 57,193 bpd. Alpine production includes satellites at Fiord, Nanuq and Qannik.

The ConocoPhillips-operated Kuparuk River field averaged 138,251 bpd in January, down 2.5 percent from a December average of 141,792. Volumes shown for Kuparuk include satellite production from Meltwater, Tarn, Tabasco and West Sak, as well as production from the Eni-operated Nikaitchuq field and the Caelus Alaska-operated Oooguruk field.

Cook Inlet production reached a recent peak of 19,080 bpd in April 2015 after dropping below 10,000 bpd in March of 2012.

Data from AOGCC show that Nikaitchuq averaged 25,591 bpd in December, down 1.4 percent from a November average of 25,940 bpd, while Oooguruk averaged 11,062 bpd in December, down 8.2 percent from a November average of 12,051 bpd.

Cook Inlet

While most Cook Inlet area fields showed small increases in month-over-month November to December production, two fields declined and the 213 bpd drop at one field, Redoubt Shoal, was enough to bring overall production down by 0.2 percent, with a Cook Inlet average for December of 16,745 bpd, down 29 bpd from 16,774 bpd in November.

Cook Inlet production reached a recent peak of 19,080 bpd in April 2015 after dropping below 10,000 bpd in March of 2012.

The largest percentage month-over-month increase, 5 percent, was at the Hilcorp-operated Bever Creek field, which averaged 129 bpd in December, up from 123 bpd in November.

Hilcorp's Trading Bay field averaged 2,884 bpd in December, up 2.6 percent from a November average of 2,811 bpd.

Hilcorp's Granite Point field averaged 2,570 bpd in December, up 1.5 percent from a November average of 2,532 bpd.

Middle Ground Shoal, also operated by Hilcorp, averaged 1,928 bpd in December, up 1.4 percent from a November average of 1,902 bpd.

Hilcorp's McArthur River field, Cook Inlet's largest, averaged 5,176 bpd in December, up 1 percent from a November average of 5,123 bpd.

The West McArthur River field, operated by Cook Inlet Energy, averaged 1,217 bpd in December, up 0.5 percent from a November average of 1,211 bpd.

Hilcorp's Swanson River field averaged 2,095 bpd in December, down 0.9 percent from a November average of 2,114 bpd.

Cook Inlet Energy's Redoubt Shoal field averaged 745 bpd in December, down 22.2 percent from a November average of 958 bpd.

ANS crude oil production peaked in 1988 at 2.1 million bpd; Cook Inlet crude oil production peaked in 1970 at more than 227,000 bpd. ●

Contact Kristen Nelson at knelson@petroleumnews.com

● GOVERNMENT

Stoltze: Treat Permanent Fund with care

Chugiak Republican, Sen. Resources member says Legislature needs to exercise caution with spending, credits, AKLNG commitment

By STEVE QUINN
For Petroleum News

Sen. Bill Stoltze is among a select few who voted no last November on SB 3001, Gov. Bill Walker's bill to sever ties with TransCanada. He also sat on the working group examining oil tax credits, preparing himself for what is certain to be a hearty discussion on what changes are reasonable.

The Chugiak Republican also questions whether the prospective AKLNG project really is feasible. He shared these and other thoughts in an interview with Petroleum News.

Petroleum News: So starting with the AKLNG updates, what were your takeaways from those meetings?

Stoltze: Probably the one the members of the public were hearing — where the administration was. The thing I appreciated the most is Marty Rutherford, though not a perfect person, but she's a person with a lot of integrity and a lot of gas line experience. Having her at the lead gives people less discomfort. I still have questions about the economics and whether or not this is the right project at the right time.

What really needs to be ferreted out is the governor's plan to use the Permanent Fund for the budget. Whatever the plan, it has to be more forthrightly declared, because as I've said, you can't use the Permanent Fund more than once.

Petroleum News: What about the governor's letter to the producers, establishing deadlines for fiscal terms? What were your thoughts on that? Is that an ultimatum?

Stoltze: When he spoke publicly, he had more of an ultimatum tone. Then I saw the administration downplay the ultimatum.

Petroleum News: Did you get a sense that the producers felt that way and that there would be push back?

Stoltze: I think a lot of folks are concerned about what the state's ultimate position is. There is more than a little rhetoric and pronouncements about an Alaskan led project, whether or not we have the expertise and financial wherewithal to do that. We live in a state where we are looking at a $4 billion functional deficit so are we able to take a pretty high level risk that could bankrupt those companies as well if they are wrong? Would I love to have an Alaskan majority? Absolutely. I think most would. But do we also want to take that risk? I don't think we have the capability.


SEN. BILL STOLTZE

Petroleum News: You sat on the tax credit working group during the interim. What were your takeaways?

Stoltze: First, I think the administration and a lot of my colleagues are correct in that we have to make sure our tax credits are working effectively. Tax credits, whether it's for film, whether it's for fish, whether it's for mining, tax credits are essentially general funds and we have treat them with the same care that we treat other general fund expenditures. Tax credits are more on the oil industry by and large because they are an industry that pays taxes and more applicable. Often they are applied to other industries that don't pay a lot of taxes as was the case with the film industry.

The governor was correct in drawing attention, as many of us have, in the growth credits. A lot of that is a spillover from ACES. Some of them are in the Cook Inlet bill that passed virtually unanimously with a lot of claim of bipartisan credit being taken. It's unfortunate that it's turned into a partisan issue. I think the governor made a political move vetoing out tax credits that we owed. He did it for political purposes.

Even (Tax Director, Revenue Department) Ken Alper and Commissioner (Randall) Hoffbeck have acknowledged multiple times that it didn't save any money in the budget. It was a losery — that's my term, not theirs. All we did was take a credit card payment that says you can pay $39.50 or you can pay the balance. The governor and the administration punted and deferred the balance. All it did was add to our deficit for this year. Those are obligated payments we have to make.

Unless Ken Alper really goes (socialist military leader) Che Guevara on us. ... I don't think we are going to go that far. They are out there. They are obligations. We need to honor those obligations, which become a big part of our budget. I think they are all well intentioned and you look at them differently at $100 barrel of oil than you do oil in the $20s or as we were talking in the summer, the 30s and 40s.

Petroleum News: Doesn't this also come down to whether the state can afford them or not?

Stoltze: Sure, but we have to pay what we're already obligated. That's real clear. Getting control of future costs and making sure when we do employ the tax credits, we make sure they are working effectively. You just take a lot harder look when your oil revenues are down. It's always been real money. What you're willing to invest in and endure during times when you're trying to rebuild, we have to make sure the ones we do employ have good returns and are effective.

Q AND A

Petroleum News: Wasn't that something you espoused with your film tax credit bill? You wanted some value for the credits to the treasury right?

Stoltze: That's a whole other thing. That's an industry that never has and I didn't see them paying any taxes anytime in the future. That was really a clear subsidy. It was a fiscal issue with that and it's a fiscal issue looking at these tax credits. It's not coincidental reduction on the oil and tax credit appropriation we owed. It was a political statement to his film industry supporters saying, "hey, I stuck it to oil, too." When all it did was defer the payment. And it caused upheaval in the financial world over the state's willingness to keep up with its obligations. That said, I think there has been a maturity that has developed. Maybe they don't listen to their tax director so blindly now.

Petroleum News: Last year, the Legislature closed out 2015 by supporting the governor's special session bill, SB 3001, but you were a no vote. How come? Was it a no against buying out TransCanada? Or was it more of a statement that you didn't like the process?

Stoltze: It's a statement. It was multifaceted. I heard some of the members, even of my own caucus, alluded to the motive of the valley delegation (Stoltze, Charlie Huggins and Mike Dunleavy) and how we arrived at our vote. We arrived at those votes independently without consultation and conversation with each other. I think we didn't have an anticipation of how each of us were going to vote. I think it was three people who live and talk to the same constituent base, and who share some of the same concerns and values coming to their own independent decisions. I can only speak for myself. That would be my assumption. Sen. Huggins and I both voted against the AGIA contract back in 2008. I have my own trepidation about us getting into a gas line project that's driven less on market and economics and more on a vision quest.

Petroleum News: So was it the bill or the process?

Stoltze: I think it was a combination. It was the process and an overall concern. Hey, let's analyze whether or not this is the right time, whether the economics are right on this project. There is just a lot of anecdotal and subjective information that is

see **STOLTZE Q&A** page 21

● NATURAL GAS

LNG faces more rules

BC industry faces new federal order for climate tests of pipeline, terminal applications; some First Nations demand protection zone

By GARY PARK
For Petroleum News

The Canadian government has tossed another wrench into the approval procedures for its already shaky LNG outlook.

Under pressure to placate those calling for an end to the development and export of fossil fuels, the administration of Prime Minister Justin Trudeau has introduced the first stage of changes to regulatory reviews of oil and natural gas pipeline applications and LNG export terminals.

That coincides with a declaration issued by a coalition of First Nations, environmentalists and the federal New Democratic Party, who have demanded a protection zone around the planned Pacific NorthWest LNG terminal near Prince Rupert.

The so-called Lelu Declaration has infuriated British Columbia Premier Christy Clark who said the resistance to LNG is being led by the "forces of No" who want to stop government economic initiatives purely out of a fear of change.

Canada's Natural Resources Minister Jim Carr and Environment Minister Catherine McKenna have moved with haste to introduce transitional measures that meet an election promise by Trudeau and require a broader, more robust environmental examination of resource projects to determine the impact on national greenhouse gas emissions.

In an immediate response, interim Conservative Party leader Rona Ambrose attacked the Liberal government for failing to defend the resource industry from critics who want to prevent landlocked producers from accessing new markets in North America and offshore.

Trudeau replied that his government endorses the notion that Canadian resources need overseas outlets, while the public needs to be assured that projects are being done in an environmentally sustainable manner.

NEB role

Former National Energy Board Chairman Gaetan Caron said the regulator has long refused to assess the impact of pipelines on GHG emissions in the producing or refining sectors because there are too many uncertain variables.

"The NEB has determined in the past that the upstream and downstream climate-change effects of a pipeline are not relevant because the pipeline in and of itself has no bearing on the rate of production of hydrocarbons in Alberta or the rate of consumption at the other end of the pipeline," he told the Globe and Mail.

The Lelu Declaration by chiefs from the headwaters to the mouth of the Skeena River was described by the aboriginal leaders as a "powerful message" to Trudeau and Clark. It makes an "overwhelming" call for a halt to Pacific Northwest, noting "we will fight this to the end."

Clark fired back that "there are people who just say 'no' to everything ... but just because it's hard doesn't mean you give up. It doesn't mean you should be a quitter."

"I'm not sure what science the forces of No bring together ... except that it's not really about science. It's not really about fish."

First Nations leaders said Clark's comments were "paternalistic and mindless," while Friends of Wild Salmon spokesman Gerald Amos said the government and Pacific NorthWest "know they've made a mistake in siting this particular project."

However, Gitga'at First National Chief Arnold Clifton said the signatories of the Lelu Declaration and opposition New Democratic Party members of the provincial legislature and the Canadian parliament may have acted prematurely. ●

Contact Gary Park through publisher@petroleumnews.com

How high is up?

A tidal wave has been turned into a tsunami of regulatory approvals for exports of LNG from the British Columbia coast, as the National Energy Board has raised the bar to even greater heights with its most recent decision.

To date, the federal government agency has issued an estimated 18 licenses (including one that involves five phases), totaling about 400 trillion cubic feet of gas for the permit terms.

However, no experts seriously expect more than five projects will go ahead, with hopes for even one or two major ventures currently at a delicate tipping point that covers the ability of proponents to find markets in Asia, raise capital and resolve differences with First Nations and environmentalists before the disputes find their way to court.

To date, the federal government agency has issued an estimated 18 licenses (including one that involves five phases), totaling about 400 trillion cubic feet of gas for the permit terms.

But the NEB, whose primary job is to determine whether applications cover natural gas volumes that would be surplus to Canada's foreseeable needs, has expanded the permit horizon by issuing its first 40-year export license to the Shell-led LNG Canada consortium that includes Petro-China, Korea Gas and Mitsubishi.

The green light is for 3.23 billion cubic feet per day of feedstock gas, translating into almost 33 trillion cubic feet for the 40-year license term, 15 years greater than any previous approval.

For the license to remain valid, LNG Canada must start shipments by the end of 2022.

LNG Canada Chief Executive Officer Andy Caditz said the license is a significant milestone for the project.

"An extended term provides regulatory certainty beyond 25 years and allows us to better anticipate the economics of the project over a longer time horizon," he said.

Ministry approves

British Columbia's Ministry of Natural Gas Development said in a statement the province endorses the 40-year term.

"It improves long-term certainty for the industry and strengthens British Columbia's competitive positioning in the global market," the ministry said.

Not for the first time in the application process concerns were raised about the quantity of gas available in the Western Canada Sedimentary basin, the sole planned source of the gas.

Navigant Consulting, hired by LNG Canada, said there is enough supply in the basin for about 100 years, even if all of the other proposed long-term gas exports proceed.

The NEB said it is "satisfied that the natural gas resource base in Canada, as well as North America overall, is large and can accommodate reasonably foreseeable Canadian demand, including the natural gas exports proposed (by LNG Canada) and a plausible potential increase in demand."

The export license came just days after the British Columbia Oil and Gas Commission approved an LNG Canada facility permit, which outlined design, construction and operation requirements.

It is expected that up to 7,500 workers would be employed during the construction period.

Caditz said that if a corporate sanctioning decision is made the venture "will be one of the largest energy infrastructure projects ever built in Canada and will make an important and lasting contribution to the local, provincial and national economy."

—GARY PARK

● PIPELINES & DOWNSTREAM

The headache of low oil flow in TAPS

Alyeska's approach to dealing with wax and avoiding ice formation in the line is evolving as the flow rate gradually declines

By ALAN BAILEY
Petroleum News

In addition to responding to declining oil production from Alaska's North Slope by installing new electrically powered pumping systems along the trans-Alaska oil pipeline, Alyeska Pipeline Service Co., the pipeline operator, has for several years been contending with some significant technical issues associated with low oil flow rates through the line. In particular, as the oil flow slows, the oil becomes colder as it travels the 800 miles or so between the North Slope and the Valdez Marine Terminal for transfer onto oil tankers. As the oil cools, equipment-clogging wax tends to separate out. And, if the oil temperature falls below 32 F, water in the oil will start to freeze, leading to the formation of ice that can damage pumping equipment.

Over the years, Alyeska's approach to this low-flow challenge has evolved.

Recycling the oil

For some time the company has been warming the oil by recycling oil at the pump stations along the pipeline's route — the pumping action in the recycling has the effect of heating the oil. And, in addition to using the active pump stations for this purpose, Alyeska can use pump station 7 near Fairbanks, a pump station that has been deactivated, as a recycling station, Alyeska engineering manager Rob Annett told Petroleum News.

As an alternative approach to the low flow problem, Alyeska has investigated the removal of water from the oil entering the pipeline system on the North Slope, and then allowing the oil to flow cold through the pipeline. In fact, the company conducted some tests, to assess the viability of this cold, dry flow approach, Annett said. But, unfortunately, it turned out that, despite best efforts at removing water from the oil, ice still tended to form when the oil temperature dropped below the freezing point of water, he said.

Temperature maintenance

And, so, the company has concluded that cold, dry flow is impractical and, instead, is following a strategy of ensuring that the oil temperature remains above 32 F along the entire length of the pipeline, Annett said. Alyeska spokeswoman Katie Pesznecker said that the target minimum temperature along the line is 40 F, to allow a margin above the freezing point level.

Recent data from a day towards the end of January, with ambient air temperatures below freezing along the entire pipeline route, show oil departing pump station 1 at a temperature of about 110 F. Despite a steady decline in the oil temperature as the oil travelled south, upwards jolts in the temperature at the three operational pump stations ensured that the oil arrived in Valdez at a temperature a little above that 40 F target.

In addition to oil recycling at the pump stations, Alyeska is now installing what are referred to as slipstream heaters at strategic points along the pipeline, upstream of critical equipment. A slipstream heater takes a portion of the oil from the line, heats it through a direct-fire heat exchanger, and then returns it to the line, Annett explained. Trying to heat the entire oil flow, rather than a portion of it, would be much more complex, he said.

In addition, as a contingency against a winter shutdown of the pipeline system, Alyeska has been establishing the capability to inject methanol into the pipeline at some pump stations as a freeze suppressant, Annett said.

Wax

Wax deposition creates another set of issues, especially since wax tends to start separating from crude oil at significantly higher temperatures than the freezing point of water. Thus, with wax deposition inevitable in a low flow situation, Alyeska has to resort to the used of pigs, torpedo shaped devices that pass down the inside of the pipeline, to clear wax from the line. But, as the oil flow has continued to slow, a new problem has started to emerge in that, when the flow rate drops below a certain level, wax starts to drop out of solution as particles in the oil, rather than be deposited on the interior wall of the pipeline, Annett said.

So, Alyeska is now faced with the specter of a pig becoming overwhelmed by a growing pile of wax debris accumulating in front of it as it traverses the pipeline, rather like a snow plow with no means of disposing of snow when clearing a path across snow covered ground.

Alyeska is in the process of installing optical devices that can measure the size, shape and amount of wax particles in the oil at certain points in the line, to enable the monitoring of wax throughput, Annett said. The company is also assessing the possible use of a new tool that acts like a power washing pig, inside the pipeline, he said.

Wax collected by pipeline pigs has to be removed from the pipeline at pig receiving and launching stations at certain pump stations along the line. As the flow slows and the wax deposition increases, it may be necessary to add more of these stations, to accommodate the increasing quantities of wax collected, Annett commented.

Throughput needed

Overall, actions taken to address low flow issues add cost to the operation of the pipeline. And, since the overall operating costs are divided across ever fewer barrels of oil as throughput drops, the transportation cost per barrel of oil will tend to increase.

"Throughput is the answer for a lot of this," Annett commented.

Data from Alyeska show that, on average, daily throughput declined from 513,441 barrels per day in 2014 to 508,446 barrels per day in 2015. However, throughput actually increased compared with 2014 levels for five months of 2015: July, August, October, November and December. At its peak in the late 1980s the line shipped about 2 million barrels of oil per day. ●

Contact Alan Bailey at abailey@petroleumnews.com

FINANCE & ECONOMY

Court invalidates pipeline valuation rule

A rule that allowed governments and trans-Alaska Pipeline System owners to appeal taxes and avoid a public process has been invalidated by the Supreme Court.

The Jan. 29 ruling says the volunteer State Assessment Review Board is the sole entity with authority to decide taxable parts of the oil and gas infrastructure, the Fairbanks Daily News-Miner reported (http://bit.ly/1PHCzC7).

Attorney Robin Brena argued on behalf of the city of Valdez, which has not signed onto an $8 billion valuation for the system that the Fairbanks North Star Borough and North Slope Borough agreed to.

Major pieces of the pipeline are located in the three boroughs.

"It's a jurisdictional issue for the Legislature and the Legislature said who had jurisdiction and the agency can't reverse it," he said. "I don't think there's any reasonable reading of something saying 'The board shall hear appeals' to mean 'The board shall not hear appeals on taxability.'"

Brena said appeals on taxability could take years to decide, creating uncertainty for municipalities. He said Valdez gets about 90 percent of its revenue from trans-Alaska Pipeline System property taxes.

The ruling won't directly impact ongoing valuation lawsuits.

The boroughs have argued that the pipeline is being undervalued, starting a legal dispute in 2006.

Municipalities valued the pipeline well above $10 billion at the time. Owners initially placed the value below $1 billion.

—ASSOCIATED PRESS

● GOVERNMENT

Rewriting pipeline rules

Canadian government overhauls mega-project applications regulatory processing to include climate-change review, more consultation

By GARY PARK
For Petroleum News

The Canadian government of Prime Minister Justin Trudeau has made a tentative move that observers believe will either remove confusion over the approval process for energy infrastructure projects, or consign those plans to the scrap heap.

But the administration says it will need more time to draft a permanent regulatory process.

In the interim, Natural Resources Minister Jim Carr and Environment Minister Catherine McKenna said all resource projects — starting with Kinder Morgan's Trans Mountain expansion, TransCanada's Energy East, the Petronas-led Pacific Northwest LNG project and crude-by-rail terminals — will be subject to an examination of the greenhouse gas emissions generated by the extraction of related oil and natural gas.

The government will also appoint a ministerial adviser to consult with aboriginal communities along the Trans Mountain and Energy East routes, effectively creating a parallel process to the National Energy Board reviews.

Final decision the cabinets

Ultimately, Carr said, the federal cabinet will decide on the fate of pipelines regardless of what the NEB recommends after "weighing all the factors that are important to determine the national interest for these major projects."

He said the new measures are intended to "restore the public trust in the way Canada reviews and assesses major resource projects. Without the confidence of Canadians, none of these projects will move forward."

McKenna said the government wants to "make better, evidence-based decisions on major projects. (But) no project will return to square one."

While her department will examine the upstream GHG emissions tied to pipelines it will not consider the emissions from refineries or end users of the fuels.

She said it is "essential" to rebuild Canadians' trust in environmental assessment processes and "to respect the rights and interests of indigenous peoples."

Energy East review extended

In the case of Energy East, for which NEB hearings have not begun, the review period will be extended by six months, while a final government decision on Trans Mountain will be delayed until December from August.

A TransCanada spokesman said his company supports a "strong and clear regulatory framework that helps Canadians see our commitment to building and operating oil and gas pipelines in the safest and most environmentally sound way possible."

"TransCanada operates in a highly regulated industry. We will continue to work with all levels of government and our regulators to ensure the continued safe and environmentally sound transportation of our natural resources to market," he said.

Kinder Morgan Canada President Ian Anderson said that although his company has "concerns about how this delay could impact the project schedule, we support the principle that public confidence in the review process is crucial."

CAPP concerned about delays

Tim McMillan, president of the Canadian Association of Petroleum Producers, said his organization welcomes the Liberal move to clarify the transition rules, but is concerned about further delays and duplication built into the review process.

"Getting our product to market in a timely fashion is and has been a challenge," he said.

Canadian Energy Pipeline Association President Chris Bloomer said his member companies are open to new processes that help improve the confidence of Canadians in pipelines.

Revision for streamlined process

What the Trudeau government is drastically revising is four years of a streamlined regulatory process introduced by former Prime Minister Stephen Harper that set a "one project, one review" standard for NEB hearings along with a two-year limit on reaching a decision.

Harper, after watching the Mackenzie Gas Project go through seven years of consultations and hearings, resulting in the venture being overtaken by a flood of new production from North American shale gas fields, was resolved to eliminating duplication and deterring activist and special interest groups from derailing the regulatory process.

He also gave cabinet the right to overrule the NEB if it recommended against an application.

Harper made it clear that its primary objective was "strong economic growth" and turning Canada into an energy superpower.

Pressure on government

The extreme pressure on the Trudeau government from some First Nations, environmentalists, local communities and landowners to reverse that policy was intensified on Jan. 26 when federal Environment and Sustainable Development Commissioner Julie Gelfand found significant gaps in current pipeline oversight.

She said her audit "concluded that the NEB did not adequately track companies' implementation of pipeline approval conditions and that it was not consistently following up on company deficiencies. We found that the board's tracking systems were outdated and inefficient."

In addition, Gelfand said the NEB was having trouble hiring and retaining specialists in pipeline safety and regulatory compliance.

NEB Chair Peter Watson questioned the findings and insisted his agency "absolutely enforces and monitors all companies' compliance with pipeline approval conditions," but promised that all new recommendations would be addressed by the end of 2016.

He said the NEB is at a "critical juncture" in its 56-year history and its regulation of about 46,000 miles of pipelines, given the complexity of the issues and the public scrutiny it has come under.

Candice Bergen, energy spokeswoman for the opposition Conservative Party, said the transition measures are another layer of bureaucracy and red tape aimed at slowing resource development, designed by a government that is ideologically opposed to the use of fossil fuels.

She said "this sends a terrible signal to investors" and is far from the "glimmer of hope" the energy industry had been looking for.

"This is not good news for all those workers in the resource sector who are worried about their jobs right now," Bergen said.

Goal not shutting down industry

Federal cabinet ministers emphatically reject claims that the Trudeau government is determined to shut down the oil industry to achieve its goals for lowering GHG emissions.

Alberta Environment Minister Shannon Phillips said her government will support any process that improves public confidence and bolsters the chances to getting pipelines built.

"Of course we are not interested in unnecessary delays," she said.

Carr acknowledged that the additional consultation and evaluation requirements will still not satisfy all Canadians, as reflected by a coalition of 74 environmental groups which issued a statement urging the government to reject new pipelines to limits GHG emissions.

He said there will be opposition to "whatever decisions the government makes on pipelines," noting that the three federal opposition parties — Conservative, New Democratic Party and Bloc Quebecois — "come from completely different perspectives: 'Don't build anything. Build everything right now. Be very careful what you build.'" ●

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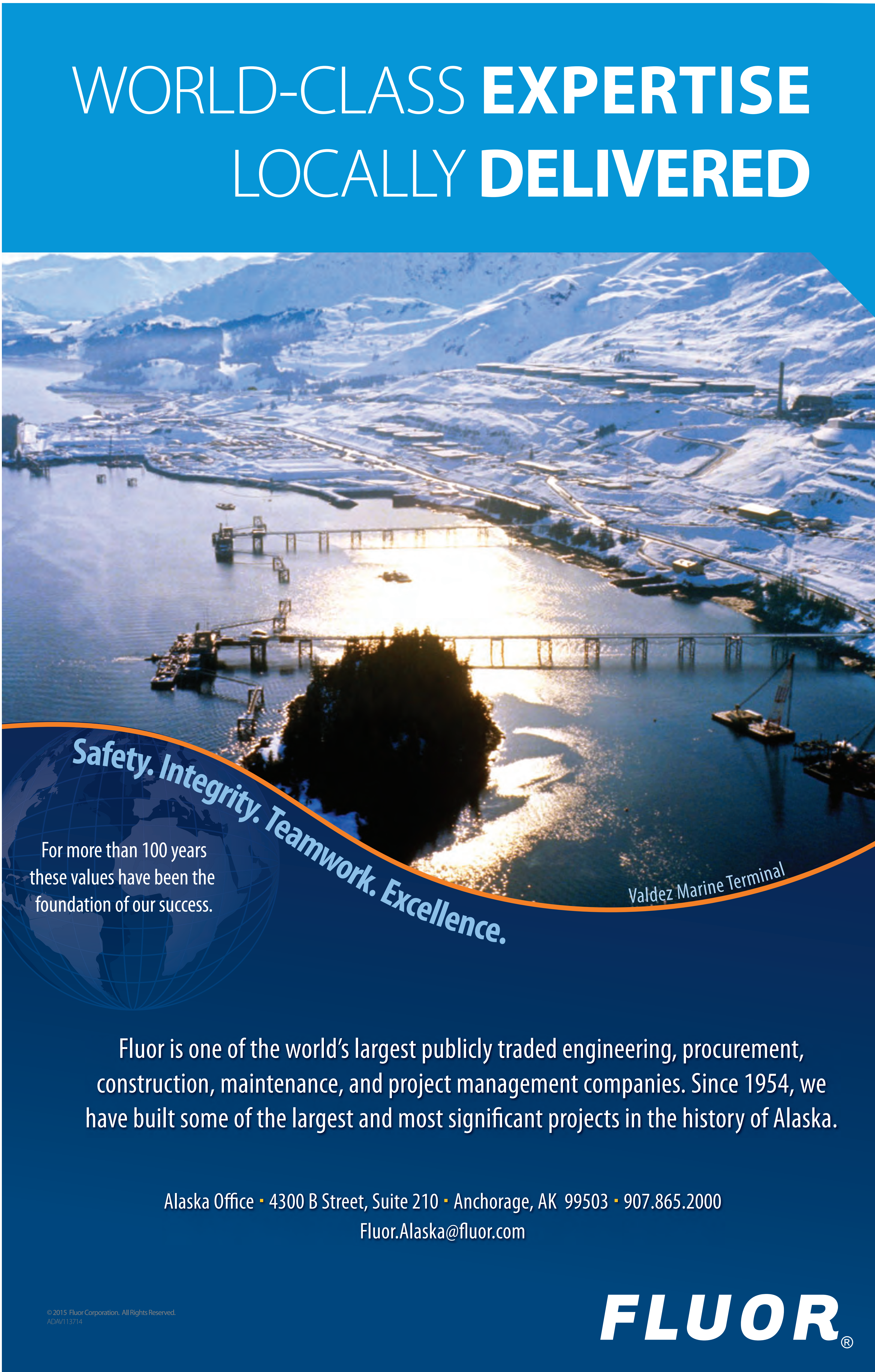
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ASSOCIATIONS

Schantz named to head PWSRCAC

Donna Schantz has been named executive director of the Prince William Sound Regional Citizens' Advisory Council. Schantz, who has been director of programs for the RCAC, replaces Mark Swanson who retired in November. She has been acting executive director since Swanson's retirement.

"The council is very fortunate to have someone with Donna's organizational knowledge and history to lead us into the future," said Amanda Bauer, president of the council board. "I am confident her commitment to our mission and her positive attitude will significantly strengthen relationships within the council, as well as with our industry and regulatory partners, as these relationships are a critical component to achieving our mission."

DONNA SCHANTZ

Schantz joined the council staff in 1999 and has been director of programs since 2001. She holds a B.A. in fine arts from Providence College in Rhode Island.

Schantz was also acting executive director in 2009 after the departure of John Devens.

"I have a tremendous amount of respect for those who devote so much time to our mission of promoting the safe transportation of oil," Schantz said. "I am excited to serve in this leadership role, and to work with the staff and volunteers, as well as our regulatory and industry partners, to protect Prince William Sound and its downstream communities from another oil spill."

She was recognized in 2015 by the U.S. Coast Guard for her work in support of the Prince William Sound Subsea Committee; in 2010 she worked for passage of legislation for dual escorts in Prince William Sound.

Schantz is a resident of Valdez and with her children, Timothy, 12, and Ellie, 10, enjoys boating in Prince William Sound, skiing and hiking in the Chugach Mountains, and spending time in Jack Bay at the cabin she built with her late husband, Tom, on a parcel they won through the Alaska State Land Lottery.

—PETROLEUM NEWS

● GOVERNMENT

NWT in the dumps

Weak prices force companies to bail out of region; NWT premier doubts anything will happen in upstream 'for 10 years, at least'

By GARY PARK

For Petroleum News

The one constant in Canada's North has always been an upbeat mood in the face of adversity.

But even that bulwark is crumbling in the oil and gas sector of the Northwest Territories.

In the bleakest and bluntest of terms NWT Premier Bob McLeod told Petroleum News that "nothing will happen in the industry for 10 years, at least."

That translates into no revival of the Mackenzie Gas Project and no advance in renewed exploration of the Beaufort Sea, Mackenzie Delta or Central Mackenzie Valley and no thought of a pipeline carrying oil sands bitumen from Alberta down the Mackenzie River to a tanker port on the Arctic Ocean or across Yukon to Valdez.

BOB MCLEOD

"All the oil and gas exploration companies have packed up and left the Northwest Territories," he said.

"The companies that bid more than C$2 billion (for rights to explore the Beaufort Sea) have all shelved their projects. There is nothing on that horizon."

Those players were led by an Imperial Oil-BP partnership and Chevron Canada and had previously said they needed more time to conduct technical work and complete the regulatory process before deciding to invest in exploration.

Imperial-BP have applied to extend their exploration permits to 2028 from 2019-20.

"There's not much optimism that anything will happen" in the next decade, McLeod said.

"So I think it will be difficult to get political support for anything significant."

Energy corridor work continues

The one pocket of activity will be continued work on an energy corridor along the Mackenzie Valley, while the NWT government will remain involved with other territories and Canada's 10 provinces in the development of a national energy strategy.

It has been two years since the Canadian government transferred control over the NWT's land, water and resources, with the pledge to review by 2019 which government should have charge of environmental assessments.

"The companies that bid more than C$2 billion (for rights to explore the Beaufort Sea) have all shelved their projects. There is nothing on that horizon."
—NWT Premier Bob McLeod

McLeod said the new government of Prime Minister Justin Trudeau has indicated that one of its first items of business will be to re-examine that deadline and "hopefully give us responsibility for the environment sooner rather than waiting five years."

Among Trudeau's priorities is discussion on "additional means to support economic development, including through investment in infrastructure."

Otherwise, McLeod said the resource industries including mining view the NWT as "not a very good place to invest because of inefficiencies, the regulatory process and the sectors of our population that are not welcoming."

Unsettled claims

"We also have difficulties with land access because we still have large portions of the NWT that have unsettled land claims," McLeod said.

He said the government's current priority is to "at least maintain the mining industry, which is the largest sector of our economy," even though commodity prices have driven exploration "way down. We have to maintain what we have and also help the industry get through a difficult period."

The rapid decline in northern fortunes, accompanied by dashed hope of a breakthrough in the Central Mackenzie Valley, is a harsh setback for McLeod, a month after he was elected to an unprecedented second consecutive term as premier at the same time he reclaimed the industry portfolio.

He said the newly elected legislature will be one of "change and better government. A clear message that I heard from voters (in the fall election campaign) is that they want to see positive change in territorial politics. They want a government that is more transparent and open to input from the public on priorities and decisions." ●

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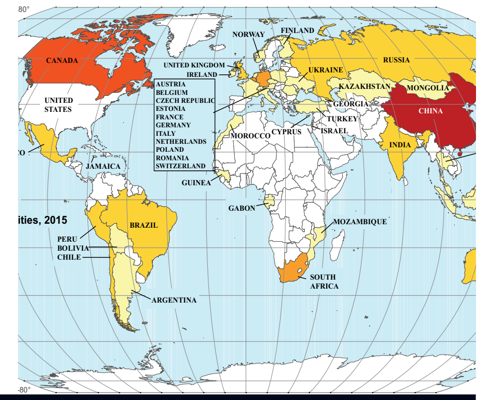
NORTH OF 60 MINING news



page 12 USGS highlights foreign reliance for 47 minerals in annual report

www.MiningNewsNorth.com | The weekly mining newspaper for Alaska and Canada's North | Week of February 7, 2016

NEWS NUGGETS

Compiled by Shane Lasley

Novagold balance sheet healthy; junior focuses on permitting Donlin Gold Mine

Novagold Resources Inc. Jan. 28 reported year-end 2015 financial results and provided project updates for its 50 percent-owned Donlin Gold and Galore Creek projects. Novagold's highlight for the year was the publishing of a draft environmental impact statement for the Donlin Gold project. "Our most important achievement in 2015 was the publication of the Donlin Gold draft EIS, a major milestone in the permitting process for the project," said Novagold President and CEO Greg Lang. "Novagold and its joint-venture partner Barrick Gold are particularly gratified with the professionalism of all the parties involved in the process and the level of constructive engagement of the Native corporations, local communities, various levels of government and non-governmental organizations. We are all working together to achieve an important common goal of permitting this world-class project." The November release of this environmental document by the U.S. Army Corps of Engineers triggered a five-month comment period, which runs through April 30, for the plan to develop this 39-million-ounce gold project in western Alaska. A series of meetings to accept public input on the Donlin Gold draft EIS are scheduled during the comment period. Six of these meetings have been held over the past two weeks and the balance are scheduled to be held before the end of March. Work at the Galore Creek copper-gold project, which is equally co-owned by Novagold and Teck Resources Ltd., primarily focused on the continued optimization of the integrated mining, waste rock and water management concepts. For the year ended Nov. 30, 2015, Novagold reported US$31.7 million in loss from operations, or US$6.3 million less than the US$38 million in 2014. The company reported lower general and administrative expenses and smaller investments in both the Donlin Gold and Galore Creek project in 2015 compared with the previous year. Novagold reported a net loss of US$32 million for 2015, or about US10 cents per share, compared with US$40.5 million, or US13 cents per share, in 2014. Novagold said it ended its year with US$127 million in cash and term deposits, which the company says is enough to complete permitting of Donlin Gold, fund activities at Galore Creek and fulfill other current obligations In 2016, Novagold expect to spend roughly US$25

see **NEWS NUGGETS** *page 13*

SHANE LASLEY

Northwest Arctic Borough says Red Dog is a highly profitable mine that can afford increased payments under a severance tax that took effect at the beginning of 2016.

FISCAL POLICY

Tax chasm widens

Northwest Arctic Borough argues Red Dog can afford higher severance tax

By SHANE LASLEY
Mining News

Nearly three weeks after Teck Alaska, operator of the Red Dog Mine in northwest Alaska, sued the Northwest Arctic Borough over a steep tax hike implemented at the beginning of the year, the chasm between the two sides seems to have only widened.

In preparation for its plans to "aggressively pursue a satisfactory legal resolution" to the charges brought by Teck, Northwest Arctic Borough has released information outlining its perspective on the argument.

In a Jan. 26 statement, the borough said during the past 25 years, Red Dog has evolved from an uncertain prospect located in the remote Northwest Alaska Arctic to a world-class zinc mine that "has made C$5.2 billion in gross profits for Teck since 2005."

Considering the profitability of the zinc mine and the Northwest Arctic region's growing needs, the borough contends that the US$11.5 million per year average that Red Dog has recently paid to the local borough and school district is not adequate.

"The borough's leadership will not sit idle while a multinational mining company refuses to pay its taxes for a billion-dollar mine that pays large corporate salaries and shareholder dividends," the borough wrote.

Replacing PILT

Since Red Dog began production in 1989, the Northwest Arctic Borough has been the recipient of payments in lieu of taxes paid by the mine.

These "PILT" payments are the result of agreements negotiated between the Red Dog Mine and Northwest Arctic Borough every five years. The latest negotiated agreement expired at the end of 2015.

Northwest Arctic Borough said it spent six months in negotiations with Teck Alaska but the two sides could not come to a PILT settlement before the latest agreement expired.

"The borough expended considerable time, effort, and money to negotiate with Teck in good

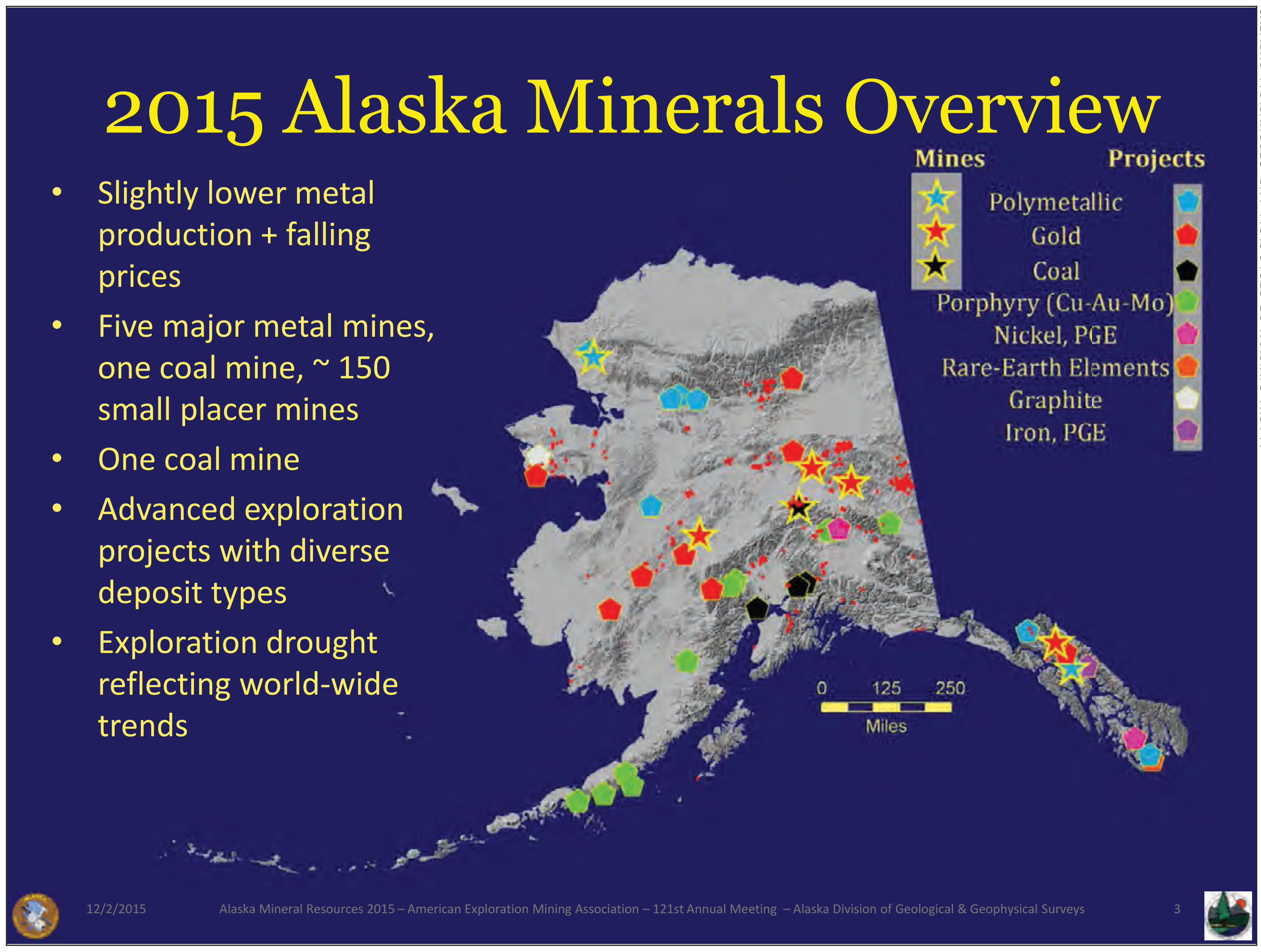
see **TAX CHASM** *page 14*

● POLICY

Worth of Alaska mines' output falls 12%

Lower metals prices weigh on production value in 2015; USGS expresses concerns about U.S. reliance on foreign-sourced minerals

By SHANE LASLEY
Mining News



ALASKA DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS

Though lower metals prices weighed on the value of Alaska's mining sector, the production of minerals, not including coal and oil, in the 49th State topped US$3 billion for the sixth year running.

According to the United States Geological Survey's annual report, "Mineral Commodity Summaries 2016," Alaska mines produced roughly US$3.09 billion worth of non-fuel minerals during 2015. This reflects roughly a 12 percent decrease compared with the US$3.51 billion that USGS reported for the same category in 2014.

Zinc and gold account for roughly 83 percent of Alaska's mineral production value and lead and silver account for most of the remaining 17 percent, while aggregates and other construction materials contribute roughly 1 percent of Alaska's mine production value.

Thanks to increased demand for cement, sand and gravel, crushed stone and other such materials by a resurging construction sector, mineral production in the more populous "Lower 48" states fared better than in Alaska last year.

"A reduction in construction activity began with the 2008-09 recession and continued through 2011. However, construction spending continued to increase in 2015 – more than 10 percent compared with 2014, which benefitted the industrial minerals and aggregates sectors," the USGS explained in its report.

As a result, the survey calculated that mineral production across the entire United States totaled US$78.3 billion in 2015, only a 3 percent drop compared with US$80.8 billion the previous year.

For 2015, Alaska was the seventh-largest non-fuel mineral-producing state in the nation. Nevada, which ranked No. 1, produced US$6.94 billion worth of gold, copper, silver, lime and other minerals last year.

In the latest commodities summary, USGS continued to place emphasis on the United States' reliance on foreign sources for the majority of minerals needed.

"In 2015, the U.S. was 100 percent import-reliant on 19 mineral commodities, including rare earths, manganese, and bauxite, which are among a suite of materials often designated as 'critical' or 'strategic' because they are essential to the economy and their supply may be disrupted," the survey noted.

Declining demand

While Alaska's estimated 12 percent drop in mineral production for 2015 is much larger than the national average, it falls in line with the overall reduction in the value of metals production in the United States.

"Declining demand for metals – especially in China, reduced investment demand, and increased global inventories resulted in decreasing prices and production for most metals," the geological survey explained.

> *"This dependence on foreign sources of critical minerals illustrates both the interdependency of the global community and a growing concern about the adequacy of mineral resources supplies for future generations." —**Larry Meinert, coordinator, USGS Mineral Resource Program***

As a result, metals production in the United States fell 15 percent from 2014, to US$26.6 billion.

Alaska, with most of its US$3 billion of mine production falling into the metals category, accounted for more than 11 percent of the domestic metals produced.

According to early calculations by Alaska Division of Geological and Geophysical Surveys, roughly 679,000 tons of zinc, 953,000 ounces of gold, 14.98 million ounces of silver and 147,000 tons of lead was produced from Alaska mines in 2015.

"Alaska's worldwide significance in zinc, lead, gold, and silver production from five major metal mines increased despite a sharp decline from a 2013 spike in placer gold production," summarized Larry Freeman, mineral resources section chief, DGGS.

While Alaska's metals production held close to steady last year compared to 2014, other regions of the United States were hit harder by weak metals prices.

"In fact, several U.S. metal mines (were) idled in 2015, including the only U.S. rare earth mine at Mountain Pass, California. Rare earths are vital components in modern technologies like smart phones, light-emitting-diode (LED) lights, and flat screen televisions, as well as clean energy and defense technologies," USGS said.

Growing reliance

Domestic mine closures are not helping to lower the America's growing dependence on foreign sources for its annual mineral needs.

In December, the USGS released a report on the United States' growing reliance on mines in foreign countries to supply domestic non-fuel mineral needs over the past six decades.

The number of minerals that the United States is 100 percent import-reliant has increased from eight in 1954 to 19 in 2014. The country also depends on foreign sources for more than half its supply of another 28 minerals.

Increased global trade and the distribution of minerals deposits has significant roles to play in this dependence.

"Because the global distribution of mineral reserves and resources is not uniform, the United States has always been import-reliant for some mineral commodities. It is important to recognize, however, that import reliance does not necessarily mean that there is a supply risk," explained Steven Fortier, director, USGS National Minerals Information Center. "Essentially, the type of commodities imported and the countries from which they are sourced determine risk-related to import reliance."

The United States' reliance on China for its minerals needs has grown exponentially over the past 60 years – from none of the minerals for which the United States was net-reliant in 1954, to about 10 in 1984 and 24 in 2014.

Neighboring Canada, which has long been a source of minerals to the United States, supplied 16 of the minerals for which the United States is more than 50 percent import-reliant. Mexico, Russia, and South Africa also are major sources of these commodities.

Many of these minerals for which the United States is net-import-reliant have been deemed critical or strategic by the USGS and other federal agencies.

"This dependence on foreign sources of critical minerals illustrates both the interdependency of the global community and a growing concern about the adequacy of mineral resources supplies for future generations," explained Larry Meinert, coordinator, USGS Mineral Resource Program.

"Will our children's children have the resources they need to live the lives that we all want?" he asked.

Mineral-rich state

Many of these minerals for which the United States depends largely on foreign sources – such as rare earth elements, graphite, tin, antimony and platinum – are found across Alaska.

"Alaska has the potential to supply new materials to North American and Pacific-Rim markets with Graphite One's Graphite Creek deposit, containing 9.9 million tonnes (metric tons) of large-flake graphite; and Ucore's Bokan Mountain rare-earth element deposit, with 77.5 million tonnes of contained rare-earth oxides," said Freeman.

These are two of some 3,323 lode prospects that have been identified across Alaska, a fact not overlooked by Gov. Bill Walker.

"Alaska has more mineral deposits than any other state," Walker mentioned in his 2016 State of the State Address. "If Alaska were a country, we would be the eighth most mineral-rich nation in the world."

Being a state, however, Alaska has the potential to be a domestic source of the United States' mineral needs. ●

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NEWS NUGGETS

million, including US$9 million to fund its half of expenditures at the Donlin Gold project, US$1 million at the Galore Creek project, US$1 million for our share of joint Donlin Gold studies with Barrick, US$12 million for general and administrative costs and US$2 million for working capital and other corporate purposes. During the year ahead, Novagold said it will focus on: advancing the Donlin Gold project toward a construction-production decision; advancing Galore Creek mine planning and project design; maintaining an effective corporate social responsibility program; and evaluating opportunities to monetize the value of Galore Creek.

WESTMOUNTAIN GOLD INC.

WestMountain Gold hopes upgrades to its mill at the Terra project will minimize downtime and boost production at the high-grade operation in Southwest Alaska.

WestMountain targets increased Terra gold output

WestMountain Gold Inc. Feb. 1 filed an operation plan that projects its Terra gold project will produce an estimated 5,600 ounces of gold bullion from roughly 3,600 short tons of ore processed by the mill and gravity recovery plant at the southwestern Alaska mine in 2016. The company plans to start its mill June 1 and operate for 122 days through Sept. 30. The plans include processing roughly 30 tons of material a day, or slightly more than double the 14.46 tons per day processed in 2015. In total, Terra produced 1,406 ounces of gold from 927 tons of ore processed in 2015. This comes to 1.54 ounces of gold recovered per ton of ore milled. The mill, however, was down 59 days, or 47.7 percent of the planned 124 operating days, last year. "The lost gold production and wages paid due to the mill down time cost the company more than US$1.5 million in lost revenue and operating costs," the company penned in its operational plan. "While all mills require routine maintenance, the amount of down time due to mill equipment failure and break down was excessive and must be reduced to no more than 10 percent to 15 percent in 2016." WestMountain Gold said it plans to invest roughly US$37,000 on mill upgrades, US$45,000 on equipment repairs and another US$35,000 on two new wells at Terra, all aimed at reducing downtime this year and in the future. The company estimates operating costs during the operating season at Terra to be US$1.33 million. If gold maintains an average price of US$1,100 per ounce in 2016, WestMountain projects 2016 gross revenues of US$6.2 million for 2016 at the small high-grade mine.

Additionally, WestMountain Gold CFO James Creamer III was appointed a director of the company. Following the appointment of Creamer, Gregory Schifrin, Michael Lavigne, and Dale Rasmussen each notified the company of their respective resignations from the board of directors. The former board members said their resignations did not involve any disagreement with WestMountain Gold on any matter relating to its operations, policies, or practices.

JV pacts lapse on two Millrock copper projects

Millrock Resources Inc. Jan. 29 reported that partnership agreements on its Alaska Peninsula and Estelle copper-gold exploration properties in Alaska have been allowed to lapse. After reviewing the results from the first round of drilling, First Quantum Minerals has elected not to renew its option to acquire a joint venture interest in the Alaska Peninsula property. No mineralization of significance was discovered in drilling at the Mallard Duck Bay prospect. Mineralization intersected at the Dry Creek prospect, while highly anomalous, was not strong enough to encourage further drilling. "The Dry Creek and Mallard Duck Bay prospects at the Alaska Peninsula project presented excellent opportunities for exploration success. Although the best targets were tested, no mineral deposit of economic significance was discovered," explained Millrock President and CEO Gregory Beischer. "This is the nature of early-stage exploration. Most early-stage exploration drill targets do not result in discovery. However, if we keep drilling quality targets we will eventually succeed in discovering a valuable metallic mineral deposit. The Kawisgag prospect at the south end of the Alaska Peninsula project remains a strong target for drill testing." Millrock is discussing an extension of an option-to-lease agreement on the land package with Bristol Bay Native Corp., the underlying subsurface land owner.

Separately, Millrock Resources Inc. and Teck American Inc. have elected to terminate a joint venture on the Estelle copper-gold project in Southcentral Alaska. Millrock said the project has been inactive since 2014 and efforts to attract a third party to the copper-gold project have been unsuccessful. The claims that make up the project have been allowed to lapse. ●

CORRECTION

In a Jan. 24 article published in North of 60 Mining News about a newly implemented severance tax in the Northwest Arctic Borough, the Borough's actions were incorrectly reported. A renegotiation of a "payment in lieu of taxes (PILT)" agreement was attempted by Northwest Arctic Borough and Teck Resources Alaska, but the two parties failed to reach a mutually-acceptable PILT agreement.

NORTHERN NEIGHBORS

Compiled by Shane Lasley

BHP Billiton to invest up to C$40 million at Storm

Aston Bay Holdings Ltd. Jan. 28 reported that a Canadian subsidiary of BHP Billiton Ltd. has entered into a tentative agreement to collaborate on exploration of the Storm copper project in Nunavut. Under terms of a letter of intent signed by the companies, BHP Billiton can earn a 75 percent interest in Storm, by investing at least C$40 million on exploration at the project within nine years, including a minimum of C$2.5 million over the first two years. "This new partnership is a testament to the exploration potential at the Storm Copper Project," said Aston Bay CEO Benjamin Cox. "Our agreement with BHP Billiton will advance the Storm Copper Project without significant equity dilution for Aston Bay's shareholders, leaving Aston Bay with a meaningful interest in the project," Cox added. BHP Billiton and Aston Bay are currently discussing terms of a definitive agreement, which the companies are targeting for completion during the second quarter of 2016. BHP Billiton has agreed to pay Aston Bay C$325,000 at the time of signing the definitive agreement. The Storm project covers mineralized showings that stretch for more than 100 kilometers (60 miles) on Somerset Island. Historical drilling includes 110 meters of 2.45 percent copper and 56 meters of 3.07 percent copper at the 2750N zone, as well as 49 meters of 1.79 percent copper at the 2200N zone. Exploration by Aston Bay has identified a number of coincident conductivity and gravity anomalies that are consistent with regional mineralizing processes that have significance for property-wide exploration. "BHP Billiton brings technical depth and expertise to the project, and we are eager to begin exploring the property with their exploration group. Their creative ideas for exploration are innovative and add significant exploration value," said Cox. Aston Bay is in the process of closing an agreement with Commander Resources to acquire full ownership of the Storm project. Under the agreement with Commander, Ashton Bay has agreed to issue 11 million shares to Commander up front and up to another 5.5 million shares once C$6 million has been spent on exploration at Storm, including amounts already spent, or after Aston Bay raises another C$4 million. Upon completion of the agreement, Commander will hold roughly 25 percent of Aston Bay's issued and outstanding shares.

Winter drilling gets underway at Yellowknife

TerraX Minerals Inc. Feb. 2 reported the start of a 6,500-meter winter drill program at its Yellowknife City Gold project in the Northwest Territories. Drilling is underway on the Mispickel target on the Walsh Lake property, a sulfide replacement-quartz vein target that has never been drilled. TerraX developed Mispickel by sampling historical trenches running across strike of this sulphide-quartz vein zone. Highlights from the work include six meters averaging 7.29 grams per metric ton gold. TerraX's winter drill campaign will test multiple gold targets, including five targets in the "core gold area" of the property, which includes the Barney Shear and the recently discovered Hebert-Brent Zone; three new areas of high-grade gold veins identified during field exploration last summer; and two sulfide replacement-quartz vein targets on the Walsh Lake property of the YCG; Mispickel and the Sam Otto zone 1,500 meters southwest of Mispickel.

Banyan picks Haywood as president, CEO

Banyan Gold Corp. Feb. 1 said Mark Haywood has been appointed the explo-

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Petroleum news

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TAX CHASM

faith without success," Patrick Savok, director of government affairs, Northwest Arctic Borough, told Mining News in an email.

Unable to reach an agreement with Teck on the PILT, the borough reworked a severance tax first adopted by the borough in 2009.

While this tax has been around for a few years, Teck was exempt as part of the PILT agreement.

The borough increased the severance tax rate from 3 percent under the plan adopted in 2009 to 4.5 percent in 2015. However, Savok told Mining News that the new tax is actually lower due to its structure.

"Under the revised structure, the tax allows significant deductions in calculating the tax base," he explained.

Taxes triple

During the past five years, the negotiated Red Dog PILT payments to the Northwest Arctic Borough have averaged roughly US$11.5 million per year, a total of US$57.5 million for that span.

In its Jan. 26 bulletin, the borough says this payment is an 80 percent discount, compared with what the mine would have paid under the severance tax adopted in 2009.

Accordingly, the local borough would have collected US$287.5 million in taxes from Red Dog over the previous five years, or US$57.5 million per year, if the mine had been taxed under the 2009 severance tax.

Under the 2015 tax, Teck figures it will pay somewhere between US$30 million and US$40 million a year in borough taxes, or about triple what was paid under the expired PILT agreement.

The borough says income from the increased taxes is needed to provide basic services across its vast service area of Northwest Alaska, and Red Dog is a highly profitable mine that can afford to bear the increased tax load.

"In the first three quarters of 2015 alone, the mine's gross profit was just under C$500 million," the Northwest Arctic Borough penned in a talking points bulletin published on Jan. 26.

"The Red Dog Mine is now one of the largest zinc mines in the world and Teck enjoys the benefits of low, set tax payments to maximize profitability for its shareholders," it added.

Teck argues that Red Dog already pays the highest municipal tax in Alaska under the now expired PILT agreement. The company says that if the Red Dog Mine was located in one of the other mining municipalities in the state – such as Fairbanks, Juneau or Delta Junction – it would pay between US$3.7 million and US$4.6 million in local taxes. This is about 10 percent of what the company anticipates paying under the Northwest Arctic Borough severance tax.

Bridging the chasm

NANA Regional Corp., which has strong business and personal ties to both Teck and Northwest Arctic Borough, is doing its best to get both sides of this taxing issue back to the table.

"NANA is committed to engaging with NAB and Teck to come to agreement on a reasonable PILT through structured mediation," the Northwest Alaska Native regional corporation responded to the filing of Teck's lawsuit.

NANA owns the Red Dog deposit and is 30 percent owner of the operation.

On the flipside, the Northwest Arctic Borough covers exactly the same area as the NANA region and the vast majority of the some 8,000 residents of the region are NANA shareholders, as well as beneficiaries of any tax the borough takes in.

NANA says the financial benefits Red Dog provides to the Northwest Arctic outweigh the added revenue the borough hopes to get through the steep tax increase.

Since mining began, NANA has received roughly US$1.3 billion in net proceeds payments from Red Dog, of which it has distributed about US$820 million to other regions and at-large shareholders via the 7(i) sharing provisions of the Alaska Native Claims Settlement Act. Of the US$480 million that NANA has kept, some US$221 million has been paid in dividends to shareholders.

This is on top of the more than US$469 million in wages Red Dog has paid to NANA shareholders working at the mine over the past 26 years, including the US$39.3 million paid to 604 NANA shareholders that either worked full- or part-time at Red Dog in 2015.

Seeking an equitable resolution, NANA said it "is committed to engaging with NAB and Teck to come to agreement on a reasonable PILT through structured mediation."

However, both sides believe the other is trying to dictate the terms of any past and future talks.

"Unfortunately legal action was one of the only remaining options, as the NAB has refused to engage in good faith negotiations to reach a reasonable payment agreement," according to Teck.

For its part, the Northwest Arctic Borough argues, "Teck's refusal to negotiate in good faith resulted in the borough implementing its severance tax to ensure the borough can meet the public service needs of our residents."

Despite the chasm, NANA hopes to "provide a bridge to reach a long-term, or interim, agreement." ●

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NORTHERN NEIGHBORS

ration company's president, chief executive officer and director. Haywood holds degrees in both mining engineering and law, and has an extensive career at underground and open-pit mining projects across North America, Africa, South America and Australasia from working at the mine face, through to building and managing large-scale mining operations as either Chief Mining Engineer or Mine Manager. "We are excited to have someone of Mark's caliber join the team to lead the development and growth of Banyan going forward," said Banyan Gold Chairman Mark Ayranto. Banyan is a Vancouver, B. C.-based exploration company focused on the Hyland Gold project in eastern Yukon Territory. The Main zone at Hyland hosts 12.5 million metric tons of inferred resources averaging 0.9 grams per metric ton (361,692 ounces) gold and 5.59 g/t (2.25 million ounces) silver, for a combined 396,468 gold-equivalent ounces. "I am very excited to build upon the solid foundation established by the existing Banyan team and its shareholders to create a new value driven Canadian mining company," said Haywood. "Our primary focus will be to build shareholder value by growing Banyan organically and via various acquisition initiatives to establish a portfolio of highly ranked exploration projects and profitable mining operations, managed by proven mining industry experts and supported by a team of experienced and competent professionals." ●

● FINANCE & ECONOMY

Court approves Miller bankruptcy plan

By KRISTEN NELSON

Petroleum News

The U.S. Bankruptcy Court for the District of Alaska approved Chapter 11 reorganization for Miller Energy Resources and its subsidiaries in a Jan. 28 order confirming a joint plan of reorganization.

Miller Energy and affiliated debtor entities filed for Chapter 11 relief Oct. 1. The company's subsidiaries working in Alaska include Cook Inlet Energy, Anchor Point Energy, Savant Alaska, Nutaaq Operating; the company's Lower 48 subsidiaries are also included in the filings.

A joint plan of reorganization was filed Oct. 30, with revisions Dec. 17 and a plan supplement filed Jan. 20. Holders of claims voted in favor of the plan, with holders of $151 million in lender secured claims voting 10 to nothing in favor and 75 of 73 holders of some $57.6 million in unsecured claims voting in favor.

The plan establishes a creditor trust for the class 4 claims, with $3.5 million; if class 4 holders of debt had rejected the plan, $1 million would have been distributed.

The court said that in approving the plan it considered the purposes of reorganization: reorganizing the debtor's businesses; preserving and maximizing the value through an efficient reorganization; restructuring the debtor's capital structure; maximizing recovery to holders of claims; and preserving jobs of debtor's employees.

Going private

Miller has been a publicly traded company; the reorganized company will be privately held. The company, founded in 1967, went public in 1997 and entered Alaska in 2009 when it acquired the Alaska operations of Pacific Energy, which was in bankruptcy. In 2014 Miller acquired Savant Alaska and that same year divested substantially all of its Appalachia assets — the original focus of the company — to concentrate on Alaska.

In early 2014 Miller refinanced a $100 million credit facility. The new credit agreement, with Apollo Investment Corp. and affiliates of Highbridge Capital Strategies, provided a $175 million term credit facility.

Debtors owe some $189.7 million under the credit agreement.

Last year the company was in default under its credit agreement and efforts to refinance were unsuccessful; the company cited the dropping price of oil and unsuccessful drilling.

The restructuring will satisfy some $189 million through conversion of the lender secured claim into all of the issued and outstanding shares of new Miller common stock and issuance of new notes.

New board

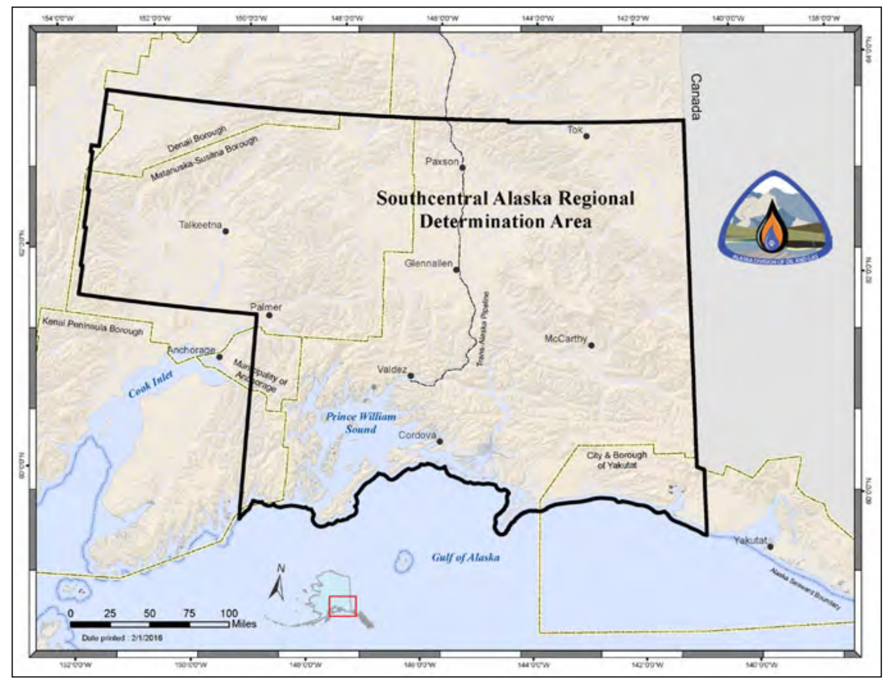
The new board consists of: Don Dimitrievich, managing director, Highbridge Principal Strategies; Gerald Girardi, managing director, Apollo Global Management; Daniel Vogel, also with Apollo; Jeffrey Fitts, managing director, Highbridge; and Carl Giesler, chief executive officer of the reorganized debtors.

Officers of the reorganized debtors are Carl Giesler, CEO; Leland Tate, senior vice president and chief operating officer; Phillip G. Elliott, senior vice president and chief financial officer; and Conrad Perry, senior vice president and drilling manager.

Miller and its subsidiaries — Cook Inlet Energy and Savant are its producing companies — have assets concentrated in Southcentral Alaska and at Badami on the North Slope. In a Jan. 22 reply to objections Miller listed Alaska infrastructure which it owns as storage and processing facilities, the Osprey offshore production platform, numerous oil and gas pipelines and four drilling rigs. ●

Contact Kristen Nelson at knelson@petroleumnews.com

LAND & LEASING



Southcentral exploration licenses possible

The state is looking at potential areas for exploration licensing in Southcentral Alaska. The director of the Department of Natural Resources' Division of Oil and Gas has issued a preliminary written determination that an area of Southcentral Alaska outside the Cook Inlet areawide lease sale is available for oil and gas exploration licensing.

The determination, issued Feb. 2, covers state lands north of Paxson, west of Talkeetna, east of McCarthy and south of Yakutat. Comments on the preliminary determination are due by March 11.

The division said the state land in this area has unknown oil and gas potential and there is limited access to existing oil and gas infrastructure in much of the region.

While oil and gas exploration has occurred in this area in the past, the division said technological advancements may facilitate more effective and efficient exploration.

Exploration licenses require that any data collected be provided to the state, the division said, so the state would benefit from any geological and geophysical data

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● ENVIRONMENT & SAFETY

Planning for oil spill food safety

Inter-agency working group takes first steps in developing policy for inclusion in Alaska's offshore oil spill response planning

By ALAN BAILEY
Petroleum News

With no formal policy guidance in Alaska's unified oil spill response plan for how to deal with food safety and security following an offshore oil spill, a working group from several federal and state agencies has been evaluating what needs to go into a food safety plan for the state, the Alaska Regional Response Team heard during its meeting on Jan. 27.

"There isn't a unified plan for food safety and security in Alaska," Doug Helton, the working group's leader from the National Oceanic and Atmospheric Administration, told the ARRT members. There are food safety plans for other regions of the United States, but those plans are not applicable in Alaska's unique circumstances, Helton said.

The idea behind having a food safety plan is to figure out in advance what food resources require protection and what steps would have to be taken to deal with food safety issues, in the event of an offshore oil spill, rather than depending on the improvisation of plans after a spill has occurred.

The Alaska Regional Response Team working group has completed a draft scoping document for a food safety policy and has published the document on the ARRT website at alaskarrt.org.

Commercial and subsistence resources

Helton said that most food safety plans focus on commercially harvested seafood, including fish and shellfish. And an offshore oil spill in Alaska waters would cause disruption to commercial fishing and shellfish harvesting, he said. But a major issue for Alaska is the dependence of many communities on the subsistence harvesting of wild foods, including marine mammals, seabirds, intertidal plants and terrestrial plants. Wild species are also harvested for sport in Alaska.

Cut off their primary food supply, and rural communities cannot simply go to the local grocery store to replenish their larders, Helton said.

And subsistence resources are used, not just for food, but as part of a cultural tradition that includes trade; barter; community building; arts and crafts; and medicine, he said.

The proposed content of a food security plan, as published in the working group's draft document, would have the plan address both the commercial and the subsistence issues. Drawing on experience from a number of actual offshore oil spills, the plan would set out a series of possible actions and countermeasures that could be invoked to assure food safety.

But there remains much ground to cover in formulating the specifics of a plan.

"The path forward is still to be determined," Helton said. ●

Contact Alan Bailey at abailey@petroleumnews.com

● FINANCE & ECONOMY

Murphy Oil shuffles Canadian assets

By GARY PARK
For Petroleum News

Separately, Murphy struck a two-pronged deal to pay C$250 million for Athabasca Oil Corp. assets, giving a lift to a sluggish merger and acquisition sector.

Arkansas-based Murphy Oil engaged in a Canadian two-step at the end of January, unloading two gas plants in British Columbia, while buying stakes in Alberta oil and gas assets.

It sold the two Tupper plants in northeastern British Columbia, which are capable of processing 320 million cubic feet per day, and associated pipelines for C$538 million to Enbridge.

The pipeline giant said the deal initially will be funded from available sources of liquidity, adding the deal had been anticipated in its long-term capital spending plan.

The plants are about 22 miles southwest of Dawson Creek, adjacent to an Enbridge gathering system and close to the Alliance pipeline that is 50 percent owned by Enbridge Income Fund and delivers gas from Western Canada to the Chicago area.

"This acquisition fits extremely well with Enbridge's low-risk value proposition and supports our key priority of extending and diversifying growth," said Gregory Harper, president of gas pipelines and processing.

"These assets, which are currently in operation, are underpinned by long-term contracts that generate highly predictable cash flows," he said, adding the facilities also enhance Enbridge's natural gas footprint in the Montney formation.

Athabasca Oil Corp. assets

Separately, Murphy struck a two-pronged deal to pay C$250 million for Athabasca Oil Corp. assets, giving a lift to a sluggish merger and acquisition sector.

It will gain a 70 percent stake in Athabasca's Kaybob-region holdings in the Duvernay formation, which has large and mostly untapped reserves of liquids-rich gas, plus 30 percent in the same company's Montney lands.

Murphy has also agreed to carry up to C$225 million of Athabasca's costs over five years.

Total spending by the two companies in the regions is pegged at C$1 billion over the period, but that could be changed depending on market conditions.

Athabasca has been seeking a Duvernay partner since 2013, missing several deadlines in the process.

The transaction "materially progresses Athabasca's strategic goal of transitioning the Duvernay play to commercial development over the mid-term," said Athabasca Chief Executive Officer Ron Broen.

He welcomed the involvement of a "leading North American shale operator" with experience in the Texas Eagle Ford play whole retaining "tremendous upside in the Duvernay shale play."

Murphy Chief Executive Officer Roger Jenkins said the joint venture complements his company's unconventional businesses in the Eagle Ford and Montney, gaining "significant running room in an emerging light oil window."

Athabasca has 180,000 acres of land in the Duvernay and 60,000 acres in the Montney, producing 6,900 barrels of oil equivalent per day (58 percent liquids) and 900 boe per day (44 percent liquids), respectively.

Athabasca said its overall December production averaged 15,200 boe per day, of which 7,400 boe per day came from its Hangingstone thermal oil sands operation. ●

Contact Gary Park through publisher@petroleumnews.com

● FINANCE & ECONOMY

AEDC projects 1,600 job loss in Anchorage

By DAN JOLING

Associated Press

On the plus side, the report forecasts 300 more health care jobs with Medicaid expansion and the aging of Alaska's baby boomers. The report forecasts 200 more jobs in "leisure and hospitality."

A 2016 economic forecast prepared for the Anchorage Economic Development Corp. projects a loss of 1,600 jobs in Alaska's largest city, including 600 in the oil and gas sector.

The city of just under 300,000 could see a net 1 percent jobs decline, according to the report's forecast. Cost-cutting by petroleum companies and a projected decline in state government spending are among factors in the projected job loss.

"It is definitely going to be a year that is a bit of a pinch in the local economy, but luckily it's not a punch," said Bill Popp, president and chief executive officer of the nonprofit group formed to encourage growth and diversity in the Anchorage economy.

The report forecasts a loss of 500 government jobs and 500 construction jobs. It forecasts a loss of 400 "business services jobs" such as engineers, marketers, lawyers, architects and management professionals due to reduced spending on large-scale construction projects.

On the plus side, it forecasts 300 more health care jobs with Medicaid expansion and the aging of Alaska's baby boomers. The report forecasts 200 more jobs in "leisure and hospitality."

The report was prepared by McDowell Group, an Alaska-based economic consulting company, using data produced by the Alaska Department of Labor and Workforce Development. The report was one of six economic reports released by the corporation. BP sponsored the Anchorage jobs forecast.

People hear 1,600 lost jobs and it seems like a big number, Popp said. A 1 percent reduction, however takes the city back to 2012 levels.

"It's a setback but it by no means the economy going into freefall," Popp said.

Alaska petroleum jobs are expected to follow a national decline because of persistent low prices and global oversupply. For much of 2015, Anchorage had 3,700 people employed by oil companies. By December, that already had fallen by 300, Popp said.

A decision by Royal Dutch Shell PLC in September to cease Arctic offshore drilling "for the foreseeable future" meant the loss of about 400 Alaska jobs, according to the report. BP in January announced it would reduce 4,000 jobs, including some in Alaska. But ConocoPhillips, the report notes, released a 2016 Alaska capital budget of $1.3 billion and plans two more drill rigs.

Upward of 90 percent of the state government budget is dependent on the oil industry. The price of Alaska North Slope crude oil Jan. 21 was just under $27 per barrel. Adjusted for inflation, that's the lowest price since 2002, when production averaged more than 1 million barrels per day. This month, production is about 566,000 barrels per day.

The top issue for the Alaska Legislature, which convened Jan. 19 in Juneau, is how to deal with a projected $3.5 billion gap between projected income and spending. Anchorage lost 400 state government jobs in the second half of 2015, Popp said, part of a statewide loss of 1,600 positions.

"When you cut over $800 million of the state budget, there are consequences," he said. The report tries to forecast additional job losses based on Gov. Bill Walker's proposed budget and the deficit.

The downturn in Anchorage could be countered in part by growth in other sectors, Popp said. The visitor industry is constructing hotels in Anchorage. A strengthening national and lower energy costs should make Alaska an attractive destination and the corporation is projecting a record tourism year.

State Department of Labor economist Neal Fried said Jan. 29 the report projects more job loss than the department's own forecast a month ago but does not vary greatly.

Alaska has seen moderate growth since 1988 was largely untouched by three Lower 48 recessions, Fried said. Two great uncertainties not present before — legislative action on the state budget and petroleum companies' reaction to low oil prices — make it a tough time to figure out what is going to happen in 2016. The sectors of job loss are easier to predict than the degree, he said. ●

PIPELINES & DOWNSTREAM

No quitting Keystone

TransCanada is plunging on in its efforts to ship more Canadian crude to the U.S. Gulf Coast despite the rejection of Keystone XL.

Paul Miller, president of the company's liquids pipelines, said more capacity is due on stream by mid-year through TransCanada's US$600 million Houston Lateral pipeline and tank terminal, connecting the existing first phase of Keystone to refineries in Houston.

He said that currently TransCanada delivers about one-third of the 300,000 barrels per day of crude from Canada to the Gulf Coast and the new connection will increase both the share and the absolute volumes moved by his company.

To boost shipments on the Houston Lateral, TransCanada and Magellan Midstream Partners are building a US$50 million link to ship 200,000 bpd from TransCanada's nearly completed Houston terminal to Magellan's East Houston terminal.

Miller said the connection is "hugely significant from a connectivity perspective" by establishing new delivery points at Houston and Texas City refineries.

Plans for other small projects through acquisitions or greenfield developments are also in the works for the Gulf Coast, he said.

In addition, TransCanada hopes to extend its existing footprint into Louisiana, Miller said.

Keystone XL vital

But Chief Executive Officer Russ Girling, speaking to an investor conference in British Columbia, left no doubt that Keystone XL remains a vital option in the company's C$14.5 billion expansion program.

He said that in filing a US$15 billion claim under the North American Free Trade Agreement and a lawsuit against the Obama administration, TransCanada was undeterred by the knowledge that there has never been a successful legal action against the United States under NAFTA.

"It's pretty clear we have been harmed in an arbitrary and discriminatory way," he said.

Girling said nobody would dispute that the U.S. rejection of the pipeline is not an "egregious abuse of authority and that we were not treated fairly or equitably to whatever standards you choose — cross-border pipelines, domestic pipelines, or imports from other countries."

"There's been nothing quite like this decision (which has not been) based on the merits of our application."

Ben Pham, an analyst at BMO Capital Markets, is certain that TransCanada has a "credible case," although the odds are against the company in a process that could take years to resolve.

—GARY PARK

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LICENSING

that might result from potential exploration of the area under a license.

If following a final determination the division receives an exploration license proposal within the area, the division director would then look at the specific area proposed and there would be public notice and a best interest finding process.

—PETROLEUM NEWS

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BOOK REVIEW

hate flying, so I always bring a mind-numbing book to divert my attention from the fact I am thousands of feet above the ground in a pressurized metal tube with zero control (by me, anyway).

Cozy mysteries are not distracting enough during those white-knuckle moments when turbulence strikes. So, I pick up the latest Clive Cussler novel and bury my nose in it until we de-board.

Cussler's scenarios are preposterous, his characters predictable, and he uses way too many adverbs, but his plots are compelling and I usually come back to earth, figuratively and literally, at about the same time.

I couldn't, in good conscience say no to Bieber, however, because I believe in supporting local writers, even though my impression of his previous books, which I had only skimmed, was that they were Cussler-like thrillers.

Former M-I Swaco Alaska manager and Petroleum Club of Anchorage president, Bieber's latest novel offered an additional incentive—it focuses on the state's oil industry, which he was a part of for 30 years.

So, I said yes.

I am glad I did. Bieber is a superb storyteller.

Fast-paced, plenty of machismo, but darn good story

"Moon over the Midnight Sun" is fast-paced and not lacking in machismo, but it is so much more.

The plot is believable, the characters so real you remember their names days after you've finished the book, and the setting — mainly the North Slope and Anchorage — is richly portrayed.

Bieber's familiarity with Alaska appears in numerous tidbits, both interesting and factual, throughout the book. There are no "herds" of moose, stars in a summer sky or rigs drilling for oil in Valdez.

More importantly, the Alaska trivia is cleverly inserted in the plot and dialogue, and does not interrupt the forward movement of the story.

Burton Marts' strategy similar to Bill Armstrong's

Best of all, Bieber understands the inner workings of the oil business in Alaska, including how entrepreneurs make their fortunes, especially in recent years when the state discourages traditional land speculation in favor of companies that work the geology and find a way to fund exploration and development.

The story takes place in the mid-1980s to mid-1990s, but the strategy that Texas oilman Burton Marts employs in "Moon over the Midnight Sun," is similar to Denver oilman Bill Armstrong's tactics since he entered Alaska in 2002.

JUDY PATRICK

BILL ARMSTRONG

Armstrong hires geoscientists and landmen who have retired from the majors in Alaska and, with their guidance, buys oil leases the big companies have explored but dropped (the state of Alaska limits how much exploration acreage any one entity can hold at a time). He applies the latest technology, subsequently teasing millions of barrels of oil out of new developments.

As one character in the story says, it takes "a lot of money and big balls" to make it in Alaska's risky oil business. Marts, like Armstrong, has both.

(There are other entrepreneurs, or wildcatters, as they are often referred to, who have made good money in Alaska, but there are more who have lost their investments.)

Bieber: no inside knowledge of Kandik oil potential

When a novel contains an abundance of accurate information, small discrepancies between it and the real world are things I itch to correct. Such as the pay and savings of the rig hands in this book. They were way too low, especially for that era.

And while you might hit pay dirt using Armstrong's strategy on the North Slope, you probably should order a geologic assessment of the Kandik basin if you're looking to pick up leases there.

Speculators made a killing on Kandik oil leases in "Moon over the Midnight Sun."

While it fits well in the story, Bieber says he has no inside knowledge of the oil potential of the east-central basin. Federal and state geologists rate Kandik petroleum potential as low but, that said, there is at least one experienced and respected Alaska geologist who thinks the Kandik is worth a closer look.

Exploratory oil wells have been drilled in the basin, although none in recent years. Bieber was peripherally involved in one of them in the early 1970s, which is why he chose to use Kandik in his book, albeit with a fictitious Mississippi oil company doing the drilling.

He calls it "the well from hell."

Drilled by Louisiana Land and Exploration, Bieber filled in as a mud engineer for two weeks on the well. This was his experience: "One of our guys had some personal problem and had to have some time off, so I went out there. … We ended up losing the well. They told me what they were going to do and I told them, 'you can't do that, you're gonna lose the well.' So, we got on the phone with their people in Louisiana — their company man up here and me. He told them I was against (what they were planning). … They all laughed. They went ahead and did it anyway, and we lost the whole hole."

The Kandik story in Bieber's book helps move the plot forward. It also shows readers how land speculators often made good money in Alaska (and occasionally still do) by picking up leases adjacent to acreage bigger companies hold, or are about to lease.

Saylor saga continues with youngest sibling

Burton Marts is not the lead protagonist in Bieber's book. That honor goes to another memorable character, Chris Saylor, the youngest sibling of Beth and Nick Saylor, who starred in Bieber's first two books.

He also does well in the oil business up here.

Unlike his elder siblings, who oversee the mega-rich family's freight and logistics empire, Chris dropped out

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OIL SANDS ROYALTIES

charged to conventional producers until capital costs are paid off, after which royalties will be price sensitive and reflect expected returns over the life of a well; and for all wells drilled before 2017, existing royalty rates will be preserved until 2026.

The panel also called for "recalibrating" costs each year to ensure the industry remains up to date with realities and implementing strategic programs for enhanced recovery and high-risk wells to promote increased production.

Notley said the government will study ways to expand the province's petrochemical industry as well as accelerating development and commercialization of new bitumen upgrading technology to capture the value-added end of oil sands production.

Time needed

But she the government will need time to decide what incentives might be required to spur the construction of refineries and upgraders.

Notley said the overall framework "recognizes the reality of our economy today."

"Now is the time to work together as partners, to still bring about change, to bring about innovation," she said. "But it is not the time to reach out and make a big money grab, because that is not going to help Albertans.

"I feel quite confident that this is the right direction to take," said Notley.

"The fact of the matter is the environment has changed profoundly even in the last 12 months and so that is what is driving our decision making at this point.

"We have tremendous uncertainty in the industry. We have an unprecedented low level of oil prices with some concerns about how quickly they will recover, which is different than anything we have faced, frankly, for the last 25 years."

In serving up a large dose of reality, Notley said Alberta's biggest challenge is not Saudi Arabia's "desire to flood the market with cheap oil."

"Our biggest challenge is that our largest customer (the United States) is becoming our largest competitor," referring to the rapid progression of the U.S. towards oil self-sufficiency and a return to exporting.

Formula subtracts costs

In the shale oil and gas sector, Alberta will charge royalties based on a formula that subtracts a number of costs, including those incurred from horizontal drilling.

The updated "revenue minus cost" approach is designed to give the government revenues based on the industry's average returns rather than royalties tied to the price of oil and gas.

To that end, the government will require increased disclosure including an annual accounting of capital costs, as well as revenue, expenses and royalty information.

Dave Mowat, who chaired the panel, said the new regime will give investors and companies the predictability they have urged, while shifting the focus to costs from commodity prices.

Tim McMillan, president of the Canadian Association of Petroleum Producers, said the proposals are "fair and credible" and recognize the increasingly competitive landscape for oil and gas.

He said the framework is "principle-based and provides a foundation to build the predictability the industry needs for future investment."

MEG Energy Chief Executive Officer Bill McCaffrey welcomed the government's conclusion that existing oil sands royalties "provide the appropriate share of value to Albertans."

"Industry and government can now focus on initiatives to lower costs, improve efficiencies and enhance environmental performance ... all with the goal of getting Albertans working again." ●

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GAS TEAM

the decision-making process.

State entities involved include the Department of Law, the Department of Revenue, the Department of Natural Resources and the Alaska Gasline Development Corp., with Gov. Bill Walker at the top of the gas team pyramid.

The state's day-to-day policy makers on AKLNG include Attorney General Craig Richards, Deputy DNR Commissioner Marty Rutherford, Deputy Revenue Commissioner Dona Keppers and AGDC interim President Fritz Krusen.

Rutherford told members of the House Resources Committee that there is a matrix structure where each work stream has an integrated team. Policy that has been set underpins the discussions, but when needed there is elevation to the policymakers and if the issue is significant enough it goes to the governor.

DNR statutory authority

The DNR commissioner has statutory authority to negotiate commercial agreements, market the state's royalty-in-kind and tax-as-gas volumes, and modify certain lease terms.

Key project areas for which DNR is responsible include negotiating commercial agreements to protect the state's interests; managing inherent risks in the state's entry into AKLNG in a commercial role; and, in the event DNR elects RIK, ensuring the certainty of upstream gas supply to meet natural gas and LNG marketing commitments; marketing in-state natural gas and LNG for maximum resource value to the state; and functioning as a shipper on the AKLNG Project system.

DNR's AKLNG project team is primarily focused on: the state's sovereign responsibilities and duties; making the final RIK vs. royalty-in-value decision; and promoting North Slope hydrocarbon exploration and future development.

On the decision-making process for actions under DNR authority state gas team members develop and vet state positions in consultation with staff from other appropriate agencies, brief the commissioner's office and final decisions are made by DNR Commissioner Mark Myers.

DOR statutory authority

The DOR commissioner has statutory authority to enter into agreements with the DNR commissioner for custody and disposition of TAG gas — assuming the state elects RIK and the producers elect to pay tax as gas.

DOR's statutory responsibilities include directing disposition of revenues from TAG; reporting on financing options for state acquisition of ownership interest and participation in a North Slope natural gas project; and in consultation with DNR participating in negotiating contracts and development of terms for inclusion in agreements including gas supply and balancing, marketing, disposition of natural gas and offtake.

The primary focus of DOR's AKLNG project team is on identifying and recommending financing options and opportunities for co-investment by Alaska municipalities, regional corporations and residents; through the commissioner's membership on the Municipal Advisory Gas Project Review Board, to develop and implement alternative property tax mechanisms; negotiate alternative property tax mechanisms with project sponsors; gas balancing for RIK/TAG volumes; and participation in development of governance agreements.

Final decisions are made by

State entities involved include the Department of Law, the Department of Revenue, the Department of Natural Resources and the Alaska Gasline Development Corp., with Gov. Bill Walker at the top of the gas team pyramid.

Commissioner Randall Hoffbeck after development and vetting by state gas team members and briefing of the commissioner's office.

AGDC statutory authority

AGDC has statutory authority to hold the state's equity ownership in an Alaska liquefied natural gas project.

Its focus is on holding and managing the state's equity interest in AKLNG infrastructure, including related commercial contracts; functioning as the transporter of the state's gas through the AKLNG Project system; and developing systems to make gas from the project available for in-state customers at commercially reasonable rates.

The primary focus of AGDC's AKLNG Project team is on advancing the project's technical design basis; voting the state's equity share in AKLNG Project decisions; preparing to advance AKLNG to front end engineering and design (the project is in pre-FEED); and acquiring and making natural available to in-state markets.

Decision making for AGDC includes technical and commercial subject matter experts participating in project working groups who make recommendations to management on project-level decisions; the AGDC president reviews and approves AGDC's vote on the project management committee; and the AGDC board approves all major financial and contractual commitments.

AGDC has a board, which has established bylaws; the board approves the annual budget and project work subject to legislative appropriations; and the board approves all project related contracts and any expenditure of more than $5 million.

DOL statutory authority

The Department of Law provides legal services to AGDC, DNR and DOR, both from in-house counsel and from contracted outside counsel. Attorney General Craig Richards told House Resources that the department uses two large international law firms, Greenberg Traurig and Milbank.

He said outside counsel have been actively engaged at the negotiating table for the state every day, but said a big part of the charges by law firms is for lawyers not at the table but who are drafting documents. Richards said those attorneys haven't been that active because on most work streams the state isn't at the document-drafting level.

Asked for benchmarks on specific agreements, Richards said a lot of the information about the negotiations is confidential, including the schedule of meetings.

Rutherford said that, in general, avoiding confidentiality issues, of eight major agreements, seven are in constant negotiation. There are weekly meetings on some, she said, and daily meetings on others. There are, she said, a couple of foundational agreements that have not progressed to the point where draft agreements can be developed.

Work streams

Rutherford said the state gas team manages some 20 work streams, subdivided into commercial and technical, with the commercial work streams required to develop commercial agreements an on the technical side people who understand how the upstream functions, assuring the state has access to the molecules of gas it needs.

The state is not a working interest owner, she said, but has to function the same way. The state's partners refer to this as a synthetic WIO, Rutherford said. The state has to understand how over lift and under lift works and how the state's gas supply is protected.

Each state team is led by an agency, DNR or DOR, or by AGDC, she said, but each team includes representatives from other agencies as appropriate, with the teams working both internally and externally. It takes about 7 hours of preparation for an hour of negotiation, Rutherford said, making sure issues are understood and distinguished.

The full state gas team meets weekly to review progress, she said, and AGDC, DNR and DOR meet bi-weekly to coordinate on specific issues.

RACI

AGDC's Fritz Krusen described the RACI structure that is being used, distinguishing who is responsible, who is accountable, who is consulted and who is informed.

Major gas commercialization functions are broken out, with Rutherford responsible for resource ownership, and the DNR commissioner accountable; Keppers responsible for sovereign taxation and the DOR commissioner accountable; Frank Richards of AGDC responsible for project ownership and governance and the AGDC president accountable; Keppers responsible for project financing and the DOR commissioner accountable; Rutherford responsible for LNG marketing and the DNR commissioner accountable; AGDC's Brad Chastain responsible for in-state gas delivery and the AGDC president accountable; and Rutherford responsible for the FEED decision support package and the governor accountable. In each case other departments and the governor are consulted and the Legislature and other agencies were appropriate are informed.

—KRISTEN NELSON

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Petroleum news

Oil Patch Bits

Polyguard acquires www.polyguard.com domain

Polyguard Products Inc. announced that it has acquired the domain www.polyguard.com to merge with the domain www.polyguardproducts.com which it has owned since 1998.

"We have worked to acquire that domain name from another company which operates in a different industry altogether for over 10 years now and we were finally able to come to an agreement on the transfer of ownership," Polyguard President Shawn Eastham said. "This will enable us to use that name in our marketing materials and will allow our customers another, easier way to log onto our website."

The change also affects all Polyguard emails, which will now end in the suffix @polyguard.com.

Polyguardproducts.com will continue to bring visitors to the official Polyguard website and all email addresses going to @polyguardproducts.com email suffixes will continue to direct users to the proper Polyguard employee or department.

The addition of the Polyguard.com domain comes six months after Polyguard updated its website to a more modern layout and platform, which also increased usability of the site resulting in additional traffic.

Two lucky winners to wave the flag at Iron Dog race

Crowley fuels adventure, and as the official fuel distributor of the 2016 Iron Dog race, the company is giving residents in the Matanuska and Susitna valleys the opportunity to win a chance to wave the starting flag for the race and residents in Fairbanks the opportunity to win a chance to wave the finish flag. Each of the sweepstakes winners will also receive a $100 Shell gas card.

Billed as the "World's Longest Toughest Snowmobile Race," the Iron Dog starts Feb. 20 and runs more than 2,000 miles through some of Alaska's most rugged terrain before ending on Feb. 28.

COURTESY CROWLEY

To be a part of this 33-year tradition and experience the adrenaline rush of starting or ending the race with a flag wave, residents should enter the sweepstakes online at crowley.com/irondog or in person by visiting Crowley's valley location at 485 Outer Springer Loop; 6090 West Park Highway, or Fairbanks location at 170 E. Van Horn Rd. While no purchase is required, there is a limit of one entry per household. All entries must be received by Feb. 17, and winners will be notified on Feb. 18.

"We are pleased to be such an integral part of this spectacular race," said Bob Cox, Crowley vice president. "Giving residents the opportunity to win a chance to start or end the race is a great way to reward and recognize our neighbors in the Valley and Fairbanks. We are all looking forward to watching and celebrating the athleticism, tradition and endurance that the race represents."

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

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

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STOLTZE Q&A

fueling this discussion about amorphous type markets, like Asian markets. Well, Asia is pretty big. The governor did receive a good reception in Japan, but I don't see anybody peeling out their checkbooks. Frankly, every time I've confronted Japanese businessmen, they are very shrewd businessmen. They are always polite. I wouldn't expect them to be anything other than gracious or polite, but until they whip out their guarantees or their checkbooks, all it is, is a social visit.

Another thing is I guess there is too much stuff not being said about where the governor is going. I hear about his intent on collateralizing the Permanent Fund. Frankly, I'm not sure if the governor and his administration are aware of this, you can only spend the Permanent Fund once. You can't spend it on funding government and funding his gas line.

It kind of reminds me of Democratic amendments where they use the same budget decrement to cut the budget. You can only use it once. There is a little bit of that in there. I think there is not as much transparency, or maybe opacity.

I think we have a more opaque process than what we've had in the past. I'm troubled by the structure the governor has put together with his people and some of the changes he's made in state government to facilitate less public process with outside counsel he used to have business with helping restructure the AGDC to get more favorable decisions and maybe a clear glide path with no objective criticism.

I'm concerned about such a big project that is a gamble with Alaska's future at a time when folks in the oil and gas business aren't putting their own money in and the high level of failures from folks in a market with more favorable conditions than this. Would I like to have a gas line and be exporting? Not if it cost us money to do it. I don't want to build it for the sake of building it. The economics have to be there. The market has to be there. You can't wish and dream it.

Petroleum News: There are some who believe this is as far along as we've ever come and there are some who remain dubious as ever that we'll ever get a gas line built. Which camp do you fall in?

Stoltze: I'm a cynic who wishes I wasn't cynical on it. I wish I could be more hopeful. I've heard — and I don't have any documentation for this — that key Murkowski officials said, "Thank God we didn't build a gas line to the Midwest in a glutted market right now. We'd be losing our tail on that." This is one of those things where if we pull the trigger, we are not going to hear the shot for a long time. We only have one firewall left for Alaska and that's the Permanent Fund. We need to make sure we have it for sustainable use of essential government and our constitutional mandated services. Again we can't spend it twice. If we go to unsustainable funding levels, which the governor doesn't want to do reductions, then it won't be too long until we are at that unsustainable level. What's our next firewall for protection after the Permanent Fund? I don't know what it is. I don't think it exists. I have some folks in the valley — fortunately they are in the minority — who say we are going to make it with green energy and say we are going to replace oil with alternative energy. Frankly, I think they are jumping ahead of the curve voters legalized in 2014.

Petroleum News: Speaking of voters, the governor has said he would like to put a constitutional change forward to the voters enabling the state to lock in fiscal terms he deems necessary to advance a gas line project. What are your thoughts on a constitutional change?

Stoltze: Well, right now, the first pushback I've heard has been from some of the mayors on revenue — that this isn't a fair deal for local government. And those are people who are supporters of the governor. This is on the revenue and the constitutional affects the revenue and they feel they won't have a sustainable share. That's the feedback I've gotten. There are a lot of questions that need to be answered. We never got a vote on that issue under Murkowski. It came close to germinating but we'll never know how it would have gone.

For a project like this, I don't blame them for wanting certainty, especially when they (industry) have the biggest target on their backs when it comes to taxes. Income tax doesn't even pay for the inflation and the formula growth. You would have to have one of Walker's income taxes just about every year to keep up with what he wants to keep doing with state government. Who's got the bull's-eye on them?

We'll have to weigh everything. Do we want to put our one last nest egg at risk? I've got to tell you I don't know as much as I'd like to know — enough to be very cautious. And I don't think the governor's people have an expertise on this. Let me put it this way, I don't think they have market supported and economically supported ideas and visions for investments. It's more about "we know how to do it. We know how to get it done. We are going to do this right." There is so much vagueness right now.

Petroleum News: So what do you want to hear from the governor on the gas line moving forward?

Stoltze: I would like to hear more candor about what their plans are. I would like the governor to get rid of his attorney-client privilege. We have the governor setting up a circumstance with the people's lawyer who is really the governor's lawyer where they have probably the political equivalent of taking the fifth on stuff the people should be aware of. The governor should waive his attorney-client privilege with his attorney general which is allegedly the people's attorney general. I think that would be helpful. Get rid of the secrecy and this cloak-and-dagger stuff. If everything is good and honest, then let people know about it.

Petroleum News: Along those same lines, there are three other partners. What would you like to hear from them in the future?

Stoltze: You know, I don't know. I guess I'll be cynical. Some are telling me the industry is willing to spend money to show an interest in developing gas because it's cheaper than developing a reserves tax. That's the real cynical side of it. But looking at some of the companies, I think they do have a sincere desire to develop gas and export it. It's tough to do it in the environment we are in. I think they may have some of the same skepticism that many Alaskans have about this being a state dominated, Jim Whitaker/Bill Walker oil company with 51 percent. It probably frightens anybody in the private sector who understands economics and markets. I have a populist streak in me but when you're investing other people's money and your own, you would probably take a more clinical, less altruistic approach.

Petroleum News: Last year at this same time, we were talking about the Arctic and opportunities becoming fewer and fewer. Be it Shell pulling up stakes or efforts to make the 1002 Area further off limits. What do you make of this?

Stoltze: I think it's a combination. We had a resolution expressing our concern about the federal decision. The governor really put his Democrats to work to stop that from coming up. It was really unfortunate. The governor didn't acknowledge receipt of the resolution, stayed hands off. You'd think it was something he would support.

My Democratic friends said it was procedural, then they stood up and said this isn't appropriately before us. They said it was unconstitutional. We revealed it was appropriately brought before us. Then people like Chris Tuck and Sam Kito and on down proceeded to say why it wasn't. It was interesting to watch it play out. It was very representative of the concern in the Northern communities and the rural communities. It was sensitively written. I didn't run it by Shell. It was a surprise to them that I introduced it.

It passed, but with no notice. The governor virtually ignored it. I went through the whole special session without talking to the administration. They chose who they wanted to talk to. I was totally blown off on an issue to speak up for an important Alaskan concern. It was unfortunate that they got partisan.

Petroleum News: So, even as you're not the chair or vice chair, what would you like to see accomplished on Resources this year?

Stoltze: One, I think we can help mold the bill that helps us deal with the tax credit issue because that's a big part of our budget issue and we want to make sure we do it right without inhibiting potential development. I think we had some real successes in Southcentral Alaska and had potential successes in Nenana basin. That group Great Bear, they were totally funded by tax credits. That was the one Senate Democrats and House Democrats were huge supporters. So it's been selective among some of my colleagues on the other side as to how they see it; they supported the independents because they disliked the majors. I think we should look at the tax credits as to whether it's just good policy or not. Not the political side of it. ●

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GRID UNIFICATION

and which would implement grid upgrades. The other is the formation of a unified system operator, which would set policies for grid operation and manage the unified scheduling of power supplies across the grid.

As part of its findings, the commission required the utilities to file reports in September and December on voluntary efforts towards forming a single transmission company for the grid, and to report by the end of January on progress towards forming a unified system operator. It is the unified system operator report that the utilities have now filed.

A single grid

The issue at the core of the grid unification question is the fact that the grid, which stretches from the southern Kenai Peninsula all the way north to the city of Fairbanks, acts technically as a unified whole, with a requirement for a precisely synchronized alternating current frequency along its length, and with events at one point on the grid impacting the grid in its entirety. Moreover, proponents of grid unification argue that, through some form of centralized dispatch of power across the grid from the various power generation facilities on the grid, it will be possible to make best use of the cheapest sources of Railbelt power and hence minimize consumers' electricity bills.

The formation of a unified operator can also lead to transparent and equitable transmission rate and grid connection arrangements that can make it simpler for independent power producers to connect to the grid, proponents say.

In their end-January report, the utilities say that at this point they are in the process of conducting computer modeling to identify the overall savings that may be achieved through unified system operator formation — the results of this modeling are anticipated in the second quarter of 2016. Meanwhile, the utilities are voluntarily holding bi-weekly meetings to coordinate their generation and transmission outages, taking into account fuel supply considerations, the utilities told the commission.

Developing a plan

The utilities also reported progress in engaging all of the Railbelt utilities in the unified system operator initiative, with Homer Electric Association and Municipal Light & Power now joining the discussions. The Alaska Railbelt Cooperative Transmission and Electric Company, or ARCTEC, the entity that formally filed the end-January report with the commission, was formed to facilitate unified system operator formation and has as its members Chugach Electric Association, Matanuska Electric Association, Seward Electric System and Golden Valley Electric Association.

During the coming months the utilities will develop a project plan for implementation of a unified system operator and define the requirements for a transmission tariff and Regulatory Commission of Alaska filing, the report to the commission says.

A unified system operator is typically implemented as a nonprofit entity that is governed by a board of directors and that recovers its costs from users of the transmission system.

The new report to the commission also says that in the coming months the utilities will address two key issues that need to be resolved: the manner in which the costs and benefits of unified grid operation will be settled, and the need for consensus on how the unified system operator will be governed.

Two key issues

The new report to the commission also says that in the coming months the utilities will address two key issues that need to be resolved: the manner in which the costs and benefits of unified grid operation will be settled, and the need for consensus on how the unified system operator will be governed.

The settlement question arises because, with the efficient dispatch of power from anywhere along the grid and with the possibility of a unified tariff for grid usage, some individual utilities could see their costs fall while others see their costs rise: an equitable and acceptable solution will require a mechanism whereby the costs and benefits are distributed to the benefit of all utilities and their ratepayers. The utilities' report says that there are several models for possible settlement arrangements, including the splitting of cost savings among the utilities, the sale of power at the current marginal price of the power and the payment of premium rates for the use of generators that are operating beyond their regular load requirements.

The report comments that the utilities' project that is investigating the formation of a Railbelt transmission company also has a team investigating the settlement issue.

The governance issue revolves around an on-going and lively debate over the extent to which the board of directors of the system operator should be independent from the stakeholders in the grid, such as the electric utilities. Those who argue for complete independence say that only through independent governance can a unified operator assure that the transmission grid will act as a level playing field for all grid users. Others, however, say that completely independent governance is impractical in Alaska and that some level of local utility expertise is needed in making governance decisions.

Loose power pooling

In parallel with the report to the commission on progress towards the formation of a unified system operator, utilities Chugach Electric Association, Matanuska Electric Association and Homer Electric Association reported to the commission on their efforts at using "loose pool" arrangements for making optimum use of power generation facilities. In a loose pool different utilities make use of each others' power generation capabilities without operating under a centralized grid-wide management structure.

Chugach Electric and ML&P told the commission that they have been discussing the development of a power pooling and joint dispatch arrangement called "the Anchorage Pool." This power pool, through factors such as reductions in the overall volume of natural gas needed for power generation and maximizing the use of new generation facilities, could deliver cost savings in excess of $10 million per year, the utilities say. However, the utilities commented that they view the Anchorage Pool as a step that will com-

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Independent oversight for the Railbelt grid

The apparently esoteric distinction between the terms "independent system operator" and "unified system operator" clearly means a great deal when it comes to decisions over how the Alaska Railbelt transmission grid will be managed in the future. The Railbelt utilities are engaged in an initiative aimed at establishing what they refer to as a unified system operator to oversee the way in which the grid operates as a unified whole. But some people, concerned that the operator's board should be independent of any vested interest in the grid, prefer that the term "independent" be encapsulated in the organization's identity.

This issue came to the fore during testimony to the Alaska House Energy Committee on Jan. 28, during a hearing over House Bill 187, a bill designed to establish a new state agency as the overarching grid operator. Given that the utilities are already moving in the direction of establishing an operator, the House is gathering testimony on the issue but is not moving the bill forward.

The need for independence

Chris Rose, executive director of the Renewable Energy Alaska Project, said his organization wants a fully independent grid operator that can establish a universal transmission tariff and ensure non-discriminatory access to the grid. REAP's members include potential independent power producers who want the ability to connect to the grid without being disadvantaged by factors such as unfavorable transmission fees.

"We want a system operator that is impartial and independent," Rose said. "That governance structure issue is really important to REAP and all of our different members."

Rose questioned whether, in light of the need for an independent governing board for the system operator, the electric utilities should have places on the board. If the utilities are represented on the board, the board needs to be large enough to dilute their power, he said. And, if the utilities must be on the board at the outset, there should be a mechanism whereby their participation is phased out over, say, five years.

The need for expertise

Bradley Evans, CEO of Chugach Electric Association, said that, while his utility would seek to populate the board with rigorously vetted independent members, the board also needs to be composed of current experts in the Railbelt electrical industry, with stakeholders who do have agendas. He said that, while reducing utility involvement to a minority position would be a desirable long-term goal, the board needs the utilities' expertise. Evans also questioned the feasibility of finding truly independent board members in Alaska, given the multiple roles that potential board members tend to play in the state.

"That's going to be a great public debate that's going to ensue," Evans said of the independent board question.

—ALAN BAILEY

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BOOK REVIEW

of college to become a roughneck on a North Slope drilling rig, which is under contract to Burt Marts' oil company.

The book opens with Chris and fellow roughneck Rusty Ferraree taking their lunch on the quiet end of a drilling pad, enjoying a sunny summer day.

Chris, "blond, good looking and muscular," is called "pretty boy" by other roughnecks.

Rusty, a more seasoned rig hand, has thick auburn hair, outweighs Chris by 50 pounds and at 6-feet 4-inches tall, is several inches taller.

He starts out talking rough, making fun of the stories circulating around camp — stories Chris gives some credence to — that attribute the frequent problems they are having with the well to the fact they are drilling into an Alaska Native burial site (extremely unlikely in real life).

In the end, they both quietly agree there is something mystical, even magical, about the Arctic.

The conversation between the two men reveals hidden depths to their personalities, their dreams for the future and the fact Rusty has a degree in geology, which means he could be "riding a desk in Anchorage" and making a lot more money, but he doesn't want the responsibility, he tells Chris.

We also learn of a most unusual and hilarious challenge Rusty has with women that Chris teases him about in future chapters.

Chris, we discover, "wants to make some kind of impact" on the world, separate from his family.

Like many Alaskans, Chris and Rusty can't be stereotyped. Once you think you have them pegged, you find out your roughneck is a romantic or your playboy, a mystic.

In the doghouse for three years

His understanding of life on a drilling rig is another instance in which Bieber's experience is valuable background for this book.

Early in his oilfield career Bieber "sat in the doghouse on a drilling rig for three years … and you hear everything," he says in a recent interview with Petroleum News.

According to Schlumberger's oilfield glossary, a doghouse is the "steel-sided room adjacent to the rig floor, usually having an access door close to the driller's controls. This general-purpose shelter is a combination tool shed, office, communications center, coffee room, lunchroom and general meeting place for the driller and his crew."

Side note: Oilfield terms are used liberally in this book, with definitions provided at the bottom of the page on which they appear.

CRAIG BIEBER

Bieber had 'lots of fun' with Roly

In addition to Marts, Saylor and Ferraree, the book's cast of characters includes Raleigh Boyd, whose friends call him Roly, as in roly-poly because he weighs 300-plus pounds. Bieber says he had a lot of fun with this character, the only one he created from scratch, having never met someone like him.

Roly is a "fixer," a solver of problems for (almost) anyone who can meet his rates.

His clothes are worn and dirty and he lives in a rundown apartment, but he gives $100 tips for everything, including one-block cab rides.

His hangout is a downtown Anchorage bar where he "holds court" (does business) seven days a week.

Roly is known as the "man that can" on the streets of Anchorage and his customers include high level officials, oil executives and street thugs.

Another interesting character who plays a significant role in the story is Jacob Amarok, president of an Anchorage-based company that is owned by the Shublik Native Village Corp. on the northwest side of the North Slope. Shublik is reminiscent of Nuiqsut in the real world.

Part Yup'ik Eskimo, but mostly white, Jacob is the son of Miki Amorak, the progressive head of the Shublik Village Tribal Council who wants oil development on 200,000 acres of the Native-owned land that is sandwiched between producing oil fields.

Jacob, who holds a master's degree from Stanford University, seems more at home in the white man's world of Anchorage and Seattle, but has a difficult time resigning himself to oil development on his Native ancestors' lands.

He has an experience in Seattle that leads him to Roly, lending more suspense to the novel.

The real villain an anti-American billionaire

Even though Roly is not above commissioning murder, the real villain of this story is the man who controls the highly secretive installation on (and under) Native land that is leased by Marts.

The back cover of "Moon over the Midnight Sun" describes what this facility holds as an "unknown and powerful force."

A former U.S. Navy installation, the facility is "controlled by a zealous, anti-American billionaire … it falls to Chris and his company to stop him and his destructive plans," it further says.

Remote compounds are nothing new in Alaska, nor are military installations of all sizes, so that's believable as is, surprisingly, the technology Bieber describes.

He first learned about real-life technology similar to his creation from his son while they were playing golf.

"Out of the blue he asked me, 'Hey, Dad, have you heard about this HAARP thing?' He explained a little bit about it … then we went back to the house and got on the Internet and researched HAARP and it was a real thing. And I thought, man, I could build a story about something like this," Bieber says.

And so he did.

Much of what is written about HAARP is penned by conspiracy theorists, but there is enough factual information to spook the average person.

Basically, it's an entirely new class of weapons.

Important to this book, a few years ago the U.S. military joined with the University of Alaska, Fairbanks, to build a prototype for a ground based "Star Wars" weapon system in a remote area of Alaska. As I understand it, the facility is no longer in operation.

HAARP is supposedly designed to zap the upper atmosphere with a focused and steerable electromagnetic beam. It is basically an advanced model of an "ionospheric heater."

I'll leave it at that. Read Bieber's book and then compare it to what you can find on HAARP from reliable sources.

In closing, I'd like to thank Fred Longcoor, who Bieber quoted at the end of every chapter, the quotes taken from the unpublished, "Fred Longcoor's Book on Life.

—KAY CASHMAN

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Hints of what's to come

In his latest novel, "Moon over the Midnight Sun," author Craig Bieber uses third person omniscient narrator, moving quickly from character-to-character as he establishes each firmly in readers' minds.

As narrator, he knows and sees everything about each character, allowing readers to get into the characters' minds and form a stronger bond with them.

Bieber occasionally provides a hint of what's to come, drawing the reader further into the story in anticipation.

The first such hint is on page one: he writes, "Today is one of those days for Chris Saylor and Rusty Ferraree. It will become a day that will linger in their memories for years. A simple, uneventful day that will influence the men they will become."

—KAY CASHMAN

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GRID UNIFICATION

plement rather than replace efforts towards the economic dispatch of power across the entire grid.

Fuel savings

Homer Electric told the commission that it has been achieving significant savings in its cost of fuel for power generation as a result of loose pool arrangements, especially with Municipal Light & Power and Golden Valley Electric Association. HEA said that it anticipates additional fuel cost savings from bilateral power pooling arrangements across the whole Railbelt in 2016, when ML&P brings a new high-efficiency gas-fired power plant online in Anchorage and Golden Valley activates its Healy Unit 2 coal-fired generation facility.

Matanuska Electric Association said that it has been conducting power sales and purchase agreements with the other Railbelt utilities, with cost savings for all involved. MEA says that it provides price quotes for its power to the other utilities, together with information about the availability of that power — the utilities can then choose whether to use any of the power. MEA, for its part, has on occasion purchased power from Chugach Electric and ML&P. These transactions incur at no additional cost to ratepayers while making a major step towards the benefits of economic dispatch on the grid, MEA told the commission. ●

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PUMPING SYSTEM

flow rates — the pumps drive oil through the line. While the old pumps were grossly oversized for the declining oil throughput, "the new pumps and the new drives that can control those really give us great control and they give us much higher efficiency," Annett said.

Remote monitoring

The electrification project has also involved the installation of a state-of-the-art system that enables the remote monitoring from Alyeska's Anchorage control center of equipment along the pipeline, thus enabling operators in Anchorage to anticipate equipment problems and initiate maintenance and repairs before a significant problem arises.

"You can, for example, monitor any anomaly in a pump's performance and send someone out there to check it before it becomes a problem," Annett said. "You can monitor how equipment is behaving over time, to predict any potential failures and use predictive maintenance."

In conjunction with shutting down some of the pipeline's original pump stations in response to declining oil flow, work on the electrification of the four pump stations that remain in operation began in 2004. Alyeska completed the electrification of three of those pump stations, pump stations three, four and nine, in 2009, but deferred the conversion of pump station 1, given the higher complexity of that facility.

Testing first

However, work on pump station 1 has since moved ahead, leading to the October startup of the electrical pumping system. In fact, the electric pumps had started up in test mode, in parallel with the operation of the legacy turbine pumps, prior to the live use of the new pumps, Annett explained. While under test, the new pumps continuously recycled some oil to simulate full-scale operation.

Then, on Oct. 14, Alyeska opened the two discharge valves that allowed oil from the electric pumps to enter the pipeline, thus putting the new pumps into full operation and allowing the old pumps to be turned off. For the time being, the old pumps can be turned back on, should a problem arise with the new pumps.

Booster pumps

Because of the complexity of the operations at pump station 1, there are smaller booster pumps at the pump station that are also being replaced by electrically powered pumps. Essentially, with oil arriving at the pump station at different pressures from different oil fields, the arriving oil often has to be channeled into a holding tank for pressure balancing. The booster pumps then deliver the oil from the tank at the appropriate pressure to the mainline pumps, Annett explained.

Alyeska is in the process of going through the same commissioning process for the booster pumps as was used for the mainline pumps, Annett said. In addition, some of the remote diagnostics upgrades for some non-critical equipment at the pump station remains to be completed, he said.

Power for the electrical pumps and other electrical equipment, and for accommodation facilities, at pump station 1 comes from a new 13.8 megawatt gas turbine electricity generator that went into operation at the time that testing of the electrical pumps started. Alyeska has yet to complete the work of installing an additional 5-megawatt generator, to act as a backup power source, should the larger generator fail. However, the pump station can also, as a backup arrangement, use commercial power from the North Slope power grid, Annett said. In fact, depending on the level of electrical power demand in the pump station, Alyeska could sell any excess power from the 13.8 megawatt generator back into the grid, he said.

A gas compression module at pump station 1 routes natural gas from the North Slope oil fields to the power generators at the pump station, and to the other two operational pump stations north of the Brooks Range, all of which have gas turbine generators.

Wrapping up the work

Annett said that Alyeska anticipates the remaining upgrade work at pump station 1, including the switch over to the new booster pumps, the implementation of the backup generator and the completion of the remote diagnostic systems, to be wrapped up in the next few months. And the air permits for pump station 1 require dual operation of the new and old pumping systems to end within 270 days of the new system firing up.

"So there's a date looming large in June when we will be decoupling the legacy system," Annett said.

Annett commented that the most complicated aspect of the pump station 1 conversion has been executing the transition from the old system to the new system, while at the same time keeping the pipeline fully operational. During the peak of the work involved, some 170 contractors were on site, in the confined space of the pump station, setting up the new system, he said.

However, Alyeska was able to use lessons learned from the conversion of the other pump stations when carrying out the conversion at pump station 1, Annett said. ●

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FINANCE & ECONOMY

BP reports $5.2 billion loss, more job cuts

BP has announced that it incurred a $5.2-billion loss in 2015 and that it is cutting 7,000 jobs worldwide in response to the plunge in the price of oil. The job loss announcement, which came in conjunction the company's report on its 2015 results, included the job reduction of 4,000 that the company announced in January. The company says that while those original 4,000 job losses are in the upstream sector, the additional 3,000 job losses are in the downstream sector — apparently these additional losses will not apply to Alaska.

In January BP said that the job losses in Alaska would result in a 13 percent reduction in employees and agency contractors.

In announcing its results, BP said that it had actually made an operating profit of $5.9 billion in 2015. However, an adjustment for non-operating items led to the overall loss figure. Dominating the non-operating items for 2015 was $11.9 billion in costs relating to the Deepwater Horizon disaster in the Gulf of Mexico.

—ALAN BAILEY