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A weekly oil & gas newspaper based in Anchorage, Alaska

GOVERNMENT

page Murkowski questions fall in Alaska **5** hire, asks for company suggestions

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Canadian Arctic needs jolt

It's time for the Canadian government to develop a new energy and trade policy tied to the Arctic based on public infrastructure planning and federal funding, instead of falling even further behind the pace of development in other northern jurisdictions, says an international affairs think tank.

John Higginbotham, a senior fellow at Carleton University and the Centre for International Governance Innovation, said there is "just no sign of the vision and long-term political energy required to bring (Canada) up in any way to close the gap that's emerging with Russia and Norway as the Arctic Ocean opens."

The Centre held a conference in Ottawa in February that involved the premiers of the Yukon, Northwest Territories and Nunavut and top officials from Alaska and Greenland to draw attention to how far North America is lagging behind Europe and Asia in developing Arctic resources.

He said that in Norway, "the North is the first thing they think about in the morning and the last thing they think of at night. It's probably the same for (Russian President Vladimir) Putin."

see **CANADIAN ARCTIC** page 12

Electric vehicles in Alaska current state, potential future

With much current interest in the potential for the electric motor to take over from the internal combustion engine as the dominant power source in road vehicles, how might this transformation unfold in Alaska? On Feb. 12 during the Alaska Forum on the Environment a panel discussed the current status of electric vehicle use in the state, the advantages that the new technology can bring and the challenges that the technology faces in Alaska's unique circumstances.

Juneau, with its relatively small road system and access to hydroelectricity, has pioneered the introduction of electric cars to the state. Alec Mesdag from Juneau electric utility Alaska Electric Light and Power said that there are now more than 200 electric vehicles in the city. Panelists commented that there are thought to be some 40 Tesla electric cars in the Anchorage area.

Sean Skaling, manager of business and sustainable program development for Anchorage based Chugach Electric Association, commented that Chugach Electric is actively preparing for the possibility of the more widespread use of the new technology.

see **ELECTRIC VEHICLES** page 11

Judge rejects rule delay

Temporary injunction imposed on BLM rule suspending parts of venting, flaring regs

By ALAN BAILEY

Petroleum News

judge in the federal District Court of Northern California has granted a preliminary injunction, preventing the U.S. Bureau of Land Management from suspending the implementation of parts of federal regulations issued in 2016 by the Obama administration to limit the venting and flaring of methane from oil and gas operations on federal land.

On Feb. 22 Judge William Orrick issued an order saying that the suspension rule had been arbitrary and capricious. And so, because the appeal against the suspension is likely to succeed, an injunction banning the immediate suspension of the regulations is warranted, the judge wrote.

PIPELINES & DOWNSTREAM

And so, because the appeal against the suspension is likely to succeed, an injunction banning the immediate suspension of the regulations is warranted, the judge wrote.

The regulations under dispute were introduced in 2016 as part of President Obama's efforts to use government regulation as a means of enforcing the reduction of U.S. emissions of greenhouse gases, including methane. BLM's efforts to suspend the regulations reflect the Trump administration's strategy of rolling back regulations that the administration sees as posing unwarranted limitations on

see **BLM RULE DELAY** page 9

The costs of inaction

Pipeline backlogs estimated to cost Canadian economy C\$15.6 billion a year

By GARY PARK

For Petroleum News

Strained oil pipeline capacity in Canada is start-ing to bite where it hurts, with energy stocks sinking to their lowest level in two years along with a steep discount in Canadian heavy crude prices that would cost the country's economy C\$15.6 billion a year at current levels.

Scotiabank chief economist Jean-Francois Perrault said in a report that delays in approving new pipelines "have imposed clear, demonstrable and substantial economic costs on the Canadian economy."

The only hope for an easing of the pain is more rail capacity becoming available, lowering the cost to C\$10.7 billion or 0.5 percent of gross domestic

The discount on Western Canada Select crude is now hovering around US\$24 a barrel, compared with the spread of US\$13 for the two years prior to the spill, and Scotiabank predicts it will average US\$21.60 for all of 2018.

product for all of 2018, then C\$7 billion annually or 0.2 percent of GDP until Keystone XL and Enbridge's replacement of its Line 3 into the United States come on line.

But Perrault said that if either of those projects gets derailed there would be an impact on Canada's economic well-being, with consequences

AGDC provides permit timelines, answers other questions from Senate

The Alaska Gasline vided answers to questions from Sens. Cathy Giessel and Anna MacKinnon, both Anchorage Republicans, poised following a January update to the Senate

Development Corp. has pro- Among numerous questions was the expected timeline to acquire various major federal permits and approvals.

Finance and Resources committees. Giessel chairs Senate Resources; MacKinnon co-chairs Senate Finance.

Among numerous questions was the expected timeline to acquire various major federal permits and approvals.

AGDC said in its Feb. 22 response that it has submitted five applications for special permits to PHMSA, the federal Pipeline and Hazardous Materials Safety Administration, and expects to receive the permits in the first quarter of 2019.

It expects to receive an Army Corps of Engineers wetlands 404 permit for the Alaska Stand Alone Pipeline Project, ASAP, by this August, following a preliminary determination on wetlands

see AGDC REPORT page 8

DEC grants hearing

Questions raised over changes to Valdez Marine Terminal contingency plan

By ALAN BAILEY

Petroleum News

arry Hartig, commissioner of the Alaska Department of Environmental Conservation, has granted a request for an adjudicatory hearing, reviewing the approval of revisions to the oil discharge prevention and contingency plan for the Valdez Marine Terminal. The hearing request had gone before the Alaska Office of Administrative Hearings, which had subsequently found that the hearing request was justified.

The Valdez Marine Terminal is the facility at which crude oil carried through the trans-Alaska pipeline is loaded onto tankers for export from Alaska. The contingency plan at issue relates to operations at the port: The transits of tankers to The contingency plan revisions at issue involved the first changes made to the decision matrix since 1994.

and from the port are covered by a separate tanker contingency plan.

Prince William Sound Regional Citizens Advisory Council, Prince William Sound Aquaculture Corp., the City of Valdez and Valdez Fisheries Development Association have challenged the approval of the most recent version of terminal's contingency plan on the grounds that the revised plan unacceptably lowers the level of protection for the Valdez Duck Flats and the

see VMT PLAN page 12

EXPLORATION & PRODUCTION

January production up 3% month-over-month

Alaska North Slope crude averages 529,432 bpd, up from 514,636 bpd in December; Cook Inlet averages 15,987, down 1% from December

By KRISTEN NELSON

Petroleum News

laska North Slope crude oil production averaged A 529,432 barrels per day in January, up 2.9 percent, 14,796 bpd, from a December average of 514,636 bpd, while Cook Inlet crude production was down 0.8 percent, month-over-month, averaging 15,987 bpd in January, down 136 bpd, from a December average of 16,123 bpd.

ANS production was down 0.6 percent from January 2017, while Cook Inlet production was up 10.4 percent year-over-year.

Raw data for this report comes from the Alaska Oil and Gas Conservation Commission, which provides production information by well on a month-delay basis.

The largest month-over-month ANS increase, by percent and volume, was at the BP Exploration (Alaska)- operated Prudhoe Bay field, the North Slope's largest, which averaged 274,483 bpd in January, up 7 percent, 17,914 bpd, from a December average of 256,569, although down 4.1 percent from January 2017. These volumes represent Greater Prudhoe area production, including Lisburne, Point McIntyre and Niakuk, as well as Prudhoe satellites Aurora, Borealis, Midnight Sun, Orion and Polaris.

Production at the ConocoPhillips Alaska-operated Kuparuk River field, the Slope's second largest, averaged 121,257 bpd in January, up 2.9 percent, 3,449 bpd, from a December average of 117,808, and also up by 6.2 percent from January 2017. As with Prudhoe, these volumes represent the main Kuparuk field and also include satellites - Meltwater, Tarn, Tabasco and West Sak.

Production from ConocoPhillips' Colville River unit - which includes Alpine and satellites at Fiord, Nanuq and Qannik — averaged 67,089 bpd in January, down 2.4 percent, 1,642 bpd, from a December average of 68,731, but up 8.6 percent from January 2017.

The Hilcorp Alaska-operated Milne Point field averaged 20,673 bpd in January, up 4.4 percent, 876 bpd, from a December average of 19,797, and also up, 5.3 percent, from January 2017.

Eni's Nikaitchuq field averaged 13,984 bpd in January, down marginally, less than 1 percent, from a December average of 13,987 bpd, but down 7.8 percent from January 2017.

Oooguruk, operated by Caelus Alaska, averaged 11,468 bpd in January, up 1.4 percent, 155 bpd, from a December average of 11,313, but down 33.5 percent from January 2017.

The Hilcorp-operated Endicott field averaged 6,954 bpd in January, up 0.8 percent, 54 bpd, from a December

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4 Design change for Hilcorp pipeline plan







KE

Alaska - Mackenzie Rig Report

Rig Owner/Rig Type	Rig No.	Rig Location/Activity	Operator or Status
		a Rig Status	
Dovon Drilling	North	Slope - Onshore	
Doyon Drilling Dreco 1250 UE	14 (SCR/TD)	Stacked	
Dreco 1000 UE	16 (SCR/TD)	Standby	
Dreco D2000 Uebd	19 (SCR/TD)	Alpine CD5-25	ConocoPhillips
AC Mobile	25	Standby	
OIME 2000	141 (SCR/TD)	NPRA TINMIAQ 8	ConocoPhillips
TSM 7000	142 (SCR/TD) Arctic Fox #1	Kuparuk 1H-109 Stony Hill 1, exploratory	ConocoPhillips ConocoPhillips
Hilcorp Alaska LLC	Rig No.1	Milne Point	Hilcorp Alaska LLC
Kuukpik Drilling	5	Putu No. 2	ConocoPhillips
Nabors Alaska Drilling			
AC Coil Hybrid	CDR-2 (CTD)	Deadhorse	BP
AC Coil	CDR-3 (CTD)	Kuparuk	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)	Deadhorse	Available
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)	Deadhorse	Available
Oilwell 2000	33-E	Deadhorse	Available
Academy AC Electric CANRIG	99AC (AC-TD)	Deadhorse	Available
OIME 2000	245-E (SCR-ACTD) Kuparuk	Available
Academy AC electric CANRIG	105AC (AC-TD)		Available
Academy AC electric Heli-Rig	106AC (AC-TD)	Deadhorse	Available
Nordic Calista Services	(
Superior 700 UE	1 (SCR/CTD)	Prudhoe Bay	Available
Superior 700 UE	2 (SCR/CTD)	Prudhoe Bay	Available
Ideco 900	3 (SCR/TD)	Prudhoe Bay	Available
Rig Master 1500AC	4 (AC/TD)	Oliktok Point, well OP-12	ENI
Parker Drilling Arctic Operating	Inc.		
NOV ADS-10SD	272	Prudhoe Bay DS 18	BP
NOV ADS-10SD	273	Prudhoe Bay DSW-59	BP
		-	
55	North	Slope - Offshore	
BP Top Drive, supersized	Liberty rig	Inactive	BP
	Liberty rig	llacuve	،تى
Doyon Drilling Sky top Brewster NE-12	15 (SCR/TD)	Spy Island NN-01	ENI
Sky top bienster ne .2	13 (301012)	Spy bland the of	
Nabors Alaska Drilling OIME 1000	19AC (AC-TD)	Cold Stack	
	15/10 (10 12)		
	Cook Inl	et Basin – Onshore	
	-		
BlueCrest Alaska Operating LLC Land Rig	BlueCrest Rig #1	Anchor Point, E drilling production section of H14	BlueCrest Alaska Operating LLC
Glacier Oil & Gas	Rig 37	West McArthur River Unit Wo	orkover Glacier Oil & Gas
All American Oilfield LLC IDECO H-37	AAO 111	In All American Oilfield's yard	d in Kenai, Alaska Available
Aurora Well Services Franks 300 Srs. Explorer III	AWS 1	Stacked out west side of Cool	k Inlet Available
Saxon			
TSM-850	147	Stacked	Hilcorp Alaska LLC
TSM-850	169	Stacked	Hilcorp Alaska LLC

Cook Inlet Basin – Offshore

The Alaska - Mackenzie Rig Report as of Feb. 28, 2018. 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



Hilcorp Alaska LLC National 110 Spartan Drilling	C (TD) Rig 51 Rig 51	Platform C, Stacked Steelhead Platform, Stacked Monopod Platform, Drilling	Hilcorp Alaska LLC Hilcorp Alaska LLC Hilcorp Alaska LLC	Baker Hu United States Canada	Ighes North Feb. 23 978 306	America rotar Feb. 16 975 318	y rig counts* Year Ago 754 341
Baker Marine ILC-Skidoff, jack	k-up	Spartan 151, Stacked Seward		Gulf of Mexico	17	18	17
Furie Operating Alaska Randolf Yost jack-up		Nikiski, OSK dock	Furie	Highest/Lowest			
Glacier Oil & Gas National 1320	35	Osprey Platform, activated	Glacier Oil & Gas	US/Highest US/Lowest		4530 404 *Issued by B	December 1981 May 2016 aker Hughes since 1944
	Mack	enzie Rig Status		The		lackenzie R	0 1
	C	anadian Beaufort Sea			is spo	onsored by:	
SDC Drilling Inc. SSDC CANMAR Island Rig #2	SDC	Set down at Roland Bay	Available			٨	
	Ce	ntral Mackenzie Valley				A	
Akita TSM-7000	37	Racked in Norman Wells, NT	Available		A R	MSTRONG	

EXPLORATION & PRODUCTION

Increased gas storage pressure approved

The Alaska Oil and Gas Conservation Commission has approved an increase to the maximum pressure in a reservoir used for natural gas storage in Hilcorp Alaska's Kenai gas field on the Kenai Peninsula. The pressure increase from 300 to 400 pounds per square inch will enable Hilcorp to store more gas in the reservoir.

In 2006 Marathon Oil Co., the previous Kenai field operator, obtained approval to use the depleted reservoir in the Sterling formation pool 6 C1 and C2 sands for gas storage. Marathon and later Hilcorp have used the storage facility to manage their contracted gas supplies, storing excess gas when gas demand is low to later bolster gas supplies when gas demand rises.

Although Marathon originally requested an allowable maximum pressure of 500 pounds per square inch, a pressure that the company said was more than 2,000 pounds per square inch below the level at which fracturing of the reservoir might occur, the company eventually settled on a maximum pressure of 300 pounds per square inch. The company said that this pressure would be more than enough to accommodate proposed gas storage activities.

AOGCC, in a Feb. 22 approval notice, said that storage operations have evolved since Hilcorp became field operator. Hilcorp has been injecting more gas into the reservoir than did Marathon and has been regularly approaching the 300 pounds per square inch limit. Hilcorp asked to increase the pressure limit, so that storage operations can continue unhindered, the commission said. In approving the pressure limit increase, the commission said that the new pressure limit remains a long way below the fracture pressure for the reservoir, and that allowing for more flexible storage operations constitutes a sound engineering and geoscience decision.

-ALAN BAILEY



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PIPELINES & DOWNSTREAM

Design change for Hilcorp pipeline plan

Proposed oil line system would use short converted gas line on Kenai Peninsula to transfer oil from CIGGS to the Swanson River line

By ALAN BAILEY

Petroleum News

ook Inlet Pipe Line Co., a subsidiary • of Hilcorp Alaska, has modified the design of the pipeline system that it plans to use to ship crude oil from the west side of Cook Inlet to Nikiski on the Kenai Peninsula. The company has filed the amended design with the Regulatory Commission of Alaska in conjunction with the company's request for RCA approval of the planned pipeline system changes.

Use of a CIGGS line

CIPL wants to ship oil under Cook Inlet using one of the existing twin natural gas pipelines that form part of the Cool Inlet Gas Gathering System. Gas carrying capacity across the inlet would be maintained by laying a new subsea gas line between the Tyonek offshore gas production platform and Ladd Landing on the west side of the inlet. An onshore section of the existing gas line between the Tyonek platform and Nikiski would also be replaced.

The idea is to eliminate the use of the Drift River oil terminal on the west side of the inlet. There are safety concerns associated with the terminal because of the terminal's proximity to Redoubt Volcano.

The use of one of the CIGGS lines involves the construction of a new 3.3mile oil line on the west side of the inlet, to connect the existing Cook Inlet pipeline to CIGGS. At the Kenai Peninsula end of CIGGS, CIPL had planned to build a short, new oil line, called the CIPL E 10 line, to connect the converted CIGGS line to the oil line from the Middle Ground Shoal field. Connecting the CIPL E 10 line to a point near the northern end of the Middle Ground Shoal line would provide a route for flowing oil from CIGGS to the oil refinery at Nikiski.

A better arrangement

However, negotiations and technical work conducted with Kenai Pipeline Co., the operator of the Middle Ground Shoal line, has identified a more cost-effective pipeline arrangement on the Kenai Peninsula, CIPL told the commission.

The plan now is to connect the new CIPL E 10 oil line to an existing gas pipeline, called the LP CIGGS line, that used to deliver natural gas produced from the Middle Ground Shoal field to the Nikiski fertilizer plant that is now owned by Nutrien (formerly Agrium). In converting the LP CIGGS line to the carriage of oil, the line would be connected to the Swanson River oil pipeline at a point where LP CIGGS crosses the Swanson River line. The Swanson River line delivers oil from the Swanson River oil field to Nikiski.

With the mothballing of the Nikiski fertilizer plant, the LP CIGGS pipeline has not been used for about 10 years, but has been maintained, pressured with gas, and is in good condition, CIPL told the commission. If Nutrien decides to restart the fertilizer plant, the company would not need the LP CIGGS line, since gas could be delivered to the plant through the nearby Kenai Beluga Pipe Line, CIPL wrote.

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• FINANCE & ECONOMY

Murkowski questions fall in Alaska hire

Senator asks oil and gas companies to provide local hire data and make suggestions for in-state workforce development and training

By ALAN BAILEY

Petroleum News

U.S. Sen. Lisa Murkowski has sent a letter to the five largest oil and gas companies operating in Alaska, raising concerns that state data indicate a rising percentage of out-of-state workers in the state oil and gas industry. The letter follows the publication by the Alaska Department of Labor and Workforce Development's 2016 report on nonresidents working in Alaska.

That report indicates that, while there has been a large decrease in the overall number of workers in the Alaska oil and gas industry in response to the industry downturn in recent years, the proportion of non-resident workers increased to 37.1 percent from a level of 28.1 percent in 2009.

Murkowski, in her letter, asked the companies for up-to-date information on the employment of Alaska residents, including employment by contractors and subcontractors. She also noted workforce training programs available in Alaska and asked what more can be done to ensure that the industry hires more Alaskans.

"I have taken full advantage of the opportunity to visit the many career and technical colleges for workforce training programs across the state. I see firsthand the many talented and skilled Alaskans we train each year," Murkowski wrote. "What more can we do to build a well-qualified Alaska workforce for the oil and gas industry?"

Companies support Alaska hire

Oil producers in Alaska have told Petroleum News that they are committed to high levels of Alaska resident employment.

ConocoPhillips spokeswoman Natalie Lowman said that her company strongly supports Alaska hire and buy and encourages its contractors to hire Alaskans. About 84 percent of the company's Alaska employees live in the state, she said.

"We actively recruit Alaskans for ConocoPhillips positions and support a number of programs to train Alaskans for oil field related work," Lowman said. "As part of our commitment to Alaska workforce development, we have a longstanding relationship with the University of Alaska."

The company supports a number of other organizations that train Alaskans: the Alaska Native Science and Engineering Program, the Alaska Process Industry Career Consortium and Ilisagvik College. In addition, in an effort to support businesses that hire Alaskans, 87 percent of the company's Alaska spending on goods, services and transportation in 2016 went to Alaska-based companies, Lowman said. Dawn Patience, spokeswoman for BP Exploration (Alaska), told Petroleum News that BP's current Alaska hire rate is 76 percent and that the company encourages its contractors to hire Alaskans. The company publishes an annual Alaska hire report - the latest edition, with data for 2016, emphasizes the company's efforts to support the education and recruitment of Alaskans. According to the report, BP contributes funding to the University of Alaska system, provides internships for students and hires Alaska graduates. The company also partners with the university in industry related programs, while also supporting the Alaska Process Industry Careers Consortium, a program to prepare Alaskans for careers in the process industries.

David Wilkins, senior vice president, Hilcorp Alaska, expressed his company's strong commitment to local hire. "Our current Alaska hire is 89 per-

cent," Wilkins told LISA MURKOWSKI Petroleum News.

"We believe that hiring Alaskans is the best way for us to make a positive contribution to the local economy, strengthen our communities and achieve long-term success in Alaska."

Job losses impacted Alaskans

The state's employment report shows employment levels in the oil industry climbing steadily between 2006 and 2015, before dropping sharply in 2016 in the wake of the rapid fall in the price of oil in 2014. The percentage of nonresident workers in the industry hovered around 28 to 30 percent between 2006 and 2009, before beginning a steady climb to 37.1 percent in 2016. The fall in employment levels in 2016 did not appear to impact the rate of increase in nonresident employment. Thus, the job losses in 2016 impacted resident employment more that nonresident employment: Resident job losses accounted for 70 percent of the total employment decline, although just under 63 percent of workers were resident in the state, the report says.

Under the job categories that the state uses, the oil industry in Alaska includes people who work directly in the extraction The percentage of nonresident workers in the industry hovered around 28 to 30 percent between 2006 and 2009, before beginning a steady climb to 37.1 percent in 2016.

of oil and gas, and people who work for oilfield service companies. In 2016, 28.3 percent of the oil extraction workers were nonresident, a fall from 29.4 percent in 2015. The percentage of nonresident earnings also fell slightly, from 27.7 percent to 27.5 percent. On the other hand, the proportion of nonresident employees in the service companies rose from 38 percent to 40 percent between 2015 and 2016. Comparisons of earnings between residents and nonresidents in the service sector are complicated by the fact that, in this sector, resident employees tend to work across more of the year than do nonresidents. So, while in service companies nonresident quarterly earnings in 2016 where higher than those of residents, residents earned more annually, the report says. ●

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• GOVERNMENT

Zinke alters DOI revamp after complaints

New plan closer to state lines than natural boundaries; Western governors, not consulted on original plan, 'gratified' by change

By MATTHEW BROWN & DAN ELLIOTT

Associated Press

U.S. Interior Secretary Ryan Zinke is revamping a planned sweeping overhaul of his department with a new organizational map that more closely follows state lines instead of the natural boundaries he initially proposed, he told The Associated Press Feb. 23 in an exclusive interview.

The changes follow complaints from a bipartisan group of Western state governors that Zinke did not consult them before unveiling his original plan in January. The agency oversees vast public lands, primarily in the U.S. West, ranging from protected national parks and wildlife refuges to areas where coal mining and energy exploration dominate the landscape.

Zinke told AP that his goal remains

The vision of retooling the department's bureaucracy plays into longstanding calls from politicians in the American West to shift more decisions about nearly 700,000 square miles of public lands under Interior oversight to officials in the region.

unchanged: decentralizing the Interior Department's bureaucracy and creating 13 regional headquarters.

"At present we are mismanaging and squandering our assets through a layered bureaucracy that reflects a very old department that really has not reorganized since the turn of the last century," he said. "We will be moving assets to the front lines and moving authority to make decisions and, I would argue, better decisions to the front lines."

Some states still divided

The redrawn map shows that states such as Colorado, New Mexico and Wyoming would fall within a single region instead of being split among multiple regions. Other states remain divided, including California, Nevada, Montana and Oregon.

Aspects of the original map remain, with some regions labeled according to river systems, such as the Upper Colorado Basin and the Missouri Basin. But the new lines tend to cut across geographic features and follow state lines, not boundaries of rivers and ecosystems.

The new proposal resulted from discussions with governors, members of Congress and senior leaders at the agency, Interior officials said. Zinke spokeswoman Heather Swift said the



original proposal had been a "discussion draft" rather than a finished document and was now being refined through a collaborative process.

Governors' views heard

Western Governors' Association Executive Director Jim Ogsbury said the organization was "gratified" Zinke listened to its concerns and shifted the agency's plan to craft changes around state boundaries.

"The governors support the Department's goal of operating more efficiently and effectively by moving more decision making to the field," Ogsbury said in a statement to AP. "We look forward to additional conversations with the Department on how to further refine the plan."

House Committee on Natural Resources spokeswoman Katie Schoettle praised Zinke's willingness to revise the plan and criticized the Obama administration.

"We applaud Secretary Zinke for actually listening to the public and adjusting plans based on feedback, a clear departure from the previous administration," she said.

A retired Interior Department official expressed doubts over whether the proposal would achieve Zinke's stated desire to move decision-making closer to the field level. Steve Ellis, former deputy director of the Bureau of Land Management, the second largest branch of Interior, said the reorganization could instead add another layer of bureaucracy with 13 new regional directors.

But Ellis added that the new map was an improvement because it's more in line with existing administrative boundaries.

Changes in place

Zinke, a former Republican congressman from Montana, already has imposed major changes at the 70,000-employee Interior Department. He has rolled back regulations considered burdensome to the oil and gas industry and reassigned dozens of senior officials who were holdovers from President Barack Obama's administration.

The vision of retooling the department's bureaucracy plays into longstanding calls from politicians in the American West to shift more decisions about nearly 700,000 square miles of public lands under Interior oversight to officials in the region. However, some Democrats have speculated that Zinke's true motivation for the overhaul is to gut the department, noting that more than 90 percent of its employees already work outside Washington, D.C. Zinke contends that he's trying to streamline Interior's management of public lands by requiring all of the agencies within the department to use common regional boundaries, including the Bureau of Land Management, National Park Service and Fish and Wildlife Service. Zinke said Feb. 23 that his focus was on three areas: improving recreational access, simplifying environmental reviews and speeding up the permitting process for energy exploration and other projects on public lands.



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Congress has the final word on the proposal. ${\bullet}$

Consultant talks China to legislators

Wenran Jiang, brought in by LB&A, describes how China brings in, pays for, needed resources, often in exchange for infrastructure

By KRISTEN NELSON

Petroleum News

Wenran Jiang, Ph.D., has been a special advisor on China to the Energy Council, which is where Sen. Bert Stedman, R-Sitka, chair of the Legislative Budget & Audit Committee, became familiar with his work. LB&A has now contracted Jiang to provide legislators with a perspective on China.

Jiang gave two fast-moving presentations Feb. 22 in Juneau, first in the Senate and then in the House, covering China's demand for liquefied natural gas and why Alaska and its LNG supply are of interest.

China had 50 years of remarkable growth, Jiang said, with a 7.5 percent 50year compounded growth rate, and while its gross domestic product growth has slowed, its total GDP value keeps growing, and by 2030 is projected to have 80 percent more economic capacity than the United States, supplanting the U.S. in economic dominance with 18 percent of global economic power in 2030, compared to 10 percent for the U.S. In 1973, by comparison, the U.S. had an 18.6 percent share of global economic power.

On steroids

Jiang called it a modernization paradigm on steroids, pursued by Chinese leadership looking for GDP growth at any cost, which has included pollution. That modernization made China the primary driver of increased energy demand in this decade, he said, although India will take over in the 2020s.

China has 1.4 billion people, four times the population of the U.S., with only about half of the country urbanized. As more Chinese urbanize, Jiang said, they will conJiang said China is known for massive worldwide resource investments and has done deals which include building infrastructure in exchange for copper, building infrastructure and providing loans in exchange for oil.

sume more energy and goods. By 2040, China's energy use could double that of the U.S. It surpassed the U.S. as the world's top energy consumer in 2009, and its oil consumption has outpaced its production since the early 1990s.

Pollution

China still burns a lot of coal, Jiang said, and with that comes a lot of pollution. In addition to its big population, it is also a big manufacturer, another cause of pollution, with coal use mainly responsible for CO2 emissions.

And the Chinese public is demanding pollution reduction, he said.

In the country's current five-year plan there is a major shift to more efficiency, to more balance between development and environment. Targets in China are very dynamic and growing, he said, driver not just by population growth, but by directed change.

Energy is imported overland by pipeline from central Asia and from offshore sources such as Australia and Qatar, as liquefied natural gas.

Everybody wants to sell LNG to China, Jiang said. Chinese demand is growing and the country is adding a lot of capacity, building LNG terminals along the coast. It is also worried about energy security and looking to expand its markets.

Investment

Jiang said China is known for massive worldwide resource investments and has done deals which include building infrastructure in exchange for copper, building infrastructure and providing loans in exchange for oil. China has deep pockets for overseas assets, with some \$4 trillion in foreign exchange compared to Japan with \$1.28 trillion and the European Union with \$0.737 trillion. China is investing all the way down to the Horn of Africa and all the way to Europe — and they're not planning, they're doing it, Jiang said.

Referring to the Alaska LNG project, he said that size of investment is nothing new for China; he said the country has done this level or project or more all around the world just in the last 10-15 years alone.

China has built infrastructure in change for resources, with the investment a loan to be repaid in resources.

And in addition to the silk road west to Europe, China wants an Arctic silk road, he said, investing in the Arctic with Russia in Yamal and not only investing in the project but building LNG modules and LNG tankers for the project in China.

He said Alaska will be dealing with many of these collaborative issues of who will build what where for the project.

National companies

China's national oil companies are the China National Petroleum Corp., China Petroleum & Chemical Corp. or Sinopec, CNOOC Ltd. and Sinochem Group. The first three used to be the energy ministry in China, he said, but it was broken up to form the companies, with China National Petroleum Corp. responsible for the area north of the Yangtse River, Sinopec the area to the south of the river and CNOOC offshore. Because most of China's refineries were in the south Sinopec had a downstream focus, but now the companies are breaking the model, Jiang said, all wanting to be large integrated oil companies.

Sinopec is the smaller player so far in LNG import, so they have room to expand Jiang said. And the U.S. is already exporting LNG to China, growing from nothing in 2016 to account for 3 percent of Chinese LNG imports in the first half of 2017.

But not all foreign investments have gone well, Jiang said, and there is now full scale bureaucratic scrutiny in China of such foreign investments.

The Bank of China and Sinopec have learned from Canadian investment, he said, with some \$35 billion poured into Canada and some investments not doing well. As a result, there is an investment shift from Canada to the U.S.

Questions have been asked about investments which went bad and there is some soul searching going on, Jiang said, and the Chinese are cautious and are hard negotiators

China is the world's largest growing market for LNG, driven both by population growth and by policy change. While the energy market is volatile, everybody sees potential.

And, he noted, the Alaska Gasline Development Corp. is well aware that a lot of work remains to turn their memorandum of understanding into an agreement. \bullet

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GOVERNMENT

Martineau, Buckley join DNR

Faith Martineau has been named executive director of the Alaska Department of Natural Resources' Office of Project Management and Permitting and Steve Buckley is the new mining section chief at DNR's Division of Mining, Land and Water.



DNR said Martineau previously worked for Caelus Energy, SLR International Corp. and the U.S. Army Corps of Engineers. She is a member of the Alaska Association of FAITH MARTINEAU Professional Landmen and has led interdepartmental teams and worked with local, state and federal agencies on large development projects. She was appointed in 2017 to the BLM Alaska Resource Advisory Council.

Buckley has been general manager of minerals for Sealaska Corp. and a senior exploration geologist with NANA. He owned a natural resource consulting business in Whitefish for some 15 years. He has bachelor's and master's degrees in geology from the University of Montana and was appointed in 2017 to the Alaska Minerals Commission.

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continued from page 1 AGDC REPORT

in March and distribution of the ASAP final supplemental environmental impact statement this April.

For the Alaska LNG Project, the 404 permit would be issued at the conclusion of Federal Energy Regulatory the Commission-led National Environmental Policy Act process. AGDC said it requested a schedule from FERC completing the NEPA process by the end of the year. While FERC has not responded to its request for a schedule, AGDC said if FERC is able to meet the requested schedule a Section 404 permit would be expected in the second quarter of 2019.

AGDC responded to existing FERC requests for additional data by January, but in February FERC made more data requests and said it was not able to move ahead until it had all the information it needed.

The U.S. Department of Energy issued export licenses in 2014 and 2015, but those were to the Alaska LNG Project LLC. AGDC said it is negotiating with the LLC for land rights for the proposed LNG plant at Nikiski and for the transfer of the export licenses. The license transfer will require



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federal approval, AGDC said, or it could apply for new export authorization.

Significantly fewer legislative approvals will be required under the new structure, but if the state elects to take its gas as royalty in kind then a gas sale agreement between the Department of Natural Resources and AGDC would require legislative approval, as would an agreement DNR is working on with the producers on field cost allowances.

AGDC also addressed mitigation costs for the Section 404 wetlands permit. It said it is actively engaged in discussions with the Corps for ASAP project costs and those discussions will pave the way for Alaska LNG. The costs for ASAP wetlands mitigation will be know by the time the Corps approves the ASAP draft compensatory mitigation plan, which will happen concurrently with issuance of the ASAP Section 404 permit, AGDC said. "Comments from the Corps have indicated there may be regions along the route where mitigation will not be required," AGDC said. The Corps will calculate the final mitigation required for ASAP following its approval of the draft plan, anticipated to be completed this August.

"Mitigation costs for the Alaska LNG Project will be larger than costs for ASAP primarily due to Alaska LNG's wetlands acreage being larger," AGDC said, and could be some \$20,000 per acre if it is required to use existing third-party mitigation programs. In areas where no third-party mitigation programs are available, it would be required to "mitigate through permitteeresponsible mitigation that may include restoration of portions of impaired watersheds, which may be considerably more expensive," AGDC said.

-KRISTEN NELSON

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continued from page 2 **JANUARY OUTPUT**

average of 6,900, but down 12.7 percent from January 2017.

Hilcorp's Northstar field averaged 9,496 bpd in January, down 1.4 percent, 131 bpd, from a December average of 9,627 bpd, but up 59 percent from January 2017.

Thomson, operated by Point ExxonMobil Production, averaged 3,326 bpd in January, down 63.7 percent from a December average of 9,169 bpd and also down 63.5 percent from January 2017. There is a single producing well at Point Thomson, and the number of days per month that well has produced, as well as average bpd when it is producing, varies widely - 16 days in January, up from two days in June, down from 30 in November, with production varying over the past year from as low as this January to as high as 9,575 bpd in November. Badami, operated by Glacier Oil & Gas subsidiary Savant Alaska, averaged 702 bpd in January, down 4.5 percent, 33 bpd, from 736 bpd in December, and down 23.1 percent from January 2017.

released as part of a Petroleum News subscription in the May 27 issue and at the annual Alaska Oil & Gas Association conference on May 31. Total distribution is expected to reach more than 24,500 copies from Petroleum News subscribers, Petroleum News' website,

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Cook Inlet

Hilcorp is the major operator in Cook Inlet and its Beaver Creek field, the basin's smallest producer, averaged 89 bpd in January, down 12.8 percent, 13 bpd, from 102 bpd in December, and down 95 percent from January 2017.

Granite Point, also operated by Hilcorp, averaged 3,058 bpd in January, down 6.8 percent, 224 bpd, from a December average of 3,282, but up 25.7 percent from January 2017.

see JANUARY OUTPUT page 9

continued from page 1 **BLM RULE DELAY**

business activity.

Regulatory roll back

In February of this year the administration proposed a rule rolling back some of the methane venting and flaring regulations. However, in anticipation of the eventual regulatory roll back, in June and October of last year, the administration proposed rules suspending the implementation of some components of the regulations that had not yet gone into effect - under the Obama-era rule, the regulation roll out is being phased over time.

Both rules for suspension of regulation components were challenged in the federal District Court of Northern California.

continued from page 8 JANUARY OUTPUT

BlueCrest's Hansen field, the Cosmopolitan project, averaged 345 bpd in January, up 143 percent, 203 bpd, from a December average of 142 bpd.

Hilcorp's McArthur River field, Cook Inlet's largest, averaged 5,266 bpd in January, down 2 percent, 106 bpd, from a December average of 5,372, but up 39 percent from January 2017.

Middle Ground Shoal, also operated by Hilcorp, aver-

In October the court upheld combined appeals by the states of California and New Mexico, and by a group of environmental organizations, against the June suspension rule. That case has since been appealed to the U.S. Court of Appeals for the 9th Circuit.

In December similar groupings of organizations appealed BLM's October regulation suspension rule. That case, which has now brought Orrick's granting of a preliminary injunction, continues in District Court. The court has declined to link this case with appeals against the June suspension rule.

Orrick: no connection to evidence

Orrick, in his ruling, wrote that, "while the plaintiffs have shown irreparable injury caused by the waste of publicly owned natural gas," BLM's reasoning for the rule suspension does not connect with evidence against the implementation of the venting and flaring rule. For

aged 1,568 bpd in January, down marginally from a December average of 1,574, and down 10.4 percent from January 2017.

The Glacier Oil & Gas Redoubt Shoal field averaged 1,272 bpd in January, up 18.1 percent from a December average of 1,077, but down 1.2 percent from January 2017.

Hilcorp's Swanson River field averaged 1,624 bpd in January, down 3.5 percent, 59 bpd, from a December average of 1,683 bpd, and down 12 percent from January 2017.

example, BLM asserts that the regulations would jeopardize the economic viability of marginal or low-producing wells but does not provide any supporting evidence for this assertion. Nor has BLM provided any detailed analysis of anticipated compliance costs, Orrick wrote.

BLM must present a detailed justification, including any new facts or evidence, for suspending the regulations, given that the regulations resulted from three years of study and deliberation, Orrick wrote.

Although the regulations at issue apply to drilling within the National Petroleum Reserve-Alaska, the Alaska Oil and Gas Conservation Commission and the Alaska Department of Environmental Conservation already have stringent regulations designed to prevent hydrocarbon wastage and to avoid air pollution in the state.

> Contact Alan Bailey at abailey@petroleumnews.com

Trading Bay, also managed by Hilcorp, averaged 1,779 bpd in January, down 4.6 percent, 85 bpd, from a December average of 1,864 bpd but up 5.9 percent from January 2017.

Glacier's West McArthur River field averaged 986 bpd in January, down 4 percent, 41 bpd, from a December average of 1,027, and down 25.9 percent from January 2017.

Alaska North Slope 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. •



JOHN HORJES

Alaska Materials to add Oregon office

Alaska Materials President John Horjes announced plans Feb. 20 for a new office in Lake Oswego, Oregon.

"We're pleased to add Oregon to our operations. Oregon is a great state, and many of our mills, manufacturers, and distributors are there. I'm very familiar with the area having lived there for years," said Horjes. "My investment banking years began there by funding Pacific Rehabilitation & Sports Medicine Inc. to its IPO (initial public offering), and then serving the company as an officer by doing its mergers and acquisitions. We grew it from three to over 70

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locations in just a few years before selling it for \$76M to Horizon/CMS healthcare in 1996. This is a good time to look at acquisition opportunities. There are many with no succession plan or exit strategy, so it should come as no surprise that I'm in talks with old friends," he added.

Alaska Materials, with its IMPAC Co. relationship, will have offices in Alaska, Washington, Oregon and Hawaii.

Alaska Materials also serves as a platform for activities including M&A, strategic alliances, and product development.

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continued from page 1 ELECTRIC VEHICLES

"We are interested in electric vehicles because it seems like they're coming and we need to get ready for them," Skaling said. "So, we're trying to get ahead of the curve and be prepared."

Among other actions, the utility has purchased an electric car and has installed a car charging station at its Anchorage headquarters. A new electric vehicle plan will be going before the Chugach Electric board soon, Skaling said. The plan will encompass public education and a strategy for expanding the vehicle charging network the intent is to work with other Railbelt utilities in planning a cost-effective network, he said.

Benefits of electric vehicles

A significant benefit of an electric vehicle is its low fuel cost compared with a gasoline or diesel rig - an electric motor is much more efficient than an internal combustion engine. The operation of an electric car, charged through a home's electrical system, will typically increase the home's electricity usage by about 50 percent, but with the resulting electricity cost for running the car coming in at about half of that of fuel for a conventional vehicle, Skaling said. Total annual fuel cost savings in Juneau from the use of electric vehicles currently amount to about \$250,000, Mesdag commented.

Mark Spafford, general manager of the Department of Solid Services in the Municipality of Anchorage said that the municipality is investigating the use of electric trash collection vehicles and trash transfer tractors, to save on the cost of using the current gas-guzzling vehicles.

"We're pretty much the best-case scenario for having an electric vehicle pay itself off in short order," Spafford said. "And so we're getting ready to purchase a refuse collection vehicle this year and looking at doing a couple of light duty vehicles in our fleet this year as well."

Skaling commented that, with no tailpipes and with the use of electricity from efficient power generation systems, electric vehicle use generates significantly less emissions than does the use of traditional vehicles. Using power from Chugach Electric's system, dominated by gas fired power generation, would reduce emissions by about 60 percent, he said.

And although the up-front cost of an electric vehicle can be high, maintenance costs are typically lower than for an internal combustion engine system, given that the electrical propulsion system requires a relatively small number of moving parts. Engine oil changes, for example, become a thing of the past.

is actually driven.

Dimitri Shein, owner of an electric vehicle in Anchorage, said that he charges his car at home overnight and finds that he has ample mileage range for his use of the car in the Anchorage area. The challenge, however, for an electric car owner in Anchorage would be longer trips, say to Homer or Fairbanks. For that to be possible there would need to be en route charging stations, he said.

Members of the panel commented that the provision of stations for swapping out car batteries, a possible alternative to charging stations, is likely impractical. A major obstacle to this option would be the high capital costs of holding the number of batteries required, especially since different car models typically use different models of battery. Moreover, the pricing of battery swaps would need to take into account the relative age and condition of the batteries being exchanged.

Charger levels

In the parlance of electric vehicle technology there are three levels of car battery charger, each with a different range of charging rates.

Level one charging simply involves plugging the car into a regular 120-volt power outlet. Level two involves a 240volt, 30 to 40-amp supply, similar to the power supply for a domestic clothes drier or electric range. Level three is unspecified but higher, 480 volts and upwards. Public charging stations would normally be level two or level three.

Mike Willmon, who has experience of converting conventional vehicles to the use of electrical power, said that it would typically take about 10 hours to charge a vehicle using a level one charger. Mesdag said that many Juneau electric car owners have level two chargers — these can charge a vehicle in about four hours, although, given the distances driven in Juneau, a car can typically be fully recharged in less than two hours, he said. Presumably a level three charger, if available, would charge a vehicle significantly more quickly.

Mesdag commented that the availability of a level two charger can be a problem for someone who does not have access to offstreet parking.

Betsy McGregor, environmental manager for the Alaska Energy Authority, said that AEA is investigating the use of some money from a settlement with Volkswagen to help fund an electric vehicle infrastructure in the state. The settlement, resulting from Volkswagen's fraudulent rigging of diesel engine emissions systems, allows for up 15 percent of settlement funding to go to electric vehicle infrastructure. AEA's proposal has to go through a public process.

"We hope to post the draft (proposal) by the end of February," McGregor said.

EXPLORATION & PRODUCTION

East side 3-D seismic permit approved

The Alaska Division of Oil and Gas has approved an application from SAExploration for a 3-D seismic survey on the eastern coastal area of the North Slope.

The Yukon 3-D survey covers some 251 square miles and the permit is effective from Feb. 15 to May 31.

The survey will be some 40 miles east of Deadhorse on state lands and waters in the North Slope Borough, with SAE staging equipment from existing facilities in Deadhorse and the crew mobilizing to existing gravel pads near the project area.

The coastal reach of the area is described as from Bullen Point to the Staines River, but it also extends inland, with a map of the proposed survey area being a rough square ending at the Staines River on the east.

-PETROLEUM NEWS

FACILITIES

Conoco plans Kuparuk road upgrades

ConocoPhillips Alaska has filed an amendment to its plan of operations for the Kuparuk River unit, signaling the company's intent to make improvements to the unit's gravel roads. Alaska's Division of Oil and Gas has publicly noticed the company's proposal and invited public comments.

The company wants to upgrade about 26 miles of roadway over a five-year period. Upgrades would primarily involve increasing the road widths to about 35 feet, about 6.5 feet above the ground surface. A side of a road may be extended by one foot to 20 feet. The upgrades would apply to both main roads and drill site access roads. There would be about 48 acres of total new road footprint, with the toe-to-toe width of the gravel road structures varying between 61 and 81 feet, depending on the terrain.

Total gravel requirements would be 1.3 million cubic yards, with about 293,000 cubic yards used to widen the road footprints and the remainder being placed on top of the road structures.

-ALAN BAILEY

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The Achilles heel of the new technology has in the past been the cost of batteries and the relatively short mileage range of the vehicles. However, battery prices are dropping rapidly, Skaling said. And vehicle ranges are steadily increases.

Mesdag said that many of the electric cars in Juneau are older models with relatively low mileage ranges. Those ranges drop in cold winter weather, when some battery capacity is used for heating the car interiors. However, car owners charge their cars at home overnight. And there are public charging stations placed at a few strategic points on the road network, so that any car owner can complete any required round trip in the road system.

Skaling commented that in cold winter weather, an electric car's heating system can be turned on while the car is still plugged in for charging, thus rendering the car's interior warm by the time that the car

Impacts on power distribution

Skaling said that Chugach Electric is investigating the potential impact of charging electric cars on the utility's power distribution system. One concern is that the simultaneous use of level two charging systems at multiple residences in a neighborhood could overwhelm the neighborhood electrical transformer, ultimately increasing power distribution costs. The utility is considering ways of achieving a balance, perhaps providing incentives for long, slow charging or staggered charging.

Alaska Electric Light and Power's tariff has a demand rate to recover the cost of spikes in demand from residential customers. Mesdag commented that the utility also has a special rate for charging electric vehicles, although not many people use this rate.

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continued from page 1 **VMT PLAN**

Solomon Gulch Hatchery in Port Valdez, near the marine terminal. At issue is the speed with which protections for these two sites must be put in place, in the event of an oil spill at the terminal.

Decision matrix

According to Administrative Law Judge Cheryl Mandala, who filed the recommendation to grant the hearing, the issues in the revised plan arise from changes to a decision matrix used to prioritize actions to be taken during the first few hours of a response, and to changes to the specification of a worst-case discharge at the terminal. Mandala wrote that the decision matrix was originally developed in the aftermath of an oil spill in 1994, following which both the duck flats and the hatchery experienced oil sheening earlier than protective models had anticipated.

The contingency plan revisions at issue involved the first changes made to the decision matrix since 1994. The changes included the removal of some criteria, such as wave height, visibility and current direction, from the matrix. Also changed was the point system and point criteria that the matrix uses to indicate appropriate response actions.

The worst-case spill scenario changes included reducing the worst-case spill volume from 89,595 barrels to 85,595 barrels, but with the assumed wind conditions from the northeast increasing from one knot to seven knots.

Impacts deployment timing

Under the decision matrix scoring system and the worst-case scenario for the previous version of the plan, a worstcase scenario would trigger the need to mobilize resources within five hours, to boom the hatchery and the duck flats. However, the decision matrix and worstcase discharge conditions in the revised plan would postpone the deployment of response resources to the hatchery until hour 12 of the response, and to the duck flats until hour 36, Mandala wrote.

In its challenge to the revised plan, Valdez Fisheries Development Association expressed concern about The Valdez Marine Terminal is the facility at which crude oil carried through the trans-Alaska pipeline is loaded onto tankers for export from Alaska.

the need to take into account shifting weather and sea conditions, especially during the winter. The association also pointed out that the spill in 1994 resulted in oil reaching the hatchery under weather conditions similar to those in the revised plan's worst case.

PWSRCAC challenged the changes to the decision matrix, commenting that under the revised matrix there are circumstances where a large spill at the terminal would not trigger a decision to protect the hatchery or the duck flats. PWSRCAC, while acknowledging that the new worst-case scenario changes the oil spill trajectory, argued for the need for the immediate enactment of protective strategies for the hatchery and duck flats in the event of any significant spill, Mandala wrote.

Flaws in original matrix

Mandala wrote that DEC, when it approved the revised contingency plan, had commented that the revised decision matrix would allow decisions to be made correctly and quickly. Spill response exercises had demonstrated that the original version of the matrix was inefficient and had sometimes resulted in the deployment of resources to the hatchery and duck flats in circumstances where those resources would have been better used for the protection of other sensitive areas in Port Valdez. The revised matrix does not change the commitment to the protection of the hatchery and duck flats, DEC said.

The organizations requesting an adjudicatory hearing have clearly stated both their interests in the issues and nature of the issues at stake, Mandala wrote. And although DEC has opposed the hearing, DEC's arguments revolve around issues that a hearing needs to resolve, not around issues determining whether the hearing should be held, she wrote. \bullet

Contact Alan Bailey at abailey@petroleumnews.com continued from page 1

CANADIAN ARCTIC

But there is no consistent Arctic policy in Canada where "no one worries about long-term economic development and making the kinds of investments we need," he said.

Higginbotham noted that Russia is building LNG facilities in its Arctic and using ice-breaking tankers to deliver the LNG to southern markets, while also investing in a commercial shipping route through the Northwest Passage.

He said that plans to build a road into mineral-rich deposits in Canada's North have remained idle for decades, although the federal government is weighing a

continued from page 1 PIPELINE BACKLOGS

that spread far beyond Alberta.

He said the temporary shutdown of the existing Keystone system after a leak last November filled oil storage tanks in Alberta to record levels and increased the price spread between Western Canada Select, the heavy crude benchmark, and West Texas Intermediate to more than US\$30 a barrel that has continued under a regulator-imposed 20 percent reduction in Keystone volumes.

Constrained takeaway

However, Perrault said the Canadian oil patch should expect at least "an 18month period of acutely constrained takeaway capacity" now that Enbridge's Northern Gateway and TransCanada's Energy East projects have been abandoned due in part to "significant regulatory hurdles and political challenges."

That has forced producers to either use more expensive forms of transportation such as rail or place increased volumes in storage until sufficient pipeline capacity becomes available.

He said major rail companies like Canadian Pacific and Canadian National are aware that crude-by-rail transportation is only a stop-gap solution and that demand for railcars is likely to fall back after less expensive pipeline capacity becomes available.

To that end, rail companies are asking producers to agree to multiyear, take-orpay contracts that demonstrate the oil patch has "skin in the game," he said. request for C\$365 million to help fund that project, while internet access throughout much of the Arctic is primitive by southern standards.

Higginbotham said the five-year moratorium imposed by the government of Prime Minister Justin Trudeau on Arctic offshore energy development does not help.

NWT Premier Bob McLeod said that attending recent conferences in the Arctic, including Iceland, has driven home to him that high latitudes do not have to limit investment.

-GARY PARK

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New oil sands projects

But the startup of new oil sands projects has fueled a rebound in crude-by-rail, with railways hauling 34 million barrels out of Canada in the first nine months of 2017, 8 percent up from all of 2016, the National Energy Board reported.

In response, Plains Midstream Canada said it is reopening its loading facility in Saskatchewan, while some railways have discounted shipments from Alberta to Texas to about US\$12 a barrel, compared with US\$10 by pipe.

The discount on Western Canada Select crude is now hovering around US\$24 a barrel, compared with the spread of US\$13 for the two years prior to the spill, and Scotiabank predicts it will average US\$21.60 for all of 2018.

Alex Pourbaix, chief executive officer of oil sands producer Cenovus Energy, has echoed the concern of his peers, saying the price spread is having an extraordinary impact on the Canadian economy by triggering a transfer of wealth from Alberta and Canada to U.S. refiners and consumers.

Bloomberg said the dearth of pipeline capacity, which has depressed Canadian oil and natural gas prices, is now bogged down in the squabbling between Alberta and British Columbia over the Trans Mountain expansion.

"On top of that, the industry is facing carbon taxes other jurisdictions don't have to pay and it's competing with American drillers which are seeing taxes cut under the Trump administration," the news agency said. \bullet

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