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This week's Mining News

NEWS NUGGETS
Compiled by Steve Lasky

Greens Creek tops 9M oz silver
Hecla Mining Co. Jan. 10 reported that its Greens Creek Mine in Southeast Alaska produced 9.2 million ounces of silver in 2016, the highest production since the Idaho-based company bought full ownership of the operation in 2008. This strong performance helped push Hecla's total silver production to a record 17.2 million oz, 48 percent higher than 2015. In addition to the silver, Greens Creek produced 5,912 oz of gold, along with healthy quantities of zinc and lead. For the fourth quarter, 2.2 million oz of silver and 14,413 oz of gold were produced. In addition to the 1.2 million oz of silver, Hecla's four operations - Greens Creek, Lucky Friday in Idaho, Casa Herrero in Ontario and San Sebastian in Minnesota - produced 231,929 oz of gold, 68,216 tons of zinc and 42,471 tons of lead. When calculating the value of the gold, work of total 2016, this comes to 96.1 silver-equivalent oz, a 23 percent increase over 2015. "The 17.2 million ounces of silver produced and the 46 million silver-equivalent ounces produced mark the third consecutive year we have broken our 125-year production record as a result of our strategy of increasing organic growth," said Hecla President and CEO Philippe Baker. "Through the down cycle we continued to build our production capacity with the start-up of San Sebastian, the development of the Pit at Casa Herrero and the construction of means plus the ongoing strong performance of Greens Creek allowed Hecla to generate substantial cash flows this year and we expect to continue to do so." Hecla ended 2016 with 1.85 billion in cash, cash equivalents and short-term investments, an increase of about US\$43 million for the year.

Kensington ends 2016 strong
Coeur Mining Inc. Jan. 5 announced that its Kensington Mine in Southeast Alaska produced 33,000 ounces of gold in the fourth quarter, a 27 percent increase over the previous quarter. *see NEWS NUGGETS page 10*

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BLM's Eastern Interior plan unpopular; Alaska miners hope for better deal. Read more in North of 60 Mining News, page 9.

Canadian Arctic in a fog

The Canadian government is spreading confusion in the Northwest Territories over the impact of its temporary freeze on oil and natural gas exploration in the Canadian section of the Beaufort Sea.

The only definitive statement so far has come in an online statement from the Indigenous and Northern Affairs Department that extensions will not be granted for permits carrying C\$1.9 billion of work commitments that are due to expire over the next six years.

But the department said that the Arctic license holders are free to keep asking for extensions to permits that expire in the 2019-23 period.

"Should stakeholders raise license extension issues during the consultations, the government of Canada will take their

see NWT EXPLORATION page 18

EIA: US could be net exporter by 2026, based on natural gas sales

The United States is going to have fairly strong domestic production and relatively flat demand and could become a net energy exporter through the period covered by the Energy Information Administration's Annual Energy Outlook 2017, EIA Administrator Adam Sieminski said Jan. 5 in introducing the projections. This year's outlook is the first to have projections through 2050, EIA said in a press release.

The agency said that in most cases in the outlook "petroleum liquid imports fall and natural gas exports rise."

In addition to a reference case, the outlook considers six paired scenarios: low and high oil price cases; low and high oil and gas resource and technology cases; and low and high economic growth cases. EIA also considered a case where the

see EIA OUTLOOK page 15

EXPLORATION & PRODUCTION

Producing Prudhoe

2016 production levels out; BP credits targeted, precision drilling

By TIM BRADNER
For Petroleum News

BP held Prudhoe Bay field production virtually flat in 2016, a sharp improvement over annual declines averaging 4 percent to 6 percent in years past, company officials said in an interview.

Prudhoe is the largest field on Alaska's North Slope and the leveling of its production was a major factor helping Alyeska Pipeline Service Co. actually boost throughput in the Trans Alaska Pipeline System by 1.85 percent last year, the first increase in decades for TAPS.

Alyeska confirmed Jan. 9 that total Slope production ticked up to an average of 517,868 barrels per day, up from an average of 508,446 barrels per day in 2015.

"We were able to meet our 2016 production goals, despite being down two rigs for much of the year." —Scott Digert, BP, Eastern Prudhoe Bay reservoir manager

Prudhoe Bay's production for 2016 was slightly down but by less than 1 percent. The field averaged 280,700 barrels per day last year compared with 281,800 barrels per day the prior year. Prudhoe produces about half of the oil moving through TAPS.

The surprise at Prudhoe, however, was that BP was able to virtually halt the field decline while

see PRUDHOE PRODUCTION page 14

NATURAL GAS

Going for integration

IGU, AIDEA boards approve MOU for consolidation of Fairbanks gas utilities

By ALAN BAILEY
Petroleum News

The boards of the Interior Gas Utility and the Alaska Industrial Development and Export Authority have both approved a memorandum of understanding, setting out terms under which IGU may purchase Pentex Natural Gas Co. to form an integrated business for the supply and distribution of natural gas from Cook Inlet to the city of Fairbanks.

Pentex, the owner of Fairbanks Natural Gas, the gas utility for central Fairbanks, owns a small liquefied natural gas plant near Point MacKenzie on Cook Inlet and a trucking operation that ships the LNG to Fairbanks. IGU, the other Fairbanks gas

The MOU is not binding and the completion of the Pentex purchase is contingent on a number of conditions, in particular the establishment of a Cook Inlet gas supply at a workable price.

utility, has been starting to build a gas distribution infrastructure in the more outer part of the city.

The idea of the Pentex purchase is to create a single, integrated gas utility business serving Fairbanks and encompassing the production of LNG from Cook Inlet gas, the transportation of LNG to Fairbanks, the storage of LNG in the city,

see INTEGRATED UTILITIES page 20

FINANCE & ECONOMY

Job losses to continue

State economists expect oil industry employment picture to remain tough this year

By ERIC LIDJI
For Petroleum News

The Alaska Department of Labor and Workforce Development is expecting "another tough year" for the Alaska oil industry in 2017, although slightly easier than last year.

While the sector lost some 2,800 jobs in 2016 for a 19.7 percent decline from 2015, the state only expects the industry to shed 1,400 jobs this year, for a 12.3 percent. Together, those two years of job losses would push industry employment back to 2006 levels.

The projected slowdown in job losses for the oil industry is largely the result of the severity of job losses from last year, rather than any improvement

As with 2016, the oil and natural gas sector is expected to have the hardest year of any industry in Alaska. Next is construction, which is closely tied to resource extraction.

in the employment forecast. And other sectors will likely feel reverberations from those losses this year.

"Job losses in oil, construction, and the public sector have been so extensive they are causing further job losses in business and professional services, transportation, and leisure and hospitality,"

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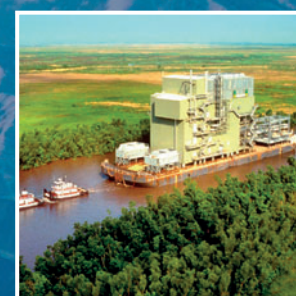
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GOVERNMENT

Young: Federal agencies need overhaul

The House's top-ranked Republican says he hopes new administration, president means opening up locked-up acreage for development

By STEVE QUINN
For Petroleum News

Congressman Don Young was just sworn in for his 23rd term, making him the longest serving Republican among his peers and the second longest serving overall in the current House of Representatives. His service dates to the Nixon administration. He wasted little time introducing a set of bills — 38 of them — that include some longtime priorities for many Alaskans such as opening up the Arctic National Wildlife Refuge. Young, a longtime critic of outgoing President Barack Obama, spoke to Petroleum News about recent executive orders, his thoughts on overturning them and prospective cabinet members.

Petroleum News: What do you see for the new Congress and new administration and what does it mean for Alaska developing its resources?

Young: Well, the number one issue is the disbanding of regulations passed by agencies without vetting them in the public or with Congress itself. That's been our biggest drawback in all of our industries. With the fossil fuel, it's been a real disaster. Very rarely do they (federal agencies) prove (their case) scientifically. It's usually done by emotionalism; their agenda is not to have any fossil fuels.

The pulling of Shell from the Chukchi Sea was really because of the delay factor, and the constant re-permitting, the lawsuits and the whole works. What I hope to do and see to have done is we are going to look at these regulations. The ones that make sense and protect the environment, we'll keep. The

ones that are put in arbitrarily with no science behind them are going to be put to bed.

Petroleum News: That's a lot of heavy lifting.

Young: Oh yeah, it is. You've got to remember, it can be done relatively quick if you take the courage to do it. We can introduce a bill that says any regulation pertaining to fossil fuel is null and void unless it comes back to Congress to be vetted. Then we can make a decision. This is law not by legislative process but by the executive process, which frankly I believe is against the Constitution.

We've taken the Obama administration to court. We've won but the courts are very slow and laborious. Another thing that is going to occur — I do hope it will happen — and there is a big debate on this: Can a new incoming president undo executive orders, especially like in the Beaufort Sea and the Chukchi Sea, plus the monuments in Utah and Nevada?

I argue they can; they argue they can't. I'm saying let's really get the best judicial people in the business. If they can do it, let's pass legislation to undo that, especially size we are talking about. The monuments were never supposed to be 3 million or 4 million acres of land. It was supposed to be something specific like Mount Rushmore or Custer's Last Stand.

Petroleum News: Every state could



DON YOUNG

have its own priorities. How do you get Alaska's to the front of the line?

Young: Well that's our job, the two senators and my job. I think we are going to be somewhat successful, especially with the Secretary of the Interior (nominee Ryan Zinke) a personal friend of mine. He did oppose me on transferring public land to the state. I understand his position. I have to convince him in the case of Alaska we were talking about a specific area that was not eligible to select land under the statehood act. That was all national forest. What happened was we had use of those lands, then they took those lands away with the Alaska National Lands Act, then they passed the roadless rule and all these other different things and it killed these communities. It was like looking into a third world (community) where there is no income. We want to be able to give those communities an amount of land for their economic well being, especially in the harvesting arena of old timber.

Petroleum News: There were three decisions since mid-November that featured Alaska, one in the Bering Sea area and two in the Chukchi and Beaufort seas. Among those three, which upset you the most?

Young: They all do. I think it's a misuse of the Antiquities Act. I've intro-

duced a bill to really put the Antiquities Act in place of its original intent. Read the report when it was written. It was to be used for taking care of specific historical landmarks, as I mentioned before, like Custer's Last Stand, Mount Rushmore and Grand Canyon. He's not the only one who has done it. I will admit that. I think he's used it more. I think it defeats the act. It makes the act not as efficient as it should be. What I've tried to do is OK, if we can't do it as I've said before, we will pass legislation to do it. Not only does it affect the oil industry, it affects the fishing industry. There is no science involved. This is purely poppycock by a president who is going out the back door. I just don't think presidents should be doing that.

Petroleum News: What did you hear from constituents during your break at home whether it's the industry or simply people out there walking the streets?

Young: Most of the people walking the street don't like the idea that the president does things without any input. With the one at the Bering Sea, he says he talked to the Native folks. He didn't. He talked to activists. He didn't talk to the president of the Arctic Slope Regional Corp. This affects them more

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● ENVIRONMENT & SAFETY

NOAA publishes CI beluga whale plan

Recovery plan for endangered Cook Inlet whales addresses the threats considered of most concern for the survival of the animals

By **ALAN BAILEY**
Petroleum News

NOAA's National Marine Fisheries Service has published a final version of its recovery plan for Cook Inlet beluga whales. In 2008 the agency listed the whales as endangered under the terms of the Endangered Species Act. The recovery plan, which focuses on issues that the agency considers to particularly threaten the animals, is designed to guide efforts to recover the species to a point where delisting would become possible. The plan follows the 2011 designation of critical habitat for the whales, with the preparation of both the habitat designation and the recovery plan being statutory requirements associated with the listing of the animals.

"This plan is a roadmap for how NOAA Fisheries and our partners can address

threats to Cook Inlet belugas and work together towards recovery," said Jon Kurland, NOAA Fisheries' assistant regional administrator for protected resources, when announcing the release of the recovery plan on Jan. 4.

Population decline

The Cook Inlet beluga whale forms an isolated sub-population of the whale species, other populations of which live in relative abundance around the Alaska coast. The listing of the Cook Inlet sub-population resulted from an observed sharp decline in the number of the animals living in the inlet. A survey conducted in 1979 indicated the existence of an apparently healthy population of about 1,300 animals. New surveys starting in 1993 showed the population dropping from 653 in 1994 to 347 in 1998. The most recent comprehensive survey,

conducted in 2014, indicated a population of some 340. A trend line for the various survey results indicates a population decline rate of about 1.3 percent per year.

Initially, the dramatic drop in the whale population was ascribed to unregulated subsistence hunting. However, after the curtailment of hunting in 1999 the population decline persisted, leaving scientists baffled about the cause of the continuing population loss.

Meanwhile businesses and some other entities operating in the Cook Inlet region worry that the beluga whale listing will result in restrictions on offshore operations, to the detriment of economic activity in the region. Any action requiring, for example, a federal permit for an activity impacting the inlet will trigger a consultation with the Fisheries Service over potential impacts on the beluga whales.

Potential threats

Given the lack of a proven explanation for the beluga whale population decline, the Fisheries Service has conducted a comprehensive analysis of potential threats to the whales and then formulated a series of actions to address the more serious of these threats. In general terms, the agency has recognized 10 threats. Three of these threats — a catastrophic event, such as an oil spill or a natural disaster; the cumulative impacts of multiple stressors; and noise — are considered to be of particularly high concern. Four other threats, of medium concern, consist of disease; habitat loss or degradation; reduction in prey; and the unauthorized take of the animals. Three other threats — pollution; predation; and subsistence hunting — are considered to be of low concern.

In essence, the recovery plan involves continuing to monitor the status of the Cook Inlet beluga whale population while also investigating and managing the threats of medium and high concern. The plan also envisages a periodic re-assessment of the threats to the animals and the integration of

research findings into the management of the animal protection. The plan also includes a commitment to keep the public informed about the status of the whales, the threats to the animals and the means whereby the public can help in the recovery efforts.

Recovery criteria

The plan says that the Fisheries Service will deem the whales as having recovered to the point of delisting if the population estimate for the whales becomes at least 780, with a 95 percent probability of a positive population abundance trend. Delisting will also require 19 specific threats-based criteria to be met. For example, there must be sufficient prey to support the growing population, and there must be a scientific analysis that indicates that human activities will not trigger another population decline.

A down listing from endangered to threatened has less stringent criteria.

The plan includes a five-year schedule of specific activities for plan implementation. In addition to the Fisheries Service, various activities are expected to involve a number of other organizations, including the Alaska Department of Fish and Game, the Alaska Department of Environmental Conservation, the Environmental Protection Agency, the University of Alaska and Alaska Pacific University. The Fisheries Service says that it could take as long as 50 years to complete the whale recovery at an estimated cost of \$76.8 million.

A team of Cook Inlet stakeholders and scientists participated in the preparation of an initial draft version of the plan, with the Fisheries Service then modifying this version before publishing the draft for public comment. The final version of the plan which has now been issued has taken into account the public comments. ●

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● GOVERNMENT

Fish & Wildlife issues polar bear plan

Conservation strategy recognizes loss of sea ice as main threat but also involves management of human interactions with the bears

By **ALAN BAILEY**
Petroleum News

Having in 2008 listed the polar bear as threatened under the terms of the Endangered Species Act, the U.S. Fish and Wildlife Service has now issued a conservation plan for the species. In a Jan. 9 press release announcing publication of the plan, the agency said that the rapid loss of the bears' sea ice habitat is jeopardizing the future survival of the bears.

"This plan outlines the necessary actions and concrete commitments by the service and by our state, tribal, federal and international partners to protect polar bears in the near term," said Greg Siekaniec, Alaska regional director for Fish and Wildlife. "But make no mistake. Without decisive action to address Arctic warming, the long-term fate of this species is uncertain."

Fish and Wildlife, in its plan, says that, although the loss of sea ice as a consequence of global warming is the cause for concern about the polar bear's future, the agency cannot take direct action to counter this threat. The agency can promote the need to curb the greenhouse gas emissions that are blamed for rising global temperatures but has no authority to mandate emission reduction actions. However, the agency does see scope for alleviating the bears' plight by ensuring effective management of interactions between human activities and the bears.

Mixed reception

While broadly supported by environmental organizations, the polar bear listing has tended to meet with opposition from those with economic interests in the Arctic. The concern is that protective measures imposed for a species which currently enjoys a substantial population may unnecessarily impede economic activity.

However, the polar bear plan commits to the cooperative management of subsistence hunting of the bears and to the need to minimize the economic impacts of the listing.

In a response to the release of the conservation plan, Alaska's Division of Wildlife Conservation agreed that the loss of sea ice represents a threat to the polar bears but questioned the listing of the bears, given the bears' robust population. The state does not believe that Congress intended the ESA to be used in this way, said Bruce Dale, ADWC director.

"We agree with many aspects of the plan, including recognition that the primary threat to polar bears is the loss of sea ice habitat brought on by climate change," Dale said. "We also support the plan's goals to maintain sustainable subsistence harvest, appropriately manage human-bear interactions and minimize restrictions to economic development and other activities."

But with many of the actions specified in the new plan already in place, the conservation benefit to be gained from listing the bears and developing a conservation plan is unclear, the division said.

Six goals

The new conservation plan sets out six fundamental goals: securing the long-term, global-scale persistence of the polar bear species; securing this persistence within specific regions that the bears inhabit; securing persistence in the state of Alaska; recognizing the nutritional and cultural

Disease; oil and gas activities; spills; and increased Arctic shipping could become concerns but are not currently considered threats to the bears.

needs of Native peoples, including the need for subsistence harvesting of the bears; managing human-bear interactions in the interests of human safety and bear conservation; and achieving polar bear conservation while minimizing restrictions on Arctic activities, including activities directed at economic development.

The plan says that sea-ice loss will not threaten the bears if, either the summer Arctic open-water season does not exceed four months during the next 100 years, or if there is evidence to indicate that the polar bears can adapt to longer open-water seasons. And, although human-caused removals of bears were not identified in the ESA listing as a current threat to the bears, these removals could in the future become a threat to bear populations impacted by sea-ice loss.

Disease; oil and gas activities; spills; and increased Arctic shipping could become concerns but are not currently considered threats to the bears. Consequently, these issues have not been included in the list of criteria for determining whether the polar bears remain threatened. However, actions spelled out in the plan for the protection of the bears do encompass the potential impacts of human activities, including industrial activities, on the bears.

Five actions

In general terms, the plan calls for five actions: the limiting of greenhouse gas levels in the atmosphere; support for international polar bear conservation efforts; the management of human-bear conflicts; the collaborative management of the subsistence harvest; the protection of bear denning habitat; minimizing oil spill risks; and the conducting of strategic monitoring and research.

In terms of human-bear conflicts, the

plan sees a need to measure the effectiveness of conservation efforts by adjusting for the likelihood that diminishing sea ice will lead to an increase in the frequency of human-bear interactions.

In terms of subsistence hunting, the plan envisions subsistence harvesting continuing, even in situations where bear populations are declining, as long as the harvest is responsibly managed in compliance with the Marine Mammal Protection Act, and as long as the harvest does not itself become a driver of the declining bear population.

And in terms of the economic impacts of polar bear conservation, the plan says that assessments of costs triggered by conservation actions will make it possible to seek conservation solutions that, on the one hand, prevent economic activity undermining conservation efforts while, on the other hand, prevent conservation from needlessly limiting economic development.

A dynamic plan

However, given the uncertainties associated with polar bear conservation, Fish and Wildlife sees the conservation plan as a dynamic entity, subject to revision as more data are acquired and uncertainty is

In terms of human-bear conflicts, the plan sees a need to measure the effectiveness of conservation efforts by adjusting for the likelihood that diminishing sea ice will lead to an increase in the frequency of human-bear interactions.

reduced. And the agency sees the need for a collaborative approach to plan implementation — one of the provisions of the plan is the creation of a recovery implementation team, composed of representatives from various entities, including Alaska Native communities, state government, federal government, international agencies and private agencies.

A key component of plan implementation will consist of the monitoring of parameters relevant to bear conservation success, such as the measurement of bear population sizes in different regions; the updating of sea ice cover projections; and the tallying of bear mortality from subsistence hunting and defense-of-life incidents. ●

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EXPLORATION & PRODUCTION

Tundra travel: eastern coastal area open

The Alaska Department of Natural Resources, Division of Mining, Land and Water, has announced that the eastern coastal area of North Slope state lands opened for off-road, tundra travel on Jan. 9. The snow depth and soil temperatures in the region have met the required criteria of at least six inches of snow and temperatures below minus 5 C at a 30-centimeter depth, the division said.

However, the division also cautioned that the snow cover may remain in thin in some areas — these areas should be avoided or may require special construction methods for tundra protection. And regardless of the tundra travel opening, operators wishing to go off-road require off-road vehicle travel permits, the division emphasized. Operators also need to comply with stipulations for operating vehicles off-road in the winter.

The western coastal area of state lands opened in late December. The upper and lower foothills areas remain closed.

—ALAN BAILEY

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EXPLORATION & PRODUCTION

Ahtna completes operations at Tolsona

Ahtna Inc. has concluded operations at the drilling site for its Tolsona No. 1 well, about 11.5 miles west of Glennallen, the Native regional corporation for the Copper River region said Jan. 6. After completing the drilling of the well in early December the drill crew conducted some initial flow testing in the well, to test for a potential natural gas resource. The well has now been suspended and all equipment, materials and personnel demobilized from the site.

Ahtna has not announced any findings from the flow testing and says that it will take several months to fully evaluate the data obtained from the well. The corporation is seeking a gas resource that can be viably developed to alleviate the high cost of energy in the region.

The area in which the well was drilled is known to be gas prone. But a previous well drilled nearby, while finding gas, ran into significant issues arising from exceptionally high subsurface pressures and water encroachment. The design for the Tolsona well took into account the need to deal with the high-pressure challenges.

However, the new well did prove very challenging to drill, given the complexities of the geology. Targeting a potential gas reservoir in the Nelchina sandstone, the well had to be drilled 700 feet deeper than had been planned — ultimately the well reached a vertical depth of about 5,500 feet.

—ALAN BAILEY

NATURAL GAS

Kenai LNG exports still uncertain for '17

ConocoPhillips Alaska Inc. has yet to determine whether it will export liquefied natural gas this year from its Kenai LNG terminal in Nikiski, which is being marketed for sale.

In a recent semi-annual report to the Federal Energy Regulatory Commission, the company said it had yet to finalize its 2017 schedule of operations for the plant.

While the company did not export any LNG from the plant last year, it did operate the liquefaction unit for a week in June. The run from June 18 to June 25 produced approximately 172,000 barrels of LNG for storage, which the company used "to rebuild inventory to ensure cryogenic status during the non-export period, as well as a potential backstop for interior Alaska utility trucking sales should the need arise."

Also during the second half of 2016, ConocoPhillips transferred eight tanker truckloads of LNG from the Kenai LNG facility to Fairbanks Natural Gas LLC facilities.

Under its current export license, ConocoPhillips can export as much as 20 billion cubic feet per year from the Kenai LNG plant to overseas customers through Feb. 18, 2018.

The Kenai LNG plant passed three federal inspections in the latter half of 2016.

The Pipeline and Hazardous Materials Safety Administration inspected the plant from Sept. 26 to Sept. 30 and closed its inspection on Dec. 14. The U.S. Coast Guard inspected the plant on Oct. 12. FERC inspected the plant on Sept. 21 and Sept. 22 and is expected to recommend completion of a new Storage Tank Settlement Survey every three years.

Based on the inspection, ConocoPhillips conducted a settlement survey on Oct. 16 and said the results "prove the unprecedented stability of the Kenai Facility's LNG, Propane and Ethylene tank foundation structures." A table included with the report suggested that the relevant facilities had settled only minimally since surveys in 1993, 1994 and 2002.

ConocoPhillips decommissioned Kenai LNG Marine Terminal bunker and diesel loading system last year and sold the Tyonek pipeline as part of a wider sale of Cook Inlet assets.

The company recently announced plans to put the facility on the market this year. The plant was built in 1969, and requires significant investment to support long-term use.

—ERIC LIDJI

ALTERNATIVE ENERGY

Chugach Electric seeks hydro permit

Proposed 70 megawatt power station, reservoir would be on Snow River on Kenai Peninsula north of Seward and east of Kenai Lake

By ALAN BAILEY

Petroleum News

Anchorage-based electric utility Chugach Electric Association has applied to the Federal Energy Regulatory Commission for a preliminary permit that will enable the utility to investigate the construction of a new hydroelectric power station on Snow River on the Kenai Peninsula. Snow River flows into Kenai Lake through the mountains on the east side of the Seward Highway, about halfway between the city of Seward and the community of Moose Pass. Most of the proposed project lies within the Chugach National Forest.

If constructed as envisaged, the power station would have an installed capacity of 70.9 megawatts, powered from a 5,321-acre, 15-mile long reservoir in the valley through which the Snow River runs. Chugach Electric proposes the construction of a main dam and two saddle dams with a crest elevation of 1,300 feet above sea level. With a dam freeboard of 20 feet, the maximum elevation of the water surface of the reservoir would be 1,280 feet. There are two different potential schemes for delivering water through a system of tunnels to a powerhouse below the dam.

Chugach Electric says that the proposed facility could deliver 341,433 megawatt-hours of electricity annually through a

transmission line into the Railbelt transmission grid, which runs to the west of the proposed powerhouse. The utility says that the power would be supplied to its retail, commercial and wholesale customers.

The purpose of the FERC permit application is to give Chugach Electric the exclusive right to conduct the work required to investigate the project and prepare an application for a FERC license. A FERC license would be required before the hydropower facility could be constructed.

Chugach Electric estimates that the work involved in preparing a license application would cost about \$1 million and would involve engineering, feasibility and environmental studies. There is a long list of potential stakeholders in the licensing process, including state and federal government agencies; Native organizations; and environmental organizations.

An outline schedule for the FERC license application indicates that initial stakeholder consultations would be completed by the end of this year, with the various required studies and data collection being conducted in 2018 and 2019. Chugach Electric envisages the initial preparation of the license application in the second half of 2019. ●

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GOVERNMENT

BLM requiring e-filing for documents

The U.S. Bureau of Land Management is requiring electronic filing for drilling work.

The federal agency recently amended its regulations to require operators to e-file any notices of staking and applications for permits to drill. The agency had previously allowed e-filing as an alternate to filing at field offices, but is now making the practice mandatory "to improve the efficiency and transparency of the APD and NOS processes."

The change will go into effect on Feb. 9.

BLM announced the proposed change in July 2016.

BLM oversees drilling activity in the National Petroleum Reserve-Alaska, as well as sections of the Cook Inlet basin that are important for exploration and development.

—ERIC LIDJI



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● PIPELINES & DOWNSTREAM

Enbridge enters new world

North American transportation giant can no longer count on traditional strengths to win; C\$74B in work bogged down

By GARY PARK

For Petroleum News

Enbridge, which operates a spider's web of natural gas, liquids and oil pipelines, is now the largest energy infrastructure company in North America.

That happened late last year through a merger deal with Spectra Energy involving a C\$37 billion stock-for-stock transaction that added 20,000 miles of delivery lines to Enbridge's existing 32,000-mile system.

In the process, Enbridge raised the value of its assets to C\$165 billion, with another C\$74 billion of current and potential projects in an advanced stage.

It sounded a lot like the growth picture Enbridge painted of itself over more than five decades, able to expand almost when and where it liked by gliding with ease through a benign regulatory and government approval process.

Not anymore. These days the Calgary-based company exists under a cloud of doubt, facing a seemingly insurmountable wall of resistance from aboriginal communities, environmentalists, landowners and governments at municipal, state and provincial levels.

Company a victim?

The first signs that Enbridge was losing its grip on events surfaced almost five years ago when First Nations started campaigning against the Northern Gateway project, seen as the launching pad for exports of oil sands crude to Asia, and culminated two months ago when the Canadian government delivered what is widely viewed as a fatal blow to a project that had already swallowed up C\$600 million of investment by Enbridge and its customers.

Enbridge had every reason to conclude that it was the victim of a cynical intrigues within the ranks of Prime Minister Justin Trudeau's Canadian government, which approved Kinder Morgan's Trans Mountain expansion (despite threats of legal action and civil unrest) and Enbridge's Line 3 into the U.S. Midwest (a project that has been lost in all of the smoke and fire generated by Trans Mountain and TransCanada's two big ventures, Energy East and Keystone XL.)

The only consolation Enbridge could draw from its Northern Gateway experience was the support it gained from 70

Enbridge is also encountering opposition from indigenous communities to its existing crude export pipeline projects.

percent of the First Nations along the pipeline right of way and the praise it earned from Canada's National Energy Board and the Federal Court of Appeal.

Company 'disappointed'

"We are disappointed," said Enbridge Chief Executive Officer Al Monaco. "How could we not be?"

There was reason to think Northern Gateway would proceed when the company accepted 209 conditions relating to the environment and aboriginal benefits and spent two years working to meet those standards.

"It would have been a world leading example of how to do things right," said Martha Hall Findlay, chief executive officer of the Canada West Foundation, an independent think-tank, noting the lost opportunity to involve Native communities in enjoying some of the economic benefits of Northern Gateway rather than engaging in an endless battle against poverty.

There has been some low-level speculation within the petroleum industry that Enbridge may return with an alternative pipeline route to the British Columbia coast that bypasses traditional Native lands.

But its acquisition of Houston-based Spectra, including 55 percent of British Columbia's natural gas pipelines and a proposed Westcoast Connector LNG project is facing more of the same opposition as Northern Gateway.

"Enbridge does not have a social license to operate in northern B.C.," said Nadia Nowak, one of the strongest voices against Northern Gateway.

Is Enbridge hoping to "convert gas pipelines to oil pipelines?" she asked. "Are they realizing they failed to export oil sands crude and hoping to have better luck with LNG?"

Dakota Access difficulties

In addition to troubles on its home front, Enbridge is also facing difficulties stemming from the Standing Rock protests against the Dakota Access

pipeline, to the point where it has twice delayed its proposed US\$1.5 billion acquisition of a 27 percent stake in that project.

The company said it has extended the deadline for completing its transaction with Energy Transfer Partners to March 31, but won't say whether that results from the December denial by the U.S. Army Corps of Engineers of an easement to allow a crossing of the Missouri River near the Standing Rock Sioux reservation where indigenous activists and their allies have encamped.

However, Enbridge notes that its acquisition deal includes a termination option if certain conditions aren't met by March 31, including an easement needed to allow the final 15 percent of the 1,100-mile pipeline to be completed.

But it offers no hints that it is counting on incoming U.S. President Donald Trump — a one-time investor in Energy Transfer Partners — to deliver on his vow to act promptly to approval pipeline projects.

Enbridge is also encountering opposi-

tion from indigenous communities to its existing crude export pipeline projects.

In Minnesota, tribal leaders have threatened mass protests to block expansion of the Line 3, while in Manitoba the Assembly of Manitoba Chiefs has appealed the Trudeau government's approval of the Line 3 rebuild.

In Wisconsin, a Chippewa band passed a resolution earlier in January to refuse to renew Enbridge's permits for a 65-year-old Line 5 to cross rivers in the Band River reserve, demanding instead that the company decommission the line that carries 544,000 barrels per day of Western Canadian crude across Wisconsin and Michigan en route to Ontario.

Enbridge offered an alternative to litigation by Band River, urging "conversation and collaboration," which now appear to carry greater weight than the company's traditional strengths in pipeline planning, engineering and operation. ●

Contact Gary Park through publisher@petroleumnews.com

EXPLORATION & PRODUCTION

BP adding worker facility at GC2

BP Exploration (Alaska) Inc. is looking to expand a gravel pad at the Prudhoe Bay unit to accommodate a "blast resistant module" planned for the Gathering Center 2 facility.

The company wants to add 2.05 acres to the pad. The new module would "provide a safe location for workers to perform non-operational tasks such as training, breaks, meetings, control, and administrative tasks at the facility," according to a recent application.

The work is scheduled to begin as early as April and run through the end of 2018.

The project involves placing 15,000 cubic yards of gravel at the site — 13,000 cubic yards to make room for the module and the remainder to improve access to the facility.

The facility would include a module and an enclosed and elevated 180-foot walkway leading to it from existing buildings. Both would be built upon 75 new piles driven into the pad. The project also requires changes to power and communications systems.

The power and communications work would occur this spring, followed by pad expansion in the second half of the year and facility construction throughout 2018.

The state Division of Oil and Gas is taking comments on the proposal through Feb. 9.

Gathering Center 2 is located on ADL 28284, in the center of the Prudhoe Bay unit.

—ERIC LIDJI

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FINANCE & ECONOMY

EIA: US crude production on rise again

Agency says decline began in 2015, increase attributed to higher prices, drilling efficiency improvements; Brent \$53 in December

By KRISTEN NELSON
Petroleum News

U.S. crude oil production averaged an estimated 8.9 million barrels per day in 2016 and is forecast to average 9 million bpd this year and 9.3 million bpd in 2018, the U.S. Energy Information Administration said in its Short-Term Energy Outlook, released Jan. 10.

EIA Administrator Adam Sieminski, commenting on the outlook, said that when final data are in the agency expects to see that domestic crude production increased in the last three months of 2016, which would be the first quarterly increase since early 2015.

“The general decline in U.S. crude oil production that began almost two years ago is likely over, as higher average prices and improvements in drilling effi-

ciency are giving a boost to outcome,” Sieminski said.

Brent up

North Sea Brent crude oil spot prices averaged \$53 per barrel in December, up \$9 per barrel from November.

The agency said market reactions to the Nov. 30 Organization of the Petroleum Exporting Countries agreement to cut production by 1.2 million bpd starting in January were a major contributor to December’s rising oil prices.

December was the first month since July 2015 when Brent averaged more than \$50 per barrel.

The agency is forecasting Brent to



ADAM SIEMINSKI

EIA said upward price pressures are expected to emerge in 2018, with global oil markets more balanced by mid-2018.

average \$53 per barrel in 2017 and \$56 per barrel in 2018, with West Texas Intermediate forecast to average \$1 per barrel less than Brent. EIA said the slight discount of WTI to Brent is based on an assumption of competition between the crudes in the U.S. Gulf Coast refinery market.

Brent prices are expected to remain fairly flat for the next few months, averaging \$53 per barrel in the first half of the year and \$54 per barrel in the second half.

EIA said upward price pressures are expected to emerge in 2018, with global oil markets more balanced by mid-2018.

US Production increase

EIA said that while U.S. crude production averaged 8.9 million bpd last year, down 500,000 bpd from 2015, based on the latest available monthly data from October and estimates from November and December, it estimates that production began increasing in the fourth quarter, averaging 8.9 million bpd for the quarter, up from an average of 8.7 million bpd in the third quarter. The agency said that if that data is confirmed in final data, “this would be the first quarterly production increase since the first quarter of 2015.”

Most of the fourth-quarter increase came from the Gulf of Mexico, but EIA said it estimates that Lower 48 onshore production also increased by almost 60,000 bpd.

The current estimate for 2017, 9 million bpd, is up 200,000 bpd from the previous estimate, EIA said, largely reflecting “assumptions of higher drilling activity, drilling efficiency and well-level productivity than assumed in previous forecasts.” The agency said previous forecasts reflected an expectation that Lower 48 onshore production would generally decline through the end of 2017. “The change in the current forecast reflects crude oil prices that have been higher than forecast in recent months, allowing producers to increase active rigs at a faster pace than expected.” The forecast change also “reflects the incorporation into EIA’s models of continuous productivity improvements and lower breakeven costs.”

The agency warned that the forecast is very sensitive to wellhead prices and rapidly changing drilling economics.

WTI, used as a proxy for wellhead prices, is expected to average \$52 per barrel this year and \$55 in 2018.

EIA said there is a lag of roughly six months between oil price changes and realized production.

Natural gas

Dry natural gas production is estimated to have averaged 72.4 billion cubic feet per day in 2016, down 2.4 percent, 1.8 bcf per day, from 2015, the first time annual average natural gas production has fallen since 2005, EIA said.

Natural gas pipeline exports increased by 1 bcf per day to 5.9 bcf per day, largely because of rising exports to Mexico, and EIA said it expects pipeline exports of natural gas to continue rising because of growing demand and flat natural gas production in Mexico.

Liquefied natural gas exports increased from almost zero in 2015 to 0.5 bcf per day in 2016 with the startup of the Sabine Pass LNG liquefaction plant in Louisiana. LNG exports are expected to average 1.4 bcf per day in 2017 and 2.6 bcf per day in 2018.

Net imports of natural gas are expected to decline from 1.7 bcf per day in 2016 to 0.7 bcf in 2017 and the United States is expected to become a net exporter of natural gas in 2018, with net exports averaging 0.6 bcf per day.

The Henry Hub natural gas spot price averaged \$2.51 per million Btu in 2016 and is expected to average \$3.55 per million Btu in 2017 and \$3.73 in 2018. ●



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page 10 After investing US\$20M in Palmer, Dowla opts to JV with Constantine

NEWS NUGGETS

Compiled by Shane Lasley



HECLA MINING CO.

Since acquiring full ownership of Greens Creek in 2008, this Southeast Alaska silver mine has been a cornerstone asset for Hecla Mining Co. Greens Creek produced an impressive 9.25 million ounces of silver in 2016.

Greens Creek tops 9M oz silver

Hecla Mining Co. Jan. 10 reported that its Greens Creek Mine in Southeast Alaska produced 9.25 million ounces of silver in 2016, the highest production since the Idaho-based miner bought full ownership of the operation in 2008. This strong performance helped push Hecla's total silver production to a record 17.2 million oz, 48 percent higher than 2015. In addition to the silver, Greens Creek produced 53,912 oz of gold, along with healthy quantities of zinc and lead. For the fourth quarter, 2.2 million oz of silver and 14,415 oz of gold were produced. In addition to the 7.2 million oz of silver, Hecla's four operations – Greens Creek, Lucky Friday in Idaho, Casa Berardi in Ontario and San Sebastian in Mexico – produced 233,929 oz of gold, 68,516 tons of zinc and 42,471 tons of lead in 2016. When calculating the value of the gold, zinc and lead, this comes to 46.1 silver-equivalent oz, a 23 percent increase over 2015. "The 17.2 million ounces of silver produced and the 46 million silver-equivalent ounces produced mark the third consecutive year we have broken our 125-year production record, a result of our strategy of investing in organic growth," said Hecla President and CEO Phillips Baker, Jr. "Through the down cycle we continued to build our production capacity with the start-up of San Sebastian, the development of the pit at Casa Berardi and the construction of the #4 Shaft at Lucky Friday. The performance of these investments plus the ongoing strong performance of Greens Creek allowed Hecla to generate substantial cash flows this year and we expect well into the future." Hecla ended 2016 with roughly US\$198 million in cash, cash equivalents and short-term investments, an increase of about US\$43 million for the year.

Kensington ends 2016 strong

Coeur Mining Inc. Jan. 5 announced that its Kensington Mine in Southeast Alaska produced 33,688 ounces of gold in the fourth quarter, a 27 percent increase over the previous

see **NEWS NUGGETS** page 10



SHANE LASLEY

Tourists pan for gold below the historic Pedro gold dredge at Chicken, a mining community in Alaska's Fortymile Mining District. More than 600,000 ounces of placer gold has been recovered in the Fortymile and small family run operations continue to be the economic driver for the region.

FEDERAL POLICY

Area of critical concern

BLM's Eastern Interior plan unpopular; Alaska miners hope for better deal

By SHANE LASLEY

Mining News

Despite protests by Alaska miners and government, the U.S. Bureau of Land Management has pushed ahead with a management plan that will place roughly 74 percent of BLM-administered lands in

Alaska's Eastern Interior region off limits to mining for decades to come. BLM is responsible for the management of 6.5 million acres in the federal government's Eastern Interior planning area, a roughly 30-million-acre, triangle-shaped expanse of eastern Alaska that stretches from the Yukon Territory border to a point about 240 miles into the interior of the state. This area, roughly the size of New York State, blankets most of five historic mining districts – Fortymile, Goodpaster, Fairbanks, Circle and Tolovana (Livengood). It has produced roughly 21 million ounces of gold and is known to host a broad range of other minerals.

Every 20 years, the federal land manager is charged with developing a resource management plan that serves as a framework for decision making across this swath of Alaska for the coming two



BUD CRIBLEY



LISA MURKOWSKI

decades. It has, however, been more than 30 years since the plan for this particularly gold enriched area was refreshed.

The federal agency said its new Eastern Interior management plan seeks to strike a balance between responsible development and conservation.

"We've worked hard to listen to the concerns of a diverse group of local stakeholders who rely on these public lands for their subsistence, mineral development, and recreation," BLM Alaska State Director Bud Cribley said upon releasing the proposed management plan for a 30-day comment period at the end of July.

Many of Alaska's political leaders, however, feel the plan is weighted heavily toward conservation; deliberately making it difficult for miners to realize the mineral potential on federal lands in the area.

"While some parts of the Eastern Interior deserve special protection, the withdrawals and closures in this plan are intentionally excessive," said Sen. Lisa Murkowski, R-Alaska. "As has become the norm over the past eight years, the

see **INTERIOR PLAN** page 11

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NORTHERN NEIGHBORS

Compiled by Shane Lasley



AURYN RESOURCES INC.

Auryn Resources Inc. completed roughly 11,000 meters of rotary air blast drilling at its Committee Bay gold project in Nunavut during 2016. For 2017, the company is planning 55,000 meters of drilling at this expansive property and 15,000 meters of drilling at its Homestake gold property in British Columbia's Golden Triangle.

Goldcorp invests C\$35M in gold explorer Auryn

Auryn Resources Inc. Jan. 9 said Goldcorp Inc. has agreed to invest C\$35 million to acquire a roughly 12.5 percent interest in the gold exploration company. The deal with Goldcorp is part of a larger financing that is expected to gross C\$18.17 million in cash from direct share subscriptions and C\$23 million from the sale of flow-through shares. Goldcorp has agreed to acquire all of the direct shares and some of the shares offered on a flow-through basis. Under Canadian tax law, a mineral exploration company that does not generate revenue is able to transfer the income tax benefits generated from the exploration it carries out at qualified Canada projects to individual investors that purchase the flow-through shares. As a result of the direct and flow-through shares to be sold, Auryn is expected to gross C\$41.16 million from the financing. "We are very pleased to have secured an important investment with an industry leader such as Goldcorp, on favorable terms that minimizes dilution to our shareholders," said Auryn President and CEO Shawn Wallace. "Auryn is now fully funded to complete one of the most extensive, globally significant exploration programs in 2017. The program will include a planned 55,000 meters of exploration drilling across six projects in Canada and Peru and expect to make a number of advances that could potentially contribute to the realization of multiple major gold discoveries."

BCGold finds compelling drill target at Engineer

BCGold Corp. Jan. 9 reported the discovery of a new gold-silver soil anomaly at its Engineer Mine property in northwestern British Columbia. From 1910 to 1952, the historic Engineer Mine produced roughly 18,000 ounces of gold and 8,950 oz silver from 14,263 metric tons of ore averaging 39.4 grams per metric ton gold and 19.5 g/t silver. The newly discovered BC anomaly was located in an area of limited exploration near the intersection of two shear zones about 500 meters southeast of the historic mine. The 300- by 250-meter anomaly is elevated in gold and silver with an outer halo of elevated arsenic, antimony and molybdenum. All are elements associated with Engineer-style gold mineralization within the historic mine. "The BC anomaly represents the largest near-mine gold-silver soil geochemical anomaly defined to date at Engineer Mine," explained BCGold President and CEO Brian Fowler. "The dimensions, chemistry and intensity of this anomaly, along with its association with known mineralized shear zones, creates a compelling drill-ready exploration target." The company plans to further define the limits of the BC anomaly with additional soil sampling planned to be carried out before summer.

continued from page 9

NEWS NUGGETS

three months and the best quarterly gold production for 2016. The strong finish to 2016 is due to high production, 163,410 tons milled, and higher grades, which averaged 0.22 oz/t. For full year 2016, the underground mine produced 124,331 oz of gold, a slight decrease from the 126,266 oz recovered in 2015. Coeur is expecting similar production at Kensington in 2017, calling for gold production to be between 120,000 and 125,000 oz this year. Coeur's five operations in the United States, Mexico and Bolivia produced 14.8 million oz of silver and 358,170 oz of gold. This comes to 36.3 million silver-equivalent oz, using a 60-1 silver-gold ratio to calculate silver equivalency, which is in-line with the company's guidance of 34.4 million to 37 million silver-equivalent ounces. For 2017, Coeur expects to produce 16.4 million to 18 million oz of silver and 362,000 to 387,000 oz of gold, or 38.1 million to 41.2 million silver-equivalent oz.

Dowa, Constantine form Palmer joint venture

Constantine Metal Resources Ltd. Jan. 5 reported that Dowa Metals & Mining Alaska Ltd. opted to exercise its option to become a 49 percent joint venture partner in Palmer, a copper- and zinc-rich volcanogenic massive sulfide project near Haines in Southeast Alaska. Early in 2013, Dowa and Constantine inked a deal that provides the Tokyo-based smelting and mining company with the opportunity to earn a 49 percent stake in the Palmer project by investing US\$22 million over a four-year span. Dowa invested roughly US\$20 million on exploration and fees to Constantine since that time, the approximately US\$2 million balance has been deposited in an account to cover initial joint venture expenditures. "We are delighted to form the joint venture partnership and start the next phase in Palmer's advancement. Dowa has over a century of experience in mining and smelting VMS ore deposits and shares Constantine's conviction in the project's potential and commitment to responsible exploration," said Constantine President and CEO Garfield MacVeigh. In 2015, Constantine published an inferred resource of 8.125 million metric tons averaging 5.25 percent (940.4 million pounds) zinc, 1.41 percent (252.6 million lbs) copper, 0.32 grams per metric ton (83,600 ounces) gold and 31.7 g/t (8.3 million oz) silver. "With a projected shortfall in global zinc supply and a dearth of quality advanced stage zinc projects we anticipate an exciting 2017 and bright future for the project and our shareholders," added McVeigh. In November, Constantine announced plans to sell some of its gold exploration claims to Lake Shore Gold Corp., a wholly owned division of Tahoe Resources Inc. This transaction is nearing completion, which would bolster Constantine's treasury by C\$4.5 million, providing the company with more than enough cash to fund its 51 percent share in the exploration development of the Palmer joint venture for 2017.

Richardson report: follow intriguing gold finds

Northern Empire Resources Corp. Jan. 6 filed a technical report that details recent exploration at the company's Richardson gold project and outlines recommendations for future work at the Interior Alaska property. Roughly 25 miles (40

see NEWS NUGGETS page 11



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INTERIOR PLAN

Obama administration has gone well beyond what is necessary, in an attempt to shut down economic activities such as mineral entry that it simply refuses to support.”

Beyond excessive, state of Alaska officials believes the actual and de facto conservation areas under the plan breaks a promise the federal government made to the state in 1980, when it placed 106 million acres of federal lands in the 49th State into conservation units as part of the Alaska National Interest Lands Conservation Act.

“Because key portions of the plan violate the 1958 statehood act and other laws, the state of Alaska took the significant step of formally protesting it. Doyon Limited, representing 19,000 Alaska Native shareholders, also protested the plan,” said Alaska Gov. Bill Walker.

Unnecessary conservation

Alaska and its miners are particularly troubled with the plan for the Fortymile sub-unit, a 15-million-acre region that covers the southern half of the Eastern Interior planning area, including much of the Fortymile, Goodpaster and Fairbanks mining districts.

BLM says the new Eastern Interior management plan opens up roughly 1.13 million acres, or about 60 percent of the some 1.89 million acres of BLM-administered lands in the Fortymile sub-unit to mineral exploration and mining.

Miners in the area, however, believe this claim is “disingenuous and deceiving”.

“BLM has released this plan with claims that it allows for more access and

mineral development. However, the plan elements ensure that 99 percent of the planning area has wilderness-like qualities that will largely be managed like wilderness, not allowing for resource development and access, even if not formally designated as such,” Fortymile Mining District President Dick Hammond penned in a Jan. 7 response to management plan.

The final plan ties up roughly 745,000 acres of the Fortymile sub-unit in conservation units that would be off limits to development. This includes expanding wild and scenic designations along the Fortymile River and placing about 399,000 acres in controversial conservation units known as Areas of Critical Environmental Concern.

Hammond said much of the lands being placed in ACECs were previously tied up in public land orders that should have expired years ago.

“What BLM is doing is making the majority of these withdrawn lands permanent by placing them under Areas of Critical Environmental Concern,” he explained.

The largest ACEC designation in the Fortymile District measures roughly 80 miles by 10 miles in a corridor of federal lands that border the southeast side of the Yukon-Charley Rivers National Preserve. The designation also traps state and Alaska Native lands in an island between a national reserve and the environmental conservation area.

Another 632,000 acres of lands in the Draanjik, formerly known as the Upper Black River, sub-unit is now tied up in an



GOV. BILL WALKER

The final plan ties up roughly 745,000 acres of the Fortymile sub-unit in conservation units that would be off limits to development. This includes expanding wild and scenic designations along the Fortymile River and placing about 399,000 acres in controversial conservation units known as Areas of Critical Environmental Concern.

ACEC.

Only about 34,000 acres of the roughly 2.3 million acres of BLM-administered lands in the Steese and White Mountain sub-units of Eastern Interior, which cover much of the historic Circle and Tolovana mining districts, are open to mining under the management plan.

The only areas where mining would be allowed under the plan consist largely of already established federal mining claims in these mineral-rich areas north of Fairbanks.

“As a result of this new plan, another one million acres of Alaska will be withdrawn and almost five million acres will be closed to mineral entry,” said Sen. Murkowski. “BLM has continued to disregard its multiple-use mission and the livelihoods of Alaskans as it seeks to impose unnecessary conservation designations.”

“We are concerned that implementing this plan will reduce economic opportunities in Interior Alaska,” added Gov. Walker. “For example, the plan preemptively bans mineral exploration and development on more than three quarters of the available public lands, with no opportunity to show that these activities can be done in compliance with existing state and federal laws.”

Sliver of hope

The Eastern Interior management plan was published to the U.S. Federal Register on Jan.6, triggering a 30-day

period during which individuals or groups have a right to appeal decisions in the plan.

This means that official implementation of the plan would not happen until after Donald Trump is sworn in as president and his administration is in charge, leaving Alaskans opposed to the plan with a sliver of hope to change the outcome.

“Like the rest of the working people in the United States, we are waiting and hoping that the new administration will follow the law and bring a return to reasonable regulation,” Hammond wrote on behalf of his fellow miners in the Fortymile District.

The Eastern Interior management plan is one of a number of Alaska land management issues that Gov. Walker plans to take up with the incoming administration.

“Now that the plan has been adopted without fixing these serious defects, we will work with the incoming administration and our congressional delegation to determine how to address this decision, which is just one in a series of disappointing decisions we’ve received from the Department of Interior in recent weeks,” the Alaska governor penned in a statement.

Sen. Murkowski, who is chairman of the Energy and Natural Resources Committee, said she will be working with the incoming administration to overturn many of the midnight rules and directives pushed through by the Obama administration. ●

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NEWS NUGGETS

kilometers) northwest of Delta Junction, Richardson hosts multiple gold targets – Democrat Pit, Shamrock and Northwest Camp. During a summer 2016 program, Northern Empire completed 277 line-kilometers of ground magnetic geophysical surveys and trenching on the property. “On a modest budget, our 2016 program made significant progress on the project in the form of discovering new, and expanding known, geochemical and geophysical anomalies, as well returning significant gold assays from rock and chip samples. Assays from rock chip channel samples collected in continuous one-meter intervals across 130 meters returned high grade gold in bedrock, including 5.73 grams per metric ton gold over 32 meters. The structures hosting this gold mineralization are traceable with geophysics for several kilometers,” explained Northern Empire President and CEO Michael Allen. Authors of the technical report recommend a roughly C\$1 million program that includes further trenching at Democrat Pit, which is where the 32 meters of 5.73 g/t gold was encountered. Current interpretations suggest two possi-

ble orientations for gold bearing structures and the technical report recommends testing both with trenching. The report also recommends a drill program to follow trenching. Follow-up on intriguing gold values from historical trenching in the Shamrock area was also recommended by R. Bob Singh, Curt Freeman and William Cronk, the geologists that authored the technical report. “We look forward to an exciting 2017,” added Allen. A copy of the technical report can be found on Northern Empire’s website. ●

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CORRECTION

An article published in the Jan. 8 edition of North of 60 Mining News incorrectly stated the mining fatality rate for 2016. The U.S. Department of Labor updated the 2016 mining fatalities to 26, which is eight fatalities per 100,000 miners.

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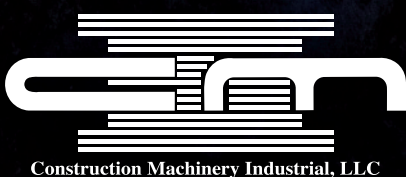


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• ALTERNATIVE ENERGY

Use of renewable power grows in Alaska

State may exceed 30% generation from hydro, wind, biomass in 2016; large hydro dominates; small hydro, wind, grow in rural areas

By **TIM BRADNER**
For *Petroleum News*

Alaska may exceed the 30th percent threshold on generation of power statewide from renewable resources for 2016, Alaska Energy Authority officials say. The estimate is based on preliminary information through September.

In another milestone, power generation from small hydro, wind and biomass is rapidly increasing in small rural communities and is expected to have displaced 30 million gallons of diesel fuel for 2016, according to Sean Skaling, AEA's deputy director.

That is almost double the 15.7 million gallons of diesel displaced, or not used, in 2014 because of power generated from renewable energy, according to data from the authority.

AEA is a state entity that manages energy programs. It owns several assets including the Bradley Lake hydro project near Homer and an Anchorage-Fairbanks electrical intertie that carries power between Southcentral and Interior Alaska.

Statewide, the percentage of renewable energy supplying electricity has been increasing and moving close to 30 percent since 2013, Skaling said.

The statewide figure was 27.4 percent in 2013, 29.45 percent in both 2014 and 2015 and appears set to exceed 30 percent for 2016 based on data through September, he said.

Hydro dominates

The bulk of Alaska's renewable energy

comes from hydroelectric power generated from projects built years ago, such as at Bradley Lake near Homer and Snettisham near Juneau. Hydro is considered "renewable" under state law but not under federal law.

The steady increases in recent years, however, are due to a number of small hydro and other renewable sources such as wind and biomass that are coming on line mostly in small rural communities.

Most of these were built with grants from AEA's state-funded Renewable Energy Fund with some federal funds through the Denali Commission and with local contributions.

Skaling said there are now 69 REF-funded projects operating statewide, the bulk of them in rural communities. Several others are under construction or in engineering, so the number operating will increase as construction is completed.

Over several years the Legislature has appropriated \$20 million to \$25 million a year for the REF grants and AEA annually solicited proposals for new projects. However, there will be no solicitation for new projects in 2017, for the first time in years, due to the scarcity of state funds.

The program will not shut down, Skaling said. Instead, AEA will propose funding some projects that were presented to the Legislature but not funded in recent years.

More projects than money

AEA has always had more project pro- see **RENEWABLE ENERGY** page 14

FINANCE & ECONOMY

Feds, Furie delay Jones Act settlement

A U.S. attorney has asked for additional time to finalize a settlement between the federal government and Furie Operating Alaska LLC over a large Jones Act violation fine.

In a Jan. 2 letter, U.S. Attorney Karen L. Loeffler asked the court for an additional 20 days to get final approval for the settlement from the U.S. Department of Justice.

In 2016, Furie and the U.S. Department of Homeland Security announced a "tentative" settlement to their long-running legal dispute. The two sides have withheld the details of the settlement while they wait for the Justice Department to issue final authorization.

A 20-day delay could push a final decision about the settlement as late as Jan. 22, which would push the decision to the incoming Trump administration. The delay would not, however, require the court to extend its current timetable for a potential court case. The court recently extended the timetable for the case to accommodate a previous delay.

The current delay is the third since the two sides announced the settlement in late August 2016. In late September, Loeffler told the court that she expected approval within 45 days. But in a status update submitted on Nov. 24, Loeffler asked for another 30 days, saying she was unsure how long it would take the appropriate officials at the department to reach a final decision. In the current request for additional time, Loeffler said she was "not able to estimate how much additional time it will take" to get final authorization.

U.S. Customs and Border Protection assessed a \$15 million fine against Furie predecessor Escopeta Oil Co. in October 2011, after the company brought the Spartan 151 jack-up rig to Alaska to explore the offshore Kitchen Lights unit. The federal agency accused the company of violating the Jones Act, which requires any vessel moving between domestic ports to be built, flagged, crewed and mostly owned by Americans.

The following summer, Furie sued the U.S. Department of Homeland Security, calling the fine "unwarranted and unprecedented." The two sides entered mediation late last year.

—ERIC LIDJI






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RENEWABLE ENERGY

posals than it has had money for, and a set of these are vetted for technical and financial feasibility by the authority and then submitted in an annual list to the Legislature. This list is ranked for priority as to feasibility.

The available money is appropriated to a number of projects starting at the top, ranked for feasibility, so there are always some that are fully vetted but cannot be funded.

These will be considered this year with money that is left over, or not used, by projects in previous appropriation cycles or other funds the AEA may be able to gather.

While the Legislature has authority to pick and choose among projects submitted on the list it has never done so, instead accepting the recommendations from the AEA.

Wind projects quickest

In the first years of the Renewable Energy Project funding wind projects predominated because they could be built and put into operation quickly. Small hydro projects, where they are feasible, are the most beneficial because once built they operate for decades, Scaling said.

However, hydro construction costs can be substantial, requiring that the project sponsors cobble together funds from several sources. Most must also be licensed by the Federal Energy Regulation Commission, a process that takes time.

"Hydro is difficult to develop but once built they will last for 50 years or more,"

Scaling said.

One new hydro project about to come on line is at King Cove, on the Alaska Peninsula, where the City of King Cove was able to combine REF grants, other money from AEA's power project development fund plus its own money through bonds.

Some communities are lucky enough to combine wind with hydro, and the hydro can solve the variability power with wind. Unexpectedly, the winds can stop blowing, but if hydro is also on line it can quickly be ramped up to supply power.

In Kodiak the regional utility has both hydro and wind and also a large battery, which can instantaneously supply power until the hydro can be opened up, Scaling said. For even more backup Kodiak has a large flywheel.

For most communities with only wind the backup must be done with diesel, but an equal problem is what to do with excess wind power that is otherwise wasted. To solve this, AEA is now working with communities on developing "secondary" loads, typically using excess wind power to heat water that is then used to heat community buildings.

Biomass, where there is available wood, is another option. A few of the REF projects involve wood-fired boilers, typically in schools or other large community buildings. There are now several of these around the state including schools where wood also heats greenhouses where vegetables are grown for the community. ●

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PRUDHOE PRODUCTION

also laying off rigs during 2016, a consequence of low oil prices, said Scott Digert, BP's Eastern Prudhoe Bay reservoir manager.

"We were able to meet our 2016 production goals, despite being down two rigs for much of the year," Digert said.

State Oil and Gas Division Director Chantal Walsh credited the Slope production performance to a number of factors including better-than-expected output of ConocoPhillips-operated CD-5, a new production site near the Alpine field, production from Drill Site 2S in Kuparuk, also by ConocoPhillips, and a coiled-tubing drilling program in Milne Point by Hilcorp Alaska.

Prudhoe got the benefit of major maintenance projects by BP in 2014 and 2015, she said.

Kara Moriarty president of the Alaska Oil and Gas Association, gave credit to, "a lot of work and investment by oil producers on the Slope to move more oil out of both new fields and legacy fields."

"It's also proof that a competitive tax policy can reverse production decline, even during periods of low oil prices. Last year's production increase didn't just happen by accident," she said.

The 2016 bump benefitted from several years of intense field activity triggered by the Legislature's passage of Senate Bill 21, a major overhaul of state oil and gas taxes, in 2013.

Prolific wells

BP went from five to two rigs in Prudhoe but also "high-graded" its drilling opportunities, picking the priorities carefully, Digert said in an interview. The new wells that were drilled, which were in several different parts of the Prudhoe Bay unit, were more prolific than had been expected, he said.

These wells were in separate reservoirs in the Prudhoe Bay unit including the Lisburne, Niakuk and Point McIntyre reservoirs, where there were small, untapped pools. There were also targets in the main Prudhoe formation, known as the Ivishak, particularly in lower sections that have been isolated by shale barriers, Digert said.

Alan Mitchell, BP's Western Prudhoe Bay reservoir manager, said the company was also tapping into the smaller Sag River formation, which overlies the main

Prudhoe Ivishak reservoir.

In many cases the Sag River was tapped by installing new perforations in older wells that had been drilled down to the deeper Ivishak, but there are also some new wells drilled to the Sag River.

Wells were also drilled to reach pockets of untapped oil at the bottom of the Ivishak that had been isolated by shale barriers. "This is good oil but the rock has low permeability," Digert said, referring to the permeability, or connections, of pore spaces in the rock that allow hydrocarbon fluids to flow.

Precision drilling

This also required precision drilling of long horizontal wells through reservoir sections only 30 feet thick in some cases, Digert said.

Some of these wells were also "tipped up" at their end to penetrate oil reservoir sections with higher gas ratios which brought gas-rich oil into the well, helping move other oil.

Many of the wells were also "side-tracks," or new wells drilled from the bores of older wells. These can be done with coiled-tubing drill units instead of the big rotary wells, which are more costly.

BP also doubled down on well work and upgrades to surface facilities that did not require a rig. "There were a lot of opportunities for upgrades at the surface, such as to flow lines, which made production more efficient," Digert said.

Prudhoe's decline will likely resume in 2017 partly because major "turnaround" or maintenance projects are planned at field production facilities that will take the plants off-line for periods during the summer, Digert said. Slope production normally is impacted during summer turnarounds.

Despite the increased productivity, the major Slope producers are still operating in the red. Janet Weiss, BP's Alaska president, told an Alaska industry conference in November that BP was operating at a \$1.5 million-a-day loss in Alaska.

ConocoPhillips spokeswoman Natalie Lowman said that her company was similarly in an operating loss position through the first three quarters of 2016 in spite of good performance at CD-5 and other ConocoPhillips-operated Alaska properties. Fourth quarter results are expected out in the near future, Lowman said.

12.5 billion barrels

To date Prudhoe has produced about 12.5 billion barrels compared with the original estimate of recovery of 9.6 billion barrels when the field started up in 1977. The improvements came through a combination of greatly expanded gas cycling and gas reinjection capacity, innovations in drilling, with new types of wells like "multi-lateral" wells, where several new wells are drilled off an older well bore to the surface, and sidetracks drilled with coiled-tubing units. There were also new developments in enhanced oil recovery and pressure-maintenance projects, like an innovative project to inject seawater into Prudhoe's gas cap to maintain pressure.

Many of these were first developed on the North Slope, and some have been exported to be applied elsewhere in the world.

The field still has a lot more oil that can be produced, as well as the gas.

Prudhoe's wells today average 400 to 500 barrels per day, although there are still good ones that produce 3,000 to 4,000 barrels per day. But it's a far cry from the early days when Prudhoe wells typically produced 10,000 barrels a day, and the best wells could achieve rates of 50,000 barrels per day. ●

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• PIPELINES & DOWNSTREAM

Tribe wants line moved from reservation

By **TODD RICHMOND**
Associated Press

AChippewa tribe in Wisconsin is calling for 12 miles of pipeline to be removed from its reservation after 64 years of operation, saying they want to protect their land and water from oil spills.

The Bad River Band of Lake Superior Chippewa's tribal council approved a resolution Jan. 4 refusing to renew easements for 11 parcels of land along a section of Enbridge's Line 5 pipeline, which carries oil and natural gas liquids 645 miles from Canada to eastern Michigan.

The resolution also calls for decommissioning the pipeline and removing it from the tribe's reservation along the shores of Lake Superior in far northern Wisconsin. The resolution also directs tribal staff to prepare recycling, disposal and surface restoration work that would come with removal.

"We depend upon everything that the creator put here before us to live mino-bimaadiziwin, a good and healthy life," Bad River Chairman Robert Blanchard said in a news release. "These environmental threats not only threaten our health, but they threaten our very way of life

as (Chippewa). We all need to be thinking of our future generations and what we leave behind for them."

Right not clear

But it isn't clear whether the tribe can force removal of the pipeline. Brad Shamla, Enbridge's vice president of U.S. operations, told The Associated Press in a telephone interview Jan. 6 it was too early to speculate on what authority the tribe may have.

Shamla said there's never been a spill on the reservation since he joined the company in 1991.

The resolution surprised the company, Shamla said, because Calgary, Alberta-based Enbridge and the tribe have been negotiating renewal of easements on the 11 parcels — which expired in 2013 — for the last three years. The easements for the majority of the remaining parcels on Bad River tribal land extend until 2043 or rest in perpetuity.

"We'd really like to understand better what's prompting this at this time," Shamla said. "Safety is extremely important to us. We've maintained and operated this line safely for more than 60 years."

Bad River tribal officials didn't immediately respond

to messages Jan. 6.

Dakota Access concerns

Concerns over drinking water are what partially sparked the massive, months-long protests over Energy Transfer Partners' plans to build a section of the Dakota Access oil pipeline under a Missouri River reservoir in North Dakota. The Standing Rock Sioux and the Cheyenne River Sioux are challenging the pipeline's permits at numerous water crossings.

Enbridge's Line 5 has been a flashpoint of contention in Michigan. Environmentalists fear a portion of pipeline that runs beneath the Straits of Mackinac, which link Lake Michigan and Lake Huron, could rupture and cause catastrophic damage to the Great Lakes.

Shamla insisted the line is safe and is inspected at least once every five years to determine the extent of corrosion as well as spot dents, potential cracks and other problems. The company checks the portion that runs beneath the Straits of Mackinac every two years, he said.

"We've maintained and operated this line safely for more than 60 years," he said. "Overall, Line 5 is in very good condition." ●

continued from page 1

EIA OUTLOOK

Clean Power Plan is not implemented; the reference case assumes CPP is implemented.

Speaking to key takeaways from the outlook, Sieminski said EIA believes crude oil production will rebound and with consumption projected to be flat, imports as a percentage of U.S. demand will decline in most cases.

Across most cases the outlook projections show natural gas production increasing despite relatively low and stable prices, supporting both higher domestic use and exports.

The outlook provides modeled projections of what may happen given certain assumptions and methodologies, with the projections sensitive to resource and technology assumptions.

Reference case v. others

EIA said the reference case projections assume "trend improvement in known technologies, along with a view of economic and demographic trends reflecting the current central views of leading economic forecasters and demographers."

Uncertainties are addressed in side cases.

The reference case uses a 2040 Brent crude oil price (in 2016 dollars) of \$109 per barrel. In the high oil price Brent is assumed to reach \$226 per barrel while in the low oil price case it is only \$43 per barrel.

The oil and gas resource and technology cases assume, for the high case, lower costs and more resources available than in the reference case; the low resource and technology case uses "more pessimistic assumptions about resources and costs,"

EIA said.

The high and low economic growth cases use, respectively compound annual growth rates for U.S. gross domestic product of 2.6 percent and 1.6 percent, from 2016-40; the reference case uses 2.2 percent annual growth.

Resources

In the high oil and gas resource and technology case EIA said it "assumes higher estimates of unproved Alaska resources, offshore Lower 48 resources, and onshore Lower 48 tight oil, tight gas, and shale gas resources" than the reference case.

U.S. energy production continues to increase in the reference case, with growth led by natural gas and renewables. EIA said natural gas accounts for nearly 40 percent of U.S. energy production in the reference case, with crude oil production increasing from current rates and then leveling off about 2025 "as tight oil development moves into less productive areas."

In most cases the U.S. becomes a net energy exporter. In the reference case this occurs in 2026; in the low economic growth, high oil price and high oil and gas resource and technology cases that occurs earlier, with net exports highest in the high oil and gas resource and technology case "as favorable geology and technological developments combine to produce oil and natural gas at lower prices."

In the high oil price case economic conditions are favorable for producers, but consumption is lower in response to higher prices.

"Without substantial improvements in technology and more favorable resource availability, U.S. energy production declines in the 2030s," EIA said.

In the low oil price and low oil and gas resource and technology cases the U.S. remains a net importer over the analysis period.

Net energy exporter

In the reference case the U.S. becomes a net energy exporter "as natural gas exports increase and net petroleum imports decrease," EIA said. The U.S. has been a net energy importer since 1953, the agency said, but in the reference case, driven by declining energy imports and growing exports, the U.S. becomes a net energy exporter by 2026.

With oil, the U.S. imports mostly crude oil and exports mostly petroleum products through the reference case projection, EIA said. In natural gas, trade has historically been by pipeline, with gas coming in from Canada and out to Mexico, but that trade is projected to be "increasingly dominated by liquefied natural gas exports to more distant destinations," the agency said.

Prices, production

The reference case projects Brent crude oil prices and Henry Hub natural gas prices to increase over the projected period. Natural gas prices are projected to rise and then remain relatively flat at about \$5 per million Btu over 2030-40, then rise again in the following decade.

Petroleum product consumption in the U.S. is projected to remain below 2005 through 2040 in most cases "while crude

oil production rebounds from recent declines." In the reference case U.S. crude oil production is projected to recover as upstream producers increase output in response to the rise in prices and cost reductions.

U.S. production, dominated by tight oil in the reference case, levels off between 10 million and 11 million barrels per day "as tight oil development moves into less productive areas and as well productivity gradually decreases."

LNG exports

EIA said LNG exports from the U.S. vary across cases and reflect global demand and difference between domestic and global natural gas prices.

Most LNG is traded under oil price-linked contracts, the agency said, but that is expected to change as the LNG market expands. LNG from the U.S. "has the advantage of domestic spot prices that are less sensitive to global oil prices than supplies from other sources," EIA said.

In the reference case, increased natural gas trade is dominated by LNG exports while pipeline imports continue to decline, with LNG projected to dominate U.S. natural gas exports by the early 2020s, growing modestly after 2020 as U.S.-sourced LNG becomes less competitive on the global market.

—KRISTEN NELSON

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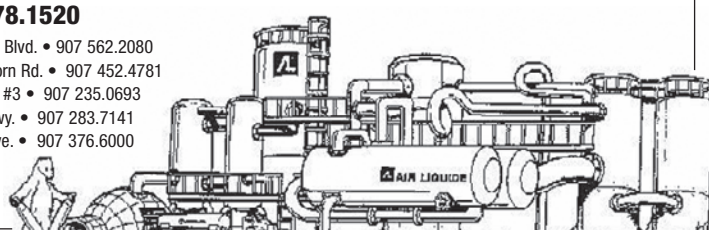
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Crowley group achieves ISO/IEC 27001:2013 certification

Crowley Maritime Corp.'s government services group has achieved worldwide ISO/IEC 27001:2013 information security certification for enhancements made to the security of accessing, transmitting, processing and storing covered defense information related to its management of Military Sealift Command's T-AGOS/T-AGM and BOBO vessels. ISO/IEC 27001:2013 is the most rigorous and recognized international standard for implementing and managing security controls to protect information assets. It complements the company's existing ISO 9001 quality system and ISO 14001 environmental system certifications.

During the certification process, the American Bureau of Shipping verified that Crowley had a robust framework in place to assess information security risks, identify threats and rapidly respond to any issues related to the fleet.

"This comprehensive standard, which includes regular follow-up surveillance audits, ensures our partners around the world that we have rigorous information security controls in place to protect the confidentiality, integrity and availability of Crowley's information," said Mike Golonka, vice president government services, Crowley. "We are pleased to expand our global framework to include this certification, which elevates the security standard for the maritime industry."

Crowley's global ship management group was originally awarded the contract for operation and maintenance of the T-AGOS/T-AGM fleet for the Military Sealift Command in December 2014 and for the BOBO fleet in August 2015. For the T-AGOS/T-AGM fleet of seven, Crowley provides personnel; operational and technical support; and equipment, tools, provisions and supplies. For the BOBO-class prepositioning fleet of six, Crowley provides full turnkey operation and management, including crewing, and scheduled and unscheduled repair and dry-dockings.

Alaska Materials announces agreement with Impac Co.

Alaska Materials President John Horjes announced Jan. 5 the formation of the company and a "definitive agreement" with Impac Co. of Seattle, Washington.

The companies provide wholesale materials, and will work together to expand markets, product lines and market share. Impac Co. is a Seattle based export wholesale company that has been serving commercial and residential customers for over 30 years.

With more than 80 years of experience, the company's staff are experts at sourcing, consolidating and shipping a wide selection of materials and products to any location in Alaska, Hawaii, and the Pacific Rim.

Alaska Materials is a "direct ship" wholesale company based in Anchorage, Alaska. The company provides construction and specialty materials to all locations and industries including: construction, oil, gas, mining, marine, state, federal, and tribal projects.

"Alaska Materials will manage and direct its sales thru Impac Co., who will provide back office operations as a service provider. We see opportunities in multiple markets, and we will build value by positioning our focus with specific products and services. Our Anchorage and Seattle offices will serve as the platforms to do this," said Horjes.

Alaska Materials will also serve as a platform for other activities to include M&A, strategic alliances and new product development. For more information visit www.alaskamaterials.com or www.impac.com.

Fluor awarded refinery project in Chile

Fluor Corp. announced that it was awarded a contract by Empresa Nacional del

see **OIL PATCH BITS** page 18

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

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continued from page 3

YOUNG Q&A

than anyone else. The only ones who supported what the president did are people who are what I call blind to the fact if you don't manage you destroy.

They think without management there will be no destruction. I argue that if you set things aside the right time comes — and it will come — there will be rush to develop something without the input. Do it now when we have the time. I've argued that for years on ANWR. Don't wait until there is a crisis. What people don't understand is regardless of what we do, there will be a time when we need those resources and they will be developed but not with the standards that are necessary to protect the other parts of the environment.

Petroleum News: There are those who say if the U.S. doesn't get a chance to develop Arctic resources, it won't stop other countries from doing it. They say it puts the U.S. in peril if there is a disaster from another country. How do you see it?

Young: You hit it right on the head. If we think China is not going to get involved. They are building ice breakers. They are going to claim international waters. People don't realize it but they will. I expect Russia to already do it. You might already see Norway get involved again. I believe ice breakers are necessary or the navigational needs to be in place. The identification of the floor bottom, which is crucial. ... We are just going behind the eight ball. We like to live within ourselves in that if we do this we are going to protect the whole world. That's nonsense. This goes back to the president. He's making these decisions without science He's very good at that. He makes decisions because it feels good. He plays to a crowd.

I'm not saying he's the only one, but he plays to a crowd to appease and make them happy. It's not the right thing to do for a nation or the globe itself. Do things correctly and you'll see a supporter here. Do things incorrectly and you'll see an adversary.

Petroleum News: One of the toughest areas for you folks has been ANWR, advancing toward leasing, exploration and possible production. Do you think this is your best chance?

Young: Of course it's our best chance. I've passed it out of the House 12 times. I've helped pass it out of the Senate once. Clinton vetoed it. That was a long time ago. The argument against it is there is no need for it. We are producing more oil and gas. Why should we destroy this great, beautiful area which it's not. That's been the greatest propaganda program I've ever seen.

What I'd like for us to do as a Congress is say the (Interior) secretary has the authority and will lease the ANWR area, and you can put language in there and say within a certain time. Under the law, that area was set aside so specifically Congress only can take it off the table or can make able for drilling. Otherwise the president would have put that under a monument. The price of oil is down now. Would we get the appropriate amount of money? Probably not. So what we do is change the timeframe in which they have to act on the lease, so you lease it out — and you would get a tremendous amount of money — but it doesn't have to be totally developed until the price of oil reaches a certain level so there would be a return on their investment.

But they would know what's there.

“What I hope to do and see to have done is we are going to look at these regulations. The ones that make sense and protect the environment, we'll keep. The ones that are put in arbitrarily with no science behind them are going to be put to bed.” —Congressman Don Young, R-Alaska

They can drill the wells and have it ready to go at a certain time when it reached a certain price, which might be about \$70 a barrel, which is about the right price of oil for coming out of Alaska. We would have it available. We would know it's there. It would be one of the best things that could ever happen. We could help balance the budget with that oil. Just to leave it in the ground I think is inappropriate.

Petroleum News: How about making that part of an energy bill?

Young: That's possible. We could pass it out of the House. I don't know how we could do it if the Senate sticks by the 60 vote rule. If they go by 60 votes, we are going to have a hard time doing it. There is no doubt about that. If they use the nuclear option or some other form of getting it done, this is the time to do it. There is nothing environmentally wrong for doing it — regardless of what people say. This is my state. I've been there. I've watched it. I've seen it. The rest of the refuge is protected. We are talking about a minimum amount of acreage, about the size of Dulles Airport. It has the potential — there have only been about two wells drilled there — but we'll know for sure what would happen if it's put in the bidding market. Then we will be able to develop it say within 30 years instead of 10 years.

Every time we have a federal lease there has to be action within 10 years. But with lawsuits, and many delays, a lot of people don't want to invest in that type of property. They would rather invest in private land.

Petroleum News: Speaking of the energy bill, what do you think held things up last session?

Young: I think what held things up was a lot of people on my side thought we could get a better deal later on. I argued — and this is a country boy analogy — if you want to pick a peach and you go to an orchard and the best looking peach in the whole tree is at the top of the tree, but you don't have a ladder, yet there is one lower, it doesn't look very good and it isn't the right size, but you've got a peach. We should have taken and ate that peach, then gone back to the barn, got a ladder and got the good peach.

I think we made a mistake. There were some good things in there. There wasn't a lot of energy in terms of total production of energy. But there were some things that I thought were appropriate. Lisa (Murkowski) had to work really hard with Maria Cantwell and Patty Murray and that group on the West Coast. She did the best she could do, but we got on the House side and some people thought we could do a better job. Of course there was a big fight about the land and water conservation fund. Rob Bishop, very frankly, he's right it's got out of hand. We've accumulated more land in the federal government's hands, which is the worst manager of lands in existence. No one can call them to task. No one can say you did something

wrong. They can do what they damn well please. The forest fires we're having is a result of federal management. People don't realize it.

Petroleum News: What do you think the chances of getting something done these next two years for an energy bill?

Young: We're looking at Obama repeal or reform; we're looking at tax reform, a new tax system; we're looking at regulatory reform; we're looking at big items. If we can the energy part of that package, it's going to be good. That may be hard. You look at the people — and it goes back to the popular vote that we have — on the West Coast, that's all left wing liberals who don't understand what provides the wealth of their jobs and what provides the comfort of their lives. That's where most of the representatives come from. It's going to be hard to get this at the front of the room because they don't see how it affects them.

Petroleum News: You're going to be working with a new cabinet. Let's talk about a few of the candidates: (former Texas Gov.) Rick Perry. He comes from a resource state, but he also wanted to abolish the department when he was a (presidential) candidate. How do you look at his nomination?

Young: I look at it very favorably. I will tell you, and I've said it publicly, when has the Department of Energy ever produced any energy? They have never said, let's help produce energy. They will tell you why you can't produce energy. They know to build energy; they give you restrictions on the production of it, so I'm not high on the department period. I think that is going to be beneficial to Gov. Perry. I know him well. I think he will do a good job.

Petroleum News: For the EPA, Scott Pruitt, the attorney general from Oklahoma, he has sued the EPA and has pending lawsuits, so how do you go with somebody to take over an agency you are suing?

Young: I think you should be able to do it. The EPA is one of the most egregious agencies in existence today, over extending their authority in regulatory law. Some of the requirements, they have had nothing to do with the environment. It's all done because of a policy or a philosophy of the groups who are in there. I have been terribly disappointed with this EPA administrator. They have done nothing that protects the environment. They have done something that impedes the progress and the development of our resources in this country. I think that Pruitt is a great nominee. There will be a great fight about it. They don't use good

science. They don't have a good scientific community. If you challenged them on their findings, their decisions, their regulations, they wouldn't respond because they know they are wrong. But most states don't want to do that. They are afraid of getting in the cross hairs with them.

Petroleum News: What can Mr. Pruitt do?

Young: What he can do is have his scientists in his department: Make sure they are picked correctly and they are good people so the science is put forth. They don't do that now. Listen to the people who are affected by the regulation. If I found people working within my agency doing their own thing because they can't be “fired,” I'd move them. You can do that. We are here to project the environment. You have to put the economy in that. They don't do that. I respect his desire and capability.

Petroleum News: The Supreme Court ruled the EPA needs to factor in economic variables in one case.

Young: They don't do it. Show me when they've done it. You can't show me one case where they have factored in the economy. That means we have to take them to court. The Supreme Court can rule whatever they want. If they (administration) don't follow the rules and they have not followed the rules, this administration is great about not following the rules. Anyway, I'm wound up about that. It has probably done more damage to this country than anyplace I know of.

Petroleum News: Last is Ryan Zinke for Interior Secretary. I know you talked about him a little bit.

Young: I think it was a good selection, primarily because he's a westerner. He understands the policy of public lands. The BLM is a disaster. They went from a multiple use agency to a single use agency. They have become what we call a miniature park service. They are supposed to be an agency that has timber harvesting, mining, grazing of lands, recreation, public use, not restrictive use.

Every one of the agencies got ahead of themselves. If you wonder why the election was won by Donald Trump it is because the environmentalist elitist group put themselves in front because they knew better than any of the rest of the Americans. Now all of the sudden they got their butts kicked was because they went too far without considering the people's will. I think Zinke is going to be a real plus because I believe he is going to listen to the people. ●

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continued from page 1

NWT EXPLORATION

feedback into account to inform the next steps," the department said in a vaguely worded statement that Indigenous and Northern Affairs Minister Carolyn Bennett declined to explain in more detail.

Paul Barnes, Atlantic Canada and Arctic manager for the Canadian Association of Petroleum Producers, told Bloomberg News that his lobby group understands the government will hold discussions, in particular with license holders, "with respect to (permit) extensions. We're anxious to have those discussions."

For now, the only hope for license holders — notably a partnership of ExxonMobil, Imperial Oil and BP — is that the government may be open to a review of the five-year ban on drilling that it imposed late last year after it completes a current round of consultations on the impact of the freeze.

The other proponents are ConocoPhillips, Chevron, Repsol and Franklin Petroleum Canada.

It is not yet clear whether the Exxon-Imperial-BP consortium will continue

probing ways to improve its drilling and spill-response measures in hopes that exploration will be possible should a more pro-industry government get elected.

Otherwise the partnership has made no changes to its mid-2015 decision to suspend its Beaufort exploration program, citing insufficient time to begin test drilling before its lease expires in 2020.

BP said it will "work to understand any potential implications (of the drilling freeze) on our business."

A spokesman for Franklin said that if exploration work is halted, the issue could result in legal action.

Greenpeace is among several environmental groups that have been pressing for even stricter limits on petroleum activities in the Canadian Arctic, arguing that the government is still short of meeting its pledges to lower carbon emissions.

It said all oil and gas operations in the region should be halted until "rigorous" tests are imposed to determine whether the projects make sense in the "low-carbon world" agreed to in last year's Paris climate accord.

—GARY PARK

Contact Gary Park through publisher@petroleumnews.com

continued from page 16

OIL PATCH BITS

Petróleo for the engineering, procurement and construction of a new process unit at its Biobío refinery in Chile. Fluor booked the undisclosed contract value in the fourth quarter of 2016.

Fluor will perform the engineering, procurement and construction services to install a new flue gas steam generator, a wet gas scrubber and purge treatment unit to treat residual gas generated in the refinery's fluid catalytic cracker that will reduce air emissions. Fluor is also responsible for interconnections between the new and existing unit, which will occur during a schedule-driven 2017 turnaround.

"We leveraged our extensive Chilean experience, strong relationships with local contractors and our global refining expertise to develop the construction-driven execution plan that meets the client's requirements," said Mark Fields, president of Fluor's Energy & Chemicals business in the Americas.

"While Fluor has been active in Chile for more than 35 years, this project is significant for us as it marks our entry into the oil and gas market in Chile," said Andrés Beran, Fluor's vice president of sales for Latin America. "We look forward to making this project the first of many to be executed for ENAP in the coming years."

AEF announces date for 3rd annual fundraising event

Arctic Education Foundation is pleased to announce plans for its third annual Ivalu Gala, set for the Hotel Captain Cook in downtown Anchorage on Feb. 3. The gala is a fundraising event for AEF, a nonprofit foundation established 40 years ago to assist North Slope Iñupiaq residents in their educational goals. In 2015 alone, AEF awarded nearly 500 scholarships to more than 300 students. Nearly 200 students being assisted in 2015 were enrolled in bachelor's, master's or doctorate programs.

"I'm proud to say the foundation has changed the lives of hundreds of people in all walks of life," said Sandra Stuermer, AEF manager. "Education is the key to furthering one's career. It is so important to have achieved an education, since employers look to fill their positions with highly-educated people."

This year's Ivalu Gala will include the entertainment of magician and mentalist Oz Pearlman, who was a finalist on America's Got Talent in 2015. He has also made appearances on NBC's Late Night with Jimmy Fallon as well as the Today Show, and has performed for celebrities and various audiences worldwide. This will be Pearlman's first time in Alaska.

For more information on the 2017 Ivalu Gala, check out the event's website at www.aefgala.org.

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



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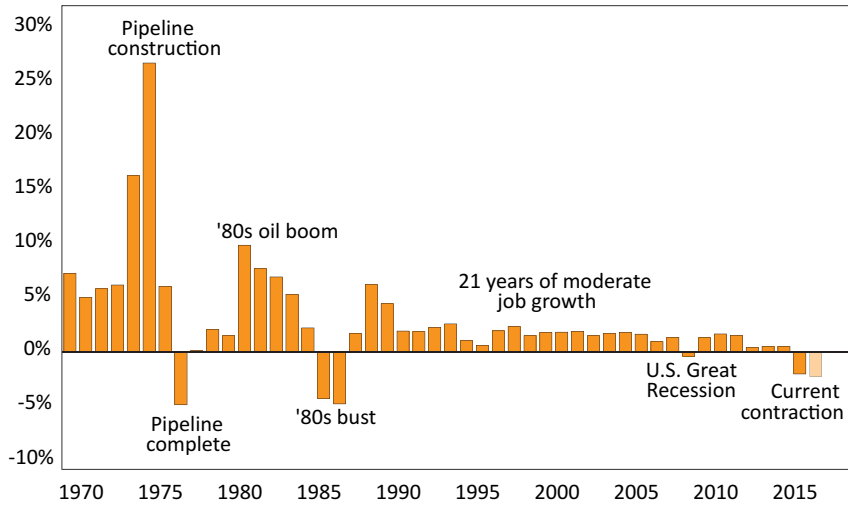
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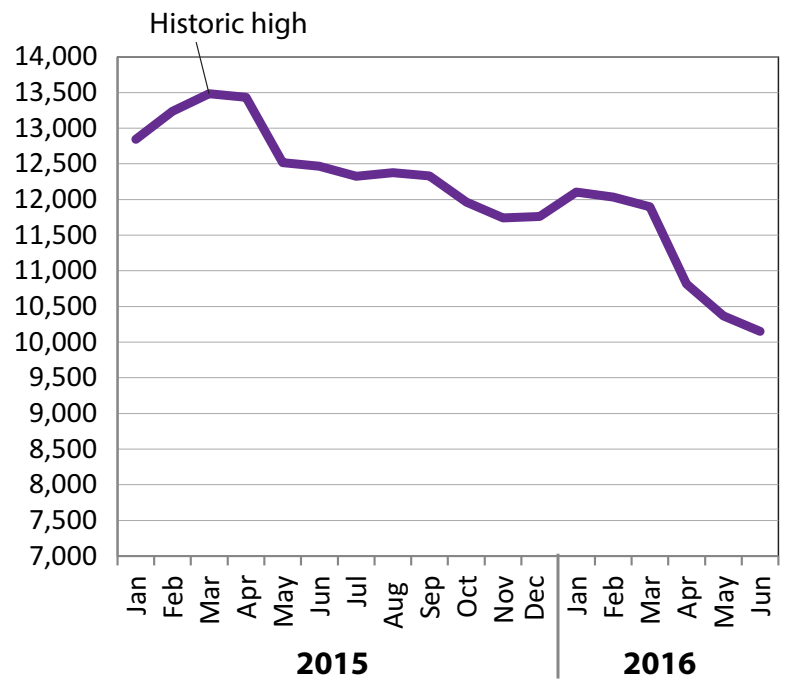
PERCENT CHANGE IN EMPLOYMENT, 1970 TO 2017



Note: The 2016 numbers are preliminary, and 2017 is forecasted.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Oil Workforce Drops From 2015 Historic High

PRUDHOE BAY EMPLOYMENT, 2015 TO 2016



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

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JOB LOSSES

Alaska Department of Labor and Workforce Development Commissioner Heidi Drygas wrote in her department's annual employment forecast, which was published in the January 2017 issue of the department magazine Trends.

As with 2016, the oil and natural gas sector is expected to have the hardest year of any industry in Alaska. Next is construction, which is closely tied to resource extraction.

The forecast expects the Alaska construction sector to lose 1,200 jobs this year for a 7.4 percent decline over 2016. Those figures would also represent a slight slowdown from the 1,500 jobs shed last year, for an 8.5 percent decline over 2015 employment levels.

The ripple effect from low oil prices also hit the professional and business services sector in 2016. Those fields lost 1,600 jobs in 2016, for a 5.3 percent decline from 2015. The job losses are expected to slow to 500 this year, for a 1.8 percent decline from last year.

While the oil industry is expected to see a slight decline in job losses this year, the entire state should see an increase, from a 2 percent drop in 2016 to a 2.3 percent drop this year, highlighting the way oil industry job cuts are felt through the wider economy. The only sector of the Alaska economy expected to add jobs this coming year is health care.

Anchorage even worse

The employment forecast is even starker in Anchorage, where 40 percent of the Alaska oil industry lives — some 5,200 workers earning more than \$700 million in wages.

The oil and natural gas sector in the city is expected to lose 300 jobs this year for an 11.1 percent decline, down from 700 lost jobs last year for an 18.9 percent decline.

Anchorage lost more than 3,000 jobs in 2016 for a 2.3 percent decline and is forecasted to lose some 2,800 jobs this

year, for a 2 percent decline. The continuing decline comes as job losses in oil, construction and professional and business services in 2016 are expected to spill into leisure and hospitality, retail, transportation and financial services this year.

A major difference between the current downturn in employment and previous ones, most notably when oil prices dropped in the 1980s, is the recent success of the oil industry, according to state economist Neal Fried. "This time is different because during the three to four years preceding the drop in price, oil industry expansion and near-record oil revenue expenditures were the biggest factors propping up the state's modestly growing economy. When that stimulus evaporated in 2015 and 2016, the broader economy lost steam," Fried wrote in an overview of the Anchorage employment forecast.

The oil industry reached record employment levels in 2015, before oil prices spurred the current cuts. By November 2016, oil industry employment had fallen to 2007 levels.

Adding to the pain of low oil prices were several ill-timed events, including the end of major development work at the ExxonMobil-operated Point Thomson unit and the end of Shell's exploration campaign in the Chukchi Sea after a decade of fits and starts.

But with ongoing development activities by ConocoPhillips Alaska Inc. and Hilcorp Alaska LLC, and recently headline-grabbing discoveries from Caelus Energy Alaska Inc. and Armstrong Oil & Gas Co., Fried sees some signs for optimism on the horizon.

The Fairbanks economy has also felt some tremors.

While government, military and higher education are the most important segments of the Fairbanks economy, oil and natural plays a large role in the private sector of the Interior.

The report found declining employment in the oil sector as well as the employment sector, and traced declines in retail, leisure and hospitality and utilities

to oil prices. The report also connected job declines in profession and business service to the oil industry.

"Job losses on the North Slope affect Fairbanks both directly, as 1,150 Fairbanks residents work there, and indirectly as those jobs generate activity in secondary industries such as retail, leisure and hospitality, and utilities — all of which are losing jobs," economist Alyssa Rodrigues wrote. "Likewise, the bor-

ough's construction industry has been hurt directly and indirectly by low oil prices. Continued cuts to the state's capital budget have put a damper on projects, and decreased oil patch activity has reduced employment for construction companies with North Slope project contracts." ●

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INTEGRATED UTILITIES

and the distribution of gas to Fairbanks residents and businesses.

The intent is to finalize the terms of the purchase by the end of March. Jomo Stewart, IGU general manager, told the AIDEA board during its Jan. 11 meeting that, prior to the sale, IGU would provide a plan for how the personnel from the two existing utilities would be merged.

Affordable Fairbanks gas

The deal for the Pentex purchase comes in conjunction with the Interior Energy Project, an AIDEA project to bring affordable natural gas to Fairbanks. The IEP has set a goal of \$15 per thousand cubic feet as the price for gas delivered to the burner tip in Fairbanks — the gas has to compete on cost with fuel oil, a commodity that has cheapened along with the falling price of crude oil over the last couple of years. However, the use of gas in Fairbanks would also help alleviate severe winter air pollution in the city.

The MOU is not binding and the completion of the Pentex purchase is contingent on a number of conditions, in particular the establishment of a Cook Inlet gas supply at a workable price. The IEP team has been negotiating with a Cook Inlet gas producer over a supply contract. Gene Therriault, IEP team leader, told the AIDEA board that, with the prospect of IGU taking over Pentex, IGU has recently been taking a lead in these negotiations.

“We have a gas supply agreement pending, but there is some uncertainty on getting closure on that,” Therriault said.

The challenges for the gas supply negotiations are the need for a workable gas price, combined with flexibility over any take-or-pay provisions, given the uncertainty over future Fairbanks gas demand. The contract would also involve a longer term than is typical for Cook Inlet gas supply agreements, Therriault commented.

Pentex: a strategic move

AIDEA purchased Pentex for \$54 million in 2015. The agency characterized the purchase as a short-term, strategic investment, to help move the Interior Energy

Project forward. The plan was to ultimately spin off the company to form a consolidated utility with IGU, thus enabling economies of scale in Fairbanks gas supplies and the development of a fully integrated gas distribution network in the city. The sale price indicated in the now-approved MOU is approximately \$58.2 million, a figure that includes AIDEA's anticipated return on its original investment in Pentex. The envisaged sale includes a gravel pad on the North Slope that was constructed as a site for a potential North Slope LNG facility in an earlier phase of the Interior Energy Project.

With AIDEA owning Pentex, the IEP team had been working with Salix Inc., a subsidiary of electric and gas utility company Avista Corp., on a plan for the expansion of the Point MacKenzie LNG plant, to support an increased Fairbanks gas supply. The concept involves a three-phase expansion of the facility to an eventual liquefaction capacity of 100,000 gallons per day. However, a few months ago, in a move to drive down costs, Salix withdrew from the project, selling its project documentation for the plant expansion to AIDEA. According to the latest report to the Alaska Legislature issued by the IEP team on Jan. 11, IGU will run the plant expansion project following approval of the Pentex purchase MOU.

Therriault told the AIDEA board that the IEP team is preparing to move the plant expansion into front-end engineering and design at the appropriate time under the combined utility structure. The MOU for the Pentex purchase by IGU requires both AIDEA and IGU to adopt an expansion plan for the LNG facility before the purchase can be closed.

Efficient LNG transportation

To reduce the unit cost of LNG transportation to Fairbanks while also accommodating an increased LNG supply, in 2015 the IEP successfully tested a prototype LNG trailer larger than the existing trailers used to carry LNG to Fairbanks over the road system. FNG has since continued using the prototype trailer and ordered more trailers of the same design. And in the fall of last year the Alaska Railroad tested the carriage of LNG using borrowed cryogenic LNG containers, as a possible alternative means of LNG transportation.

In Fairbanks, part of the plan is to construct a new LNG storage facility, to accommodate increased LNG

supplies and to enable the storage of excess LNG produced during the summer when gas demand is low. Dan Britton, president of FNG, told the board that the construction of the storage facility is the longest lead-time item for the project — the project team wants to have this facility completed and in operation by Jan. 1, 2020, to qualify for a state tax credit for the facility construction.

And, to achieve the ultimate objective of supplying gas to as much of Fairbanks as possible, the consolidated IGU will need to continue building out the gas distribution pipeline network in the city. The buildout of the system began in 2015 but was suspended after the end of the construction season that year because of the terms of the legislative authorization for the project.

Encouraging gas conversion

A critical question in Fairbanks is the rate at which residents and businesses will convert their heating systems to the use of gas — the conversion rate will determine the gas demand, a key economic factor for the IEP. The IEP team has been investigating options for encouraging gas conversions, including Property Assessed Clean Energy, or PACE legislation, and the possibility of an on-bill payment system for the repayment of loans for conversion costs. PACE, if authorized through a bill to be re-introduced to the state Legislature, would enable low-interest loans for energy conversions for commercial properties.

Project funding

The IEP has funding through a combination of a \$42.5 million state capital appropriation, \$135 million in AIDEA Sustainable Energy Transmission and Supply, or SETS loans, and \$150 million in AIDEA bonds. The MOU for the purchase of Pentex sets out conditions under which IGU would have access to these funding sources for the completion of the project, and a plan for how this funding would be used to pay for the various project components. The IGU plan involves a small amount of commercial financing in place of some of the AIDEA bonding, as well as the assumed tax credit for gas storage construction. ●

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