Petroleum news

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page 2 Feige: time to tell those outside state that ESG values a way of life here

Pre-app meetings on Willow pipelines begin, NS exploration tally

IN A JAN. 23 STATUS UPDATE of key future North Slope oil and gas projects to the Alaska Senate Resources Committee, the director of Alaska's Division of Oil and Gas, Derek Nottingham, said the preliminary Final SEIS for Willow came out this month (January) and was currently being reviewed by cooperating agencies, with the public review of the Final SEIS expected in March/April 2023.

Listed below are the specifics about ConocoPhillips big Willow project that were on a slide that was part of Nottingham's presentation:

Willow permitting

•Comment period for Draft Final Supplemental Environmental Impact Statement (SEIS) closed Aug. 29, 2022.

•Preliminary Final SEIS: January 2023.

This review is only cooperating agencies (includes SOA).

•Public review of the Final SEIS: March/April 2023.

see **INSIDER** *page 9*

Hilcorp applies to expand Pearl pad at Ninilchik, drill new wells

Hilcorp Alaska has applied to expand the Pearl pad at its Ninilchik unit on the Kenai Peninsula and drill two new gas production wells and one combined gas development and oil exploration well.

The Alaska Department of Natural Resources' Division of Oil and Gas issued a public notice on the application, which is a unit plan of operations amendment, on Jan. 24, with comments on the proposal due by 4:30 p.m. Feb. 23.

This is the second recent pad expansion at Ninilchik.

In August the division approved a request from Hilcorp to expand the Paxton pad. In January Hilcorp filed a unit plan of operations amendment to drill two new wells from the Paxton pad. Paxton accounted for 43% of Ninilchik unit natural gas production in November, the most recent month for which production data is available from the Alaska Oil and Gas Conservation Commission. Ninilchik accounted for 17.3% of Cook Inlet natural gas production in that month, the second

see **PEARL PAD** *page 8*

Methane hydrate production test on North Slope set for 2023-2024

The Alaska Senate Resources Committee got an update Jan. 23 on oil and gas resources on Alaska's North Slope, including progress of the methane hydrates test project. Derek Nottingham, director of the Division of Oil and Gas in the Department of Natural Resources, said that project was funded by the Japanese Organization for Metals and Energy Security, JOGMEC, and the U.S. Department of Energy.

Nottingham said Japan is very interested in methane hydrates because they would like to have domestic energy security. He said the goal of this project, operated by ASRC Energy Services on the 7-11-12 pad on the west side of Prudhoe Bay, is to look at the long-term production viability of methane hydrate reservoirs.

Two production test wells are planned, along with a geologic data well, with the first production west well completed in November, and the second currently being drilled. The geologic data well is also complete.

Nottingham said the production test is scheduled to start in

see **METHANE HYDRATE** *page 10*

EXPLORATION & PRODUCTION

Slope volumes up

Crude expected to average 490,000 bpd in FY23, almost 550,000 by FY28

By KRISTEN NELSON
Petroleum News

It's a long way from the 1988 peak of more than 2 million barrels per day of North Slope production, but volumes are forecast to increase over the state's current 10-year forecast window.

North Slope crude oil production, which averaged 476,490 barrels per day in fiscal year 2022, down 2%, 9,570 bpd from an average of 486,062 bpd in FY21, is forecast to increase to some 490,000 bpd in FY23, and then average around 500,000 bpd, hitting a peak of 549,000 bpd in FY28.

That forecast is from a presentation by the Department of Natural Resources' Division of Oil and Gas to Senate and House Finance committees on Jan. 18 and Jan. 23 and from the Fall 2022 Revenue Sources Book.

In FY22 compared to FY21, Cook Inlet production declined, down 11%, some 1,200 bpd.

Travis Peltier, a petroleum engineer with the division, told the committees that for fiscal year 2023 (July 1, 2022, through June 30, 2023), DNR is forecasting "annualized average statewide production"

see **SLOPE VOLUMES** *page 7*

UTILITIES

IGU goes to Slope gas

Cook Inlet supply too uncertain to justify expanding Point Mackenzie LNG plant

By ALAN BAILEY
For Petroleum News

In a Jan. 17 special meeting the board of Fairbanks based Interior Gas Utility unanimously approved two contracts for establishing a liquefied natural gas supply from the North Slope. One contract is with Harvest Midstream for the construction and operation of a 150,000 gallon per day North Slope liquefied natural gas facility. The other contract is with Hilcorp Alaska for the transfer of gas supply contract arrangements from Cook Inlet to the North Slope. Hilcorp will deliver gas to the Harvest LNG plant. Harvest is Hilcorp's midstream affiliate that owns and operates pipelines in Alaska.

DAN BRITTON

In effect, the new contracts will fully transfer IGU's gas supplies for the Fairbanks-North Pole region from Cook Inlet to the North Slope.

IGU anticipates the new LNG plant going into operation by the end of 2024. Currently the utility manufactures LNG in its Titan plant near Point Mackenzie on Cook Inlet. IGU ships the LNG by road to its storage facilities in Fairbanks and North Pole, for the supply of natural gas to its customers.

Once the Harvest LNG plant goes into operation, the Titan plant will go into warm standby, as a backup

see **IGU CONTRACTS** *page 10*

FINANCE & ECONOMY

ANS holds low $80s

China opening, lower than expected US crude inventory build lend support

By STEVE SUTHERLIN
Petroleum News

Alaska North Slope crude maintained a trading range in the low $80 for a full week, gaining 6 cents to close at $83.03 Jan. 25. West Texas Intermediate rose 2 cents to close at $80.15, and Brent fell a penny to close at $86.12.

Volatility was muted as the U.S. Energy Information Administration report released in the morning revealed a smaller than expected build in commercial crude oil inventories for the week ending Jan. 20. Inventories — excluding those in the Strategic Petroleum Reserve — rose just 500,000 barrels to 448.5 million barrels, 3% above the five-year average for the time of year. SPR inventories were unchanged for the week.

The European Union is about to sever diesel trading with Russia, its largest external diesel supplier, as sanctions on refined fuel from Russia go into effect in early February.

Total motor gasoline inventories increased by 1.8 million barrels for the period.

From Wednesday to Wednesday, ANS gained 92 cents from its closing price of $82.11 Jan. 18.

The weekly gain held up despite a round of profit taking as traders cashed in on a seven-week

see **OIL PRICES** *page 11*

● ANALYSIS

ESG in Alaska's DNA — it's a way of life

It is time to tell businesspeople and financial institutions outside the state that in Alaska real ESG values are a way of life

By CORRI FEIGE
For Petroleum News

You can't open a major newspaper these days without seeing at least one story on Environment, Social and Governance investing or on ESG reporting trends.

In 2022, the large ESG investment funds like BlackRock's and Vanguard's posted significant losses, especially when compared to the S&P Energy Index which realized big gains courtesy of the war in Ukraine and the resulting energy crisis in Europe and parts of Asia. Along with the rest of the world, the U.S. saw a return to record high inflation, high energy costs and high food costs. Clearly, the world needs secure, low-cost energy now more than ever.

Yet even with this global backdrop, there continued to be a push toward rapid energy transition, moving from traditional energy sources like oil and natural gas to renewables. In part, this was a political push because historically, when traditional energy supplies like oil and natural gas cost more, it makes the cost profile of renewables look more favorable.

Renewable technology has certainly come a very long way in recent years, and it absolutely belongs in a smart energy mix that is developed based upon, as they say in the real estate world, location, location, location.

In a location like Alaska with extended periods of dark and deep cold each year, having a truly resilient energy mix that includes everything from renewables to fossil fuels is essential.

ESG IN ALASKA'S DNA

Corri Feige is the former Commissioner of the Alaska Department of Natural Resources

A great blend

According to the International Energy Administration, in 2020 renewables accounted for 3% of Alaska's energy supply, 12% came from coal, 16% came from petroleum liquids, 28% came from hydroelectric sources, and 41% came from natural gas. All in, that's a great blend!

So why is it nearly impossible to get financing for new energy projects when 57% of Alaska's utility supply comes from fossil fuels?

Alaska has few options due to our climate, the distribution of our population across this vast landscape, and like anywhere else, the security of our power supply is paramount.

For the answer, we need look no further than the current ESG investing "initiatives" — that's how many banks refer to ESG in their lending policies.

These same institutions and the financial sector broadly, can also possess an often-shocking level of ignorance about Alaska; how we live, how the state regulates natural resource development and how the associated revenue directly supports our communities and benefits us all.

Most people know that Alaska became the 49th state in 1959, but few likely realize that it was the discovery of the Swanson River oil field on the Kenai Peninsula in 1957 that catapulted Alaska into statehood.

That discovery combined with the federal government's recognition of the enormous natural resource endowment that exists across Alaska, provided the assurance that Congress needed to be certain this new state could provide for its citizens and become economically viable. That realization resulted in a Statehood Act that

see **FEIGE ANALYSIS** *page 3*

contents

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ON THE COVER

ALTERNATIVE ENERGY

ANALYSIS

EXPLORATION & PRODUCTION

ALTERNATIVE ENERGY

Ormat to build Makushin power plant

The plant is a major component of a geothermal power system being built on the flank of the Makushin Volcano on Unalaska Island

By ALAN BAILEY
For Petroleum News

Ounalashka/Chena Power LLC has formed an agreement with Ormat Technologies Inc. for Ormat to build a 36-megawatt geothermal power plant, as part of the Makushin Geothermal Project on Unalaska Island in the Aleutians, OCCP announced on Jan. 18. Ormat is a geothermal company based in Reno, Nevada, with international experience in building geothermal power systems.

OCCP President Bernie Karl said that the Ormat contract represents by far the largest and most technically complex part of the overall project.

"Having secured a fixed result contract in this important area of the project is indeed an important milestone," Karl said. "The MGP is a $235-million development project with Ormat's part of the project over $90 million. Ormat received OCCP's intent to award the contract, on a best value evaluation basis, after an international competition."

"We cannot be more pleased to have concluded our contract negotiations and have Ormat as an official team partner and key player for the MGP development," said Ounalashka Chairman Vince Tutiakoff.

On the flank of Makushin Volcano

The project involves building a geothermal electricity generation facility on a flank of the Makushin Volcano on Unalaska Island. Ounalashka Corp., as the local Native village corporation, owns the land and subsurface rights in the area of the project. From previous exploratory drilling there is a known significant source of hot geothermal water underground on the side of the volcano facing the City of Unalaska, the island's main community.

The concept behind the project is the provision of geothermal power on Unalaska Island, as a replacement for the diesel power currently used to generate electricity. In addition to supplying power to the local electricity utility, OCCP hopes to sell power to fish processing plants located on the island. In August 2020 OCCP signed a 30-year power purchase agreement with the City of Unalaska. The city hosts the port of Dutch Harbor.

While involving relatively high up-front development costs, a geothermal system can deliver power at a predictable and stable price. OCCP is confident that its system will be able to compete with the cost of diesel power.

OCCP anticipates using two to three production wells to deliver hot geothermal water into the power plant. Cooled geothermal water that has passed through the plant will be pumped back underground through injection wells for reheating. The power plant will be located on a plateau on the side of the volcano. A 14-mile transmission line will connect the power plant to city's power grid. ●

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continued from page 2

FEIGE ANALYSIS

preserved the rights to the resource wealth in the ground for the state and the people of Alaska.

Beginning of ESG in Alaska

Alaska's Constitution later went on to say that every Alaskan would have the right to be notified and participate in decisions made regarding land use and resource development in the state. This was the beginning of "ESG" in Alaska.

The framers of Alaska's Constitution recognized that the use of the state's lands for activities of all kinds needed to be guided by input from the people and communities near those activities. That's one facet of the "S" in ESG.

In order to keep Alaskans informed about land and resource use, it is the state that has the responsibility to notify the public, not just the entity that is proposing a project.

Roughly a decade after the discovery of the Swanson River field, when North America's largest conventional oil field, Prudhoe Bay, was discovered on Alaska's North Slope, the "S" in Alaska's ESG took another giant leap forward.

The passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971 became the largest land claim settlement in U.S. history and addressed the Alaska Native land title considerations that had been held in trust by the federal government since statehood. Through ANCSA, Alaska Natives were granted 44 million acres of land defined in regional areas important to each of the 12 distinct peoples of Alaska and established the private regional corporation structure that has been working on behalf of Alaska Natives ever since. This was an important piece of federal law in that it gave Alaska Natives the title to their lands and the right to develop them and their mineral resources, as they deemed appropriate.

The federal government also compensated Alaska Native corporations nearly a billion dollars for land lost in the settlement agreement.

Unlike the reservation system widely applied in the Lower 48 states, ANCSA resolved Native land claims in a fashion that gave self-determination to Alaska's Native corporations.

ANC's share approximately 70% of resource revenues generated on Native lands among all 12 corporations, which in turn split those revenues with village corporations and shareholders.

Perhaps most importantly, ANCSA recognized the unique cultures and traditions of the Alaska Native peoples and through its structure helps to honor and preserve those cultures.

Alaska Permanent Fund

Right on the heels of ANCSA, another hallmark of Alaska ESG was born — the Alaska Permanent Fund. The Alaska Permanent Fund was established in the Alaska Constitution by a vote of the people in 1976 and receives royalty revenue generated from principally oil and gas developments on state leases, which feeds the corpus of the fund.

PHOTO COURTESY OF HDR ARCHITECTURE © 2017 DAN SCHWALM

The Samuel Simmonds Memorial Hospital in Utqia vik was largely built with petroleum property taxes.

Even after a very tough year on the stock market, the Alaska Permanent Fund finished 2022 with a balance of approximately $75 billion, and that balance continues to work for all Alaskans, every day.

The Permanent Fund represents both "S" and part of "G" in ESG because not only does it pay dividends directly to qualified Alaskans, putting those dollars directly back into Alaska's economy, the Permanent Fund now covers roughly 70% of the state's operating expenses each year.

Operating expenses that include education, health services and programs like power cost equalization that helps reduce the high cost of energy in Alaska's remote communities. This structure, and the state budget process, give Alaskans transparency on how royalties from resource development projects on state lands are being used.

Even after a very tough year on the stock market, the Alaska Permanent Fund finished 2022 with a balance of approximately $75 billion, and that balance continues to work for all Alaskans, every day.

Boroughs and municipalities

No discussion of the "S" in Alaska ESG would be complete without a mention of the bonds and property tax revenue that local boroughs and municipalities derive from resource development projects within their borders. This is the life blood of social and community support in some of Alaska's most remote communities.

Local property taxes are unquestionably the single largest source of revenues for places like the North Slope Borough (NSB) which received in excess of $390 million in petroleum property tax revenue in Fiscal Year 2022.

Historically, these revenues have been used to support utility services in the widely spaced communities of the North Slope, used to build critical infrastructure like the Samuel Simmonds Memorial Hospital in Utqiaġvik, and used to support search and rescue operations across Alaska's Arctic.

With an eye to the future, the North Slope Borough has wisely established their own "Permanent Fund" to preserve wealth and ensure sustainable communities within the NSB for years to come. At the end of Fiscal Year 2022, the NSB Permanent Fund had a balance of nearly $1 billion. None of this would be possible without socially and environmentally responsible oil and gas development on the North Slope.

Other communities helped

In addition to the NSB, petroleum property tax revenues contribute significantly to communities like Valdez, home of the TAPS Marine Terminal, and the Kenai Peninsula Borough from which southcentral Alaska's energy and much of the state's refined products are sourced.

Not as remote as NSB communities, these areas are connected to the road system but still rely heavily upon the revenues generated by fossil fuel projects in Alaska to support their social programs and maintain healthy communities. The very same type of fossil fuel projects in Alaska that the big ESG investment funds and banks across the country can't see their way clear to support — all in the name of ESG!

Environment most important

Perhaps the most important criteria of ESG, especially in today's world, is "E" — environment. Under the original Equator Principles, environmental considerations included ensuring developments used the least amount of water and land, protected other natural resources like fish and wildlife in the development area, and mitigated of potential impacts to the maximum extent possible.

When considering fossil fuel projects today, ESG criteria such as emission reduction, overall carbon footprint and zero venting of natural gas have all become environmental benchmarks. Once again, we can look to Alaska for decades of leadership in this category.

In Alaska, state law and regulation require the minimum

see **FEIGE ANALYSIS** *page 4*

EXPLORATION & PRODUCTION

At 771, US rotary rig count down by 4

The Baker Hughes' U.S. rotary drilling rig count was 771 on Jan. 20, down by four from the previous week and up 167 from 604 a year ago.

When the count dropped to 244 in mid-August 2020, it was the lowest the domestic rotary rig count had been since the Houston based oilfield services company began issuing weekly U.S. numbers in 1944.

Baker Hughes shows Alaska with eight rotary rigs active Jan. 20, down one from the previous week and up by two from a year ago, when the state's rig count stood at six.

Prior to 2020, the low was 404 rigs in May 2016. The count peaked at 4,530 in 1981.

The count was in the low 790s at the beginning of 2020, where it remained through mid-March, when it began to fall, dropping below what had been the historic low in early May with a count of 374 and continuing to drop through the third week of August 2020 when it gained back 10 rigs.

The Jan. 20 count includes 613 rigs targeting oil, down 10 from the previous week and up 122 from 491 a year ago, with 156 rigs targeting natural gas, up by six from the previous week and up 43 from 113 a year ago, and two miscellaneous rigs, unchanged from the previous week and up by two from a year ago.

Forty-nine of the rigs reported Jan. 20 were drilling directional wells, 700 were drilling horizontal wells and 22 were drilling vertical wells.

Alaska rig count down by 1

The Texas rig count (380) was up by one from the previous week.

Louisiana (64) was down three rigs week over week; Alaska (8) and New Mexico (102) were each down a single rig.

Rig counts in other states were unchanged from the previous week: California (5), Colorado (20), North Dakota (39), Ohio (14), Oklahoma (64), Pennsylvania (21), Utah (12), West Virginia (17) and Wyoming (20).

Baker Hughes shows Alaska with eight rotary rigs active Jan. 20, down one from the previous week and up by two from a year ago, when the state's rig count stood at six. All eight of the Alaska rigs were onshore, unchanged from the previous week. There were no offshore rigs active in the state.

The rig count in the Permian, the most active basin in the country, was down by two from the previous week at 354 and up by 62 from 292 a year ago.

—KRISTEN NELSON

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About Corri Feige's column

Former Alaska Department of Natural Resources Commissioner Corri Feige is writing a series of columns for Petroleum News titled "ESG in Alaska's DNA."

This is the second column,

They will cover: 1) educating on ESG broadly; 2) looking at how ESG in Alaska is tied to our constitution, regulatory framework and gives back to Alaskans in a variety of ways (it's in our DNA!). From there moving on to the changes and controversy we have seen around ESG investing strategies in recent months and how those very same investing strategies have been a barrier to projects and companies in Alaska finding capital.

Then finally, 3) looking at where ESG may be going in the next couple of years. This one will be the most "crystal ball gazing" of all of them but Feige can likely link it to not only oil and gas development but also to CCS, critical minerals production and energy transition broadly. It's all intertwined.

--PETROLEUM NEWS

continued from page 3

FEIGE ANALYSIS

land use possible for safe exploration and production operations, and Alaska's operators have risen to that challenge.

Back in the 1970s and 1980s when the legacy oil fields of the North Slope were under development, an industry standard gravel drill pad covered an area of roughly 65 acres. By 2016, the standard drill pad on the North Slope was down to just 12 acres in size, and the area of reservoir being contacted from that pad had increased by 4000% using extended reach drilling.

Alaska's comprehensive, science-based regulatory program provides oversight of project development, mitigation of impacts to water and air quality, protection of fish and wildlife, protection of subsistence rights, and mandates public engagement at all stages of a project from exploration through development. Multiple state agencies work together in a coordinated manner to ensure the protection and stewardship of Alaska's natural environment. Alaska law even prohibits venting of natural gas, recognizing this as wasting of a valuable state resource. And local boroughs and municipalities manage development across their regions under local planning authorities.

In the current discussion of ESG, carbon intensity and carbon footprint are perhaps the most talked about. According to online sources, the carbon intensity of Alaska's oil and gas operations comes in at a production-weighted average of 17 kg CO2/barrel of oil equivalent, placing Alaska in the lowest 25% for average carbon intensity. And operators are taking steps to further reduce their overall carbon footprint through actions like mitigating fugitive methane emissions from wells and production facilities and bundling transportation of people and materials wherever possible. All without ever compromising safety.

Possibly the most impactful progress toward carbon reduction in Alaska could come out of the Legislature this session. Gov. Dunleavy has recently introduced legislation that would create the statutory framework necessary for the state to establish a carbon capture and sequestration program. This legislation is critically important because at the present time, the state of Alaska does not have the legal authority to lease its subsurface pore space for purposes of sequestering carbon dioxide for long term storage.

The right to inject CO2 for enhanced oil recovery has existed for many years, but long-term storage is another matter altogether. This program could open the door not only for Alaska's operators to sequester CO2 produced by their operations, but also establish a new and highly competitive industry in the state. The carbon capture and storage industry is growing rapidly around the world and because

In Alaska, state law and regulation require the minimum land use possible for safe exploration and production operations, and Alaska's operators have risen to that challenge.

Alaska owns its pore space, our state is being looked to as a preferred location for Asian companies seeking places for long term carbon storage when they have no viable options at home.

Governance

The final factor in ESG criteria is "G" — governance. In all of the examples already noted, it is the combination of Alaska's constitutional requirements, legal system, regulatory and compliance oversight, and the social license to operate that companies must have to successfully do business in Alaska that creates a business culture and level of transparency in our corporate citizens that is unmatched. Governance factors are inherently woven throughout the fabric of how resource development is undertaken in Alaska, on both state lands and on Native lands. We've all heard the adage that "no one takes better care of Alaska than Alaskans," and I would take that one step further and say, "no one takes better care of Alaskans than Alaskans."

In fact, according to an American Medical Association study, the life expectancy of Alaskans rose right along with Alaska's oil development. Between 1980 and 2014, life spans increased between 4 and 16 years, with the highest increases among residents of the North Slope Borough's Arctic communities. Resource development is good for Alaska, and we have been practicing what is now the popular notion of "ESG initiatives" for decades. Our communities and our people have benefitted greatly.

Alaska has an exemplary ESG record spanning more than 40 years, and it didn't happen by accident. It is intentionally engineered into how resource development is done in this state.

And even today, Alaska continues to demonstrate leadership by developing carbon solutions to support the global energy transition and we are expanding renewable energy sources in-state where it makes sense to do so.

It is imperative when any of us are talking with businesspeople or financial institutions outside of Alaska that we share Alaska's ESG profile and history. Education is key, especially now, as the financial sector continues to grapple with what its ESG "initiative" should look like. It is time to show them that in Alaska, real ESG values aren't an initiative, they're a way of life. ●

Contact Corri Feige
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Congratulations

Congratulations Glacier Oil!

Best wishes to Pontem and SEP who teamed up to drive new Alaska oil and gas production from Glacier's North Slope and Cook Inlet assets.

As recently reported in Petroleum News, on Jan. 9 Glacier Oil & Gas announced that Pontem Energy and Sweat Equity Partners, or SEP, acquired 100% ownership in Glacier.

"We are excited by the opportunities that lie ahead for Glacier, its employees, and its new financial backers, Pontem and SEP," Glacier President Stephen Ratcliff said. ... "We are excited that this acquisition aligns our vision of growth through development drilling and increased production, maintains our strong corporate culture and our team, and provides an avenue to develop the Glacier brand as a sustainable and long-term player in ... Alaska."

Stephen Ratcliff

GLACIER

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North Slope Telecom
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Northern Solutions
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Owl Ridge Natural Resource Consultants
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PRA (Petrotechnical Resources of Alaska)
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Resource Development Council
SeaTac Marine Services
Strategic Action Associates
Surepoint Technologies Group US
Tanks-A-Lot
TorcSill
Udelhoven Oilfield System Services Inc.
US Ecology Alaska
Weston Solutions

EXPLORATION & PRODUCTION

ConocoPhillips applies for pad expansion

ConocoPhillips Alaska has applied to expand the Kuparuk River unit 12-acre pad. In a Dec. 19 unit plan of operations amendment application to the Alaska Department of Natural Resources' Division of Oil and Gas, the company said it proposes to expand the east side of the existing 12-acre pad to provide additional laydown space to accommodate increased North Slope construction activities.

The company is requesting approval to expand the existing 12-acre pad, placing some 18,500 cubic yards of clean gravel fill onto 2.6 acres of tundra, with all work to take place from existing gravel in the Kuparuk River unit.

The division public noticed the application Jan. 19; comments are due by 4:30 p.m., Feb. 19.

The company is requesting approval to expand the existing 12-acre pad, placing some 18,500 cubic yards of clean gravel fill onto 2.6 acres of tundra, with all work to take place from existing gravel in the Kuparuk River unit.

Work is scheduled to begin April 1, or as soon as permits are received, ConocoPhillips said.

"The proposed pad expansion is necessary to provide additional laydown space for the staging and storage of drilling rigs, equipment, piping, and other materials associated with an increase in North Slope projects," the company said in its application.

The western side of the pad is along the Oliktok Point Road, south of the Kuparuk River 3R pad.

—PETROLEUM NEWS

• EXPLORATION & PRODUCTION

Duck Island, Northstar PODs approved

Smallest of Hilcorp's North Slope fields; both produce crude and natural gas liquids, with highest NGL percentage at Northstar

By KRISTEN NELSON
Petroleum News

The state has approved plans of development from Hilcorp Alaska for the Duck Island and Northstar units, the company's smallest North Slope fields, both producing from offshore facilities, for Feb. 13, 2023, through Feb. 12, 2024.

Duck Island unit

The Duck Island unit plan of development was the 41st POD for the field, the Alaska Department of Natural Resources' Division of Oil and Gas said in a Jan. 19 approval. The DIU was formed in 1978 and currently includes some 17,588 acres and three participating areas, Endicott, Sag Delta and Eider.

Average daily production, December 2021 through November 2022, was 5,355 barrels per day of oil, the division said, and 879 bpd of natural gas liquids.

During the previous plan, the 40th, Hilcorp had committed to rig workovers on well 3-11 to install a new tubing string, on 1-29 to fix a leak in the production casing, conversion of the 1-21 and 1-07A wells to gas injection for enhanced oil recovery and increasing water injectivity, the division said, completing three of the four well workovers, while deferring conversion of the 1-21 well to evaluate more economic opportunities for that well. Water injection capacity was not increased, the division said, "because Hilcorp could not secure service equipment needed to add perforations to existing water injection wells."

On the facilities side, the company proposed a facility turnaround, upgrading and repairing the Satellite Drilling Island low flow test separator internals and installing a propane turbine demister, the division said, with all the facility operations completed.

For the 41st POD, Hilcorp plans up to three rig workovers with others as needed and various non-rig well work, along with key facility projects: "a facility turnaround for upgrades and repairs to the SDI low flow test separator internals, propane turbine demister installation, and LACT meter upgrades."

The division said long-range activities "include converting LSZ of the Kekiktuk to gravity drainage to increase oil production, and exploring the remaining Ivishak and Alapah opportunities," with no drilling or sidetracks proposed.

Northstar

In its Northstar POD approval, also issued Jan. 19, the division said the unit, formed in 1990, includes four state leases and three federal leases, a total of some 20,135 acres. Northstar has three participating areas, Northstar (Ivishak sands), Fido (Ivishak sands) and Hooligan (Kuparuk sands) and is jointly managed by the division and the U.S. Department of the Interior's Bureau of Safety and Environmental Enforcement.

Northstar production from January through November 2022 was 2.4 million barrels of oil and natural gas liquids and 183 billion cubic feet of natural gas, the division said. Alaska Oil and Gas Conservation Commission data for November, the most recent month available, show Northstar averaged 7,028 barrels per day of crude oil and NGL combined, with 3,757 bpd of crude (53.5%) and 3,271 bpd of NGL (46.5%), the highest percentage of NGL production of any North Slope field.

In the previous POD, the 18th, covering Feb. 13, 2022, through Feb. 12, 2023, proposed work included installing active refrigeration on 45 newly installed heat pipes and 41 converted thermosyphons, along with continuing repair of the island's coastal defenses. Long range,

see **PODS APPROVED** *page 7*

continued from page 1

SLOPE VOLUMES

of 501,000 barrels per day, with North Slope production forecast at an average of 492,000 bpd, with a range of 448,000 bpd to 535,000 bpd.

"Outlook on production assumes that operators' plans and other project drivers stay unchanged," the division noted in its presentation to the Finance committees.

In both near and medium term, current production is the backbone of state production, declining to below 300,000 bpd by FY32. A small segment of production comes from resources under development — for the current forecast, production expected from wells drilled in FY23.

Over the next 5 to 10 years, production currently under evaluation begins to play a more significant role, accounting for some 250,000 bpd by FY32.

Key future projects

Peltier provided a status for five key future North Slope projects.

•Santos made a final investment decision for the first phase of Pikka in August, with first oil expected from the project in 2026 and a peak design capacity for the first phase of 80,000 bpd.

•Willow, in the National Petroleum Reserve-Alaska, is awaiting a record of decision by the federal Bureau of Land Management on the supplemental environmental impact statement, with operator ConocoPhillips unable to make a final investment decision until there is a ROD for the project. The division said first oil is expected 6 years after FID, and a peak rate of 180,000 bpd estimated.

•ConocoPhillips' Narwhal CD8 project in the Colville River unit is a new pad development. Sustained production could begin as early as 2028, and DNR estimates a peak of 32,000 bpd.

•Hilcorp Alaska has applied for a new pad, Raven or R, in its Milne Point unit. DNR estimates peak production of 10,000 bpd for the new pad which it said is analogous to Hilcorp's 2018 M pad development at Milne.

•The Nuna-Torok project at the ConocoPhillips Alaska-operated Kuparuk River unit saw appraisal activity in 2021, with additional drilling planned for 2022, and an ultimate peak rate of up to 25,000 bpd.

Peltier said a reason the ANS production forecast shows gradual rather than jagged changes when plotted is because new projects are risked for volumes, start dates and likelihood.

Cook Inlet

From FY21 to FY22, Cook Inlet production, which Peltier noted is critical for in-state refineries, declined, down 11%, some 1,200 bpd.

A separate forecast for Cook Inlet was not included in the presentation, but the difference between the ANS forecast and the statewide numbers would indicate a Cook Inlet forecast of some 9,000 bpd for FY23.

The Fall Revenue Sources Book shows a forecast of 9,400 bpd of Cook Inlet crude in FY23, dropping to 8,500 bpd in FY24 and 8,700 bpd in FY25, and then increasing to 9,800 bpd in FY26 and 9,900 bpd in FY27, before declining to average 6,200 bpd at the end of the forecast period in FY32.

A reason for the FY26-FY27 increase is not given in the Revenue Sources Book, but the Middle Ground Shoal field has been shut-in by a leak in a fuel gas line since April 2021. The division has approved applications by Hilcorp Alaska, the field's owner, for suspension of production at the field through the end of June.

Before that field can come back online the fuel gas pipeline issue needs to be addressed, and the Cook Inlet production forecast, which shows a small increase in FY25 before increasing substantially in the subsequent two fiscal years, may reflect the division's expectation of when that field would come back online.

Middle Ground Shoal was averaging just over 1,200 bpd in the two months prior to the shut-in.

Peltier cited Middle Ground Shoal as a reason for decreases in Cook Inlet production and said increases FY21 and FY22 were due to work by Hilcorp at Beaver Creek, and the return to production of the Glacier Oil and Gas fields Redoubt Shoal and West McArthur River, which had been offline since May 2020 and came back online in September and October of 2021.

North Slope highlights

In summarizing North Slope production for FY22 compared to FY21, Peltier said all production areas had year-on-year declines, with FY22 down some 2%, 9,570 bpd, for FY21.

At ConocoPhillips Alaska's Alpine, there was a natural decline after flush production following an extended shut-in from 2020, and due to limited development drilling in FY22.

At Kuparuk and the Kuparuk satellites, managed and majority owned by ConocoPhillips, natural decline followed ending of natural gas liquids imports and associated enhanced oil recovery in early 2022. Offshore fields saw a natural reservoir decline.

FY21 to FY22 increases were in the National Petroleum Reserve-Alaska, where ConocoPhillips brought a second pad came online at Greater Mooses Tooth; at the Prudhoe Bay satellites (which, for production reporting purposes, include Hilcorp's Milne Point), which had a 10% production growth from "consistent drilling efforts"; and at Hilcorp-operated Point Thomson, where an 8% growth was due to improved reliability of facilities.

The forecast

In forecasting, the division looked at publicly available well data and did "ground-up" decline curve forecasts for producing pools, based on Alaska Oil and Gas Conservation Commission data. There were some 37 producing pools in the state as of June 30.

The division also engaged with operators, and considered confidential data on 17 projects under development or under evaluation, with forecasts for those using confidential data from operators, with future volumes "adjusted and risked for scope of contribution, chance of occurrence and start date."

Peltier said a reason the ANS production forecast shows gradual rather than jagged changes when plotted is because new projects are risked for volumes, start dates and likelihood. ●

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continued from page 6

PODS APPROVED

Hilcorp's plans included exploring import of natural gas from Prudhoe for pressure maintenance of the Kuparuk reservoir; review of potential coil tubing drilling candidates and a determination of whether coil tubing drilling operations were economically viable and mechanically feasible on Northstar Island; and researching the economic viability of Sag River development, which, the division said, "may require stimulation techniques due to its low permeability and porosity."

Hilcorp began ground refrigeration expansion for all 86 heat pipes and expects the first group of heat pipes will be in service by early in the next POD period, the division said. During the 18th POD, "Hilcorp twinned NS-05 to NS-03 flowlines to lower flowing tubing pressure and increase production for the well," the division said, and is continuing analysis of other wells to lower tubing pressure. "Proposed long-range activities for identification of coil tubing drilling candidates and Sag River development are still being reviewed."

For the 19th POD, the division said Hilcorp is proposing a workover on the NS-16A well, completing commissioning of the remaining heat pipes — if that has not been accomplished by the end of the 18th POD — and continuing a study of the feasibility of coil tubing drilling at Northstar, along with continuing evaluation of Sag River. ●

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continued from page 1

PEARL PAD

most productive field after Hilcorp's North Cook Inlet.

Paxton is the most southerly producing pad at Ninilchik.

Pearl, currently only an exploration pad, is south of Paxton, on acreage just outside the unit boundary, although wells are drilled from the pad into Ninilchik unit acreage.

Hilcorp drilled seven Pearl stratigraphic test wells in 2021 and in 2022 began drilling Pearl exploration wells, with AOGCC records showing two of three permitted exploration wells completed last year.

Pearl exploration

Hilcorp drilled seven Pearl stratigraphic test wells in 2021 and in 2022 began drilling Pearl exploration wells, with AOGCC records showing two of three permitted exploration wells completed last year.

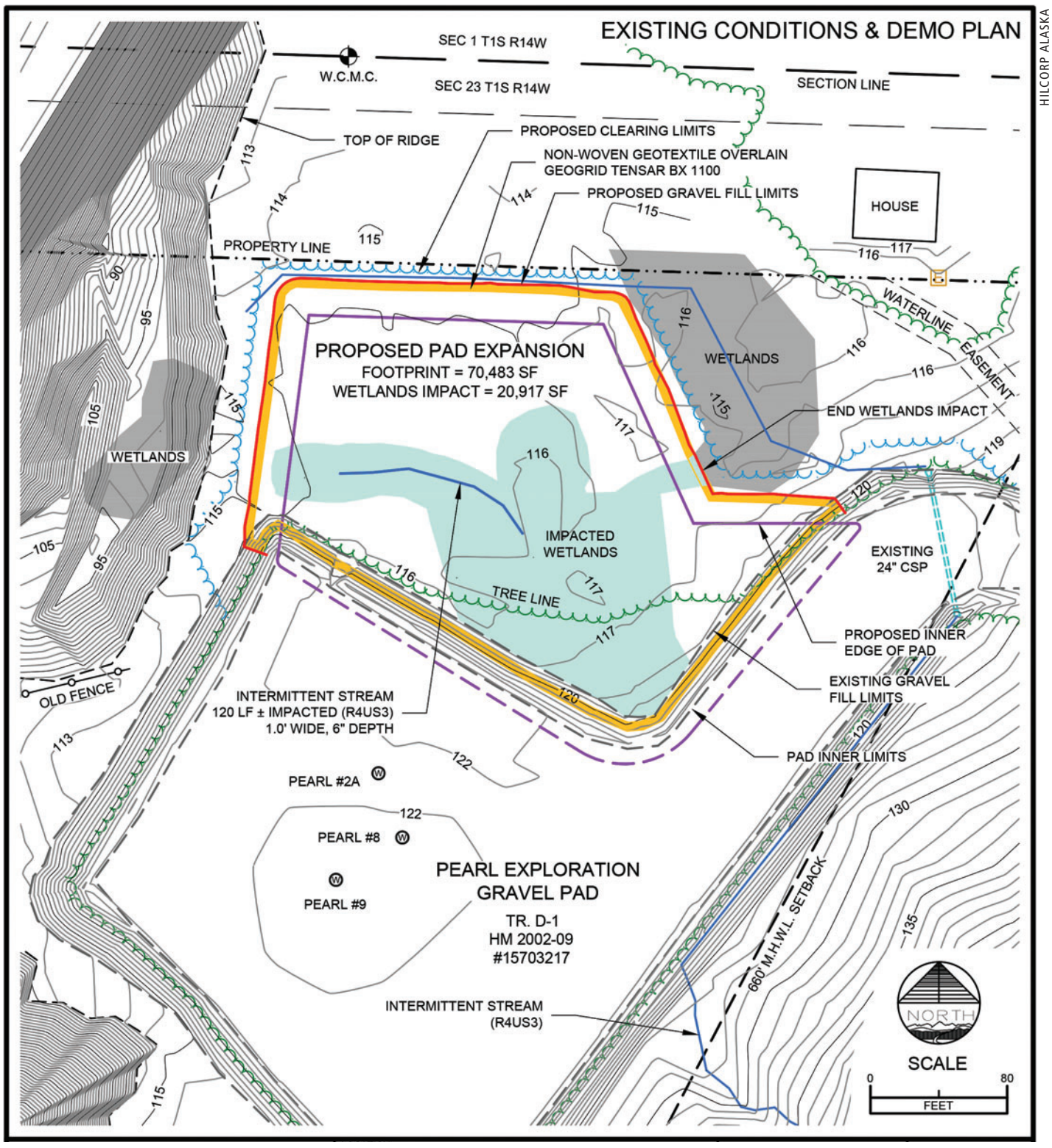
The current application includes pad expansion with wells and facilities.

The company said it proposes to expand the existing Pearl pad, drill two grassroots gas development wells, Pearl 10 and Pearl 11, and one combined gas development and oil exploration well, Pearl 12, "and install associated infrastructure including gas flowlines, electrical instrumentation, a line heater, and a separator."

Hilcorp said the pad is outside Ninilchik unit boundaries on private land, but the bottomhole location for each gas well is within the unit.

The pad expansion provides "additional space necessary for production well drilling and increased gas production from the NKU. The expansion has been designed to be the smallest achievable footprint to allow for rig placement, associated well drilling activities, and facilities access."

The schedule calls for pad expansion from March 1 through April 5; drilling and testing Pearl 10 from March 20 through June 30; drilling and testing Pearl 11 from May 16 through June 30; drilling and testing Pearl 12 from June 30 through July 30; installation of facility piping, electrical and instrumentation lines to tie wells into existing production infrastructure from July 30 through Aug. 15; and gas production from the three wells beginning Aug. 15.



HILCORP ALASKA

The new wells will be tied into future gas production facility infrastructure on Pearl pad, but no new buildings are proposed.

Hilcorp Rig 169 will be used to drill the wells.

Impact issues

Hilcorp said industry best management practices will be used to minimize noise from the drilling program, and noted that drilling and well testing work is temporary.

"Sound impacts will be temporary and will occur primarily during construction and drilling," the company said.

"Except where safety concerns dictate elsewhere, lights on the drill rig and mobile light plants will be pointed down toward activities occurring on the pad. The typical use of loudspeakers to communicate during drilling will be replaced by the use of handheld radios. Additionally, drilling vehicles and heavy equipment will use broadband 'white noise' backup alarms, instead of the typical louder and more annoying single-tone backup alarms. Sight impacts will be mitigated by leaving the existing trees and vegetation surrounding the pad area."

Hilcorp said paid construction would take approximately four weeks, as will the drilling of each well.

Construction will be on a daytime 12-hour shift, probably 7 a.m. to 7 p.m.

But the company said it is not practical to operate the drilling rig "on a schedule other than around the clock," although "steps will be taken to minimize visual and sound impacts during operation."

A mitigation measure waiver is being requested for the pad location, which will be within one-half mile of the mean high water of Cook Inlet. "The coastline near Ninilchik, Alaska has multiple active gas production facilities," Hilcorp said. "Pearl Pad is sited approximately one mile from Paxton Pad, the nearest active gas production facility. Gas exploration and production is an established land usage in the Ninilchik area," the company said.

—KRISTEN NELSON

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continued from page 1

INSIDER

DEREK NOTTINGHAM

•Record of Decision (ROD): June/July 2023.

•Permits to the State Pipeline Coordinator's Section (SPCS) shortly after ROD.

Note: Pre-application discussions for pipelines have already begun.

Construction, performance

•Begin staging and early construction works for winter of 2023-2024.

•Expected peak production of 180,000 barrels of oil per day.

•600 million barrels of oil estimated (mmboe) total production over project life.

•$8-$17 billion in royalty and property tax payment to State of Alaska, U.S. and municipal governments.

2023 North Slope exploration plans

AS MANY AS FOUR EXPLORATION wells are in the works to be drilled early this year on Alaska's North Slope, although two of them might be held until January 2024.

ConocoPhillips Alaska Inc. planned to begin drilling the Bear 1 well on oil and gas lease ADL 393519 on Feb. 25 and finish by March 25, targeting a Brookian topset play.

The project is located on non-unitized state lands that extend south of Alpine, approximately 22 miles south of Nuiqsut, and 4 miles east of the Colville River. Per a state lease map, it is part of a block of CPAI-held leases that are bordered on the north and east by Oil Search (Alaska), or OSA, operated leases.

In studying available maps and a G&G team's comments, Bear 1 appears to be on trend with OSA's 2020 Stirrup discovery.

Bear 1 will be approximately 12 miles south of Stirrup 1, which had one of the highest flow rates of any Nanushuk single-stage stimulation of a vertical well on the North Slope.

Stirrup 1 successfully penetrated the Nanushuk reservoir and encountered an oil column with net pay of 75 feet. The wellbore was cored, perforated through a single-stage simulation and shut-in for six days to enable pressure build-up prior to testing in which Stirrup flowed at a stabilized rate of 3,520 barrels of oil per day,

Armstrong's North Slope Energy

North Slope Energy, a Bill Armstrong company, is planning to drill two wells in the West Castle prospect in the National Petroleum Reserve-Alaska in early 2023 or early 2024 as part of a multi-year exploration program into a 92,000-acre lease block purchased from Anchorage-based Borealis Alaska Oil in early 2020.

Armstrong is pursuing what he describes as "a perfect look-alike to Willow and Pikka," meaning Nanushuk reservoirs.

"West Castle is a gorgeous prospect. We identified it off of 3D seismic," Armstrong told Petroleum News in mid-September.

Shortly after acquiring the acreage, Armstrong told PN his leases lie to the immediate west of ConocoPhillips' Harpoon prospect.

If the first two wells are drilled this winter, drilling is expected to start Feb. 15 using All American 111 drill rig.

Hickory 1 on schedule

The fourth well planned for this winter is 88 Energy's Hickory 1 exploration well scheduled to spud on or around March 1 in the company's Project Phoenix, which used to be called Icewine East.

In a quarterly activities report released as part of an Jan. 25 ASX announcement, the company said the well is designed to appraise six targets within SMD, SFS, BFF and Kuparuk reservoirs.

88 Energy said it has Nordic Calista Rig-2 under contract.

Permitting and planning for Hickory 1 is on schedule to be completed end of January or shortly thereafter.

Alliance moving, Meet Alaska

THE ALLIANCE OFFICES are moving to a new location in Anchorage — 406 W. Fireweed Blvd, Suite 200. They started moving on Jan. 23.

And Meet Alaska has been scheduled for Friday, March 17, from 8 a.m. to 5 p.m.

It will be at the Hotel Captain Cook, which is at 939 W 5th Ave. in Anchorage.

—Oil Patch Insider is written by Kay Cashman

Petroleum news

Oil Patch Bits

Colville Transport LLC makes environmental safety milestone

COURTESY COLVILLE

Fairbanks-based Colville Transport LLC said Jan. 19 that it is pleased to announce that the company has passed a significant milestone by transporting over 100 million gallons of fuel without a spill during transport. From February 2019 through December 2022, its fleet of 38 tractors (trucks) and 67 tanker trailers made over 10,000 shipments between Seward, Anchorage, Valdez, Fairbanks and Colville's 6 million gallon tank farm in Deadhorse, Alaska. These shipments included over 6,000 trips driving the Dalton Highway, otherwise known as the "Haul Road," to Prudhoe Bay. The road is a notorious 500-mile, mostly gravel road between Fairbanks and Deadhorse that presents challenges, with steep grades and sharp turns, washboard surfaces and dust and mud in the summer, extreme temperatures, and ice and whiteout conditions in the winter.

According to Robbie Baker, the Colville operations manager in Fairbanks, one of the things the company emphasizes is empowering its drivers to make their own safety calls. He says, "We do our best to keep trucks out of harm's way even if it means parking them when the weather is bad. We also have a very experienced team of drivers, several of whom have been driving the Haul Road for over 40 years." Colville credits this milestone to its dedicated team of drivers and the support team that keeps its fleet running safely.

Colville Transport is a subsidiary of Colville Holdings, a vertically integrated supply system in the Prudhoe Bay area that also includes bulk fuel storage and distribution, industrial supply, waste management, commercial towing, Deadhorse airport fueling, and a workforce housing facility.

Companies involved in Alaska's oil and gas industry

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

continued from page 1

METHANE HYDRATE

April and run through the end of 2024.

One of a kind

Nottingham called it a one of a kind project and said testing of methane hydrate production was just starting.

Citing data from the U.S. Geological Survey, he said that agency has estimated an undiscovered resource of 53.8 trillion cubic feet of gas within hydrates on the North Slope.

Addressing a question on the commerciality of methane hydrate resources on the North Slope, Nottingham noted that the known conventional natural gas resources at Prudhoe and Point Thomson is estimated at some 40-50 tcf. That known conventional gas is much easier to produce and would have a substantial life prior to methane hydrate being developed, he said.

The Japanese and Asian market, on the other hand, is in pursuit of a domestic supply, Nottingham said and this project can help them understand the resource.

John Crowther, deputy DNR commissioner, said the North Slope of Alaska is one of the few places in the world that has methane hydrates in an area with production facilities, putting the state is in a unique position to be a first mover. Were there to be large-scale development of methane hydrates, the Alaska North Slope would be the place to do it, he said.

Methane hydrate

Methane hydrate is a solid with molecules of methane, the primary component of natural gas, concentrated inside a lattice of water molecules. Vast quantities of methane hydrate are known to exist around the base of the permafrost on the North Slope.

Because of its substantial oil and gas infrastructure the North Slope is considered an excellent location for testing methane hydrate production.

There was an initial test well from the Prudhoe Bay pad in January 2019 which penetrated two highly saturated methane hydrate-bearing reservoirs. A plan to drill addition wells was delayed, presumably by COVID 19.

The geo-data well will be used to collect subsurface sediment samples before being converted into a monitoring wells, with the well drilled in 2019 also planned to be used for colling data.

DOE has described the objective of the testing as determining the response to production of a hydrate reservoir over a long enough period to effectively evaluate how gas hydrates release gas in response to reservoir depressurization.

—KRISTEN NELSON

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continued from page 1

IGU CONTRACTS

facility, should there be some unanticipated problem with the North Slope supply, IGU General Manager Dan Britton told the board. IGU will need to establish a new trucking operation for shipping LNG from the North Slope to Fairbanks, either as part of IGU or as a contracted service, Britton said.

On Jan. 18 Harvest confirmed the agreement.

"We are pleased to be investing in a project that utilizes North Slope gas to bring reliable energy to the interior" said Harvest CEO Jason C. Rebrook. "There is still a lot of work to be done to bring this project to completion, but we are excited about the partnership with IGU that will give Alaskans greater long-term energy security."

Agreed pricing over 20 years

Britton told the IGU board that the initial contracts with Hilcorp and Harvest cover a 20-year timeframe, with agreed pricing for gas delivered to the North Slope LNG facility and for LNG supplied on the North Slope from the facility. Taking into account this pricing, and the anticipated cost of trucking the LNG to Fairbanks, IGU expects the initial price of gas for the utility's customers to be similar to current pricing. The contracts factor in long term price escalation to take inflation into account. There will be some uncertainty over the customer pricing until the trucking arrangements are finalized.

IGU views the move to the North Slope supply as bringing a high level of supply reliability together with major capabilities for supply expansion to support a growing customer base, given the huge amount of natural gas available on the North Slope.

On the other hand, the contracts have minimum volume commitments — should the growth in IGU's customer base fall substantially below expectations, these volume commitments would impact the Fairbanks gas pricing. However, IGU is meeting its targets for customer growth and anticipates this success to continue. And in its early years the LNG supply contract anticipates LNG demand being below the LNG plant capacity, with the agreement allowing for shutdowns during the summer.

Under the terms of the contract with Harvest, IGU has first right of refusal on any future sale of the LNG plant by Harvest. And should some other entity end up buying the plant, the new entity would need to have the financial capability to meet the contractual commitments that have been made to IGU, Britton told the board.

When inviting board members to vote on the resolutions, board chair Gary Wilken commented on the major significance of the move to the North Slope.

"This is really a historic vote … years ago to think that we'd be sitting here today voting on a 20 or 30 year gas contract off of the North Slope with a bright future ahead, there were many that thought that couldn't happen," Wilken said.

The Interior Energy Project

After IGU was formed in 2012 as a local government owned utility, with the intent of expanding gas supplies in the Fairbanks-North Pole region, it became in involved in the Interior Energy Project, or IEP, an Alaska Industrial Development and Export Authority sponsored project with the objective of bringing affordable natural gas to the Fairbanks region. The concept was to establish a fuel source cheaper than fuel oil for heating buildings, while also reducing the winter air pollution that plagues Fairbanks.

IEP funding involved a combination of a state appropriation; AIDEA Sustainable Energy Transmission and Supply, or SETS, loans; and AIDEA bonds.

The original concept was to use IEP financing to build an LNG plant on the North Slope and to truck the LNG to Fairbanks.

However, following engineering work for the LNG project, it became clear by the end of 2014 that the project was not viable — the project costs would have resulted in gas prices too high for gas consumers. But work did move ahead on some buildout of the gas distribution pipeline network in Fairbanks, on the assumption that an expanded gas supply for the city would be forthcoming at some stage.

In June 2015 AIDEA, in moving forward on the IEP, purchased Pentex Alaska Natural Gas Co., the owner of the Titan LNG plant, the trucking operation for shipping LNG from the Titan plant to Fairbanks, and Fairbanks Natural Gas LLC, a gas utility with customers in central Fairbanks. In December 2017 AIDEA approved the sale of Pentex to IGU, thus establishing a single gas utility in Fairbanks, with its own LNG supply via the Titan plant. The AIDEA board also approved loans for the construction of a new 5.25 million gallon liquefied natural gas storage facility in Fairbanks, to underpin expanded gas supplies in the region.

The new LNG storage facility was completed at the end of 2019 and in early 2021 IGU completed additional storage facilities at North Pole. With then having plenty of LNG storage capacity, IGU was able to move ahead with expanding its customer base and extending its gas distribution infrastructure.

But the throughput capacity of the Titan LNG plant then became a constraint on future expansion. IGU had planned to expand the plant from its 50,000 gallons per day throughput to 150,000 gallons per day. However, in the spring of 2020 uncertainty in future energy pricing because of the COVID pandemic caused the IGU board to put a final investment decision for the plant expansion on hold.

Britton told the IGU board in the Jan. 17 meeting that the utility had continued to see the Titan expansion as the next step in enabling the utility to sustain its plan of expanding its customer base. The existing Titan throughput capacity could only support IGU's planned increase in customers until the end of this year's construction season, Britton said.

"At that point we have reached our maximum capacity with our current liquefaction assets and our current supplies," he said.

IGU anticipates having around 2,200 customers by the end of June this year and expects its customer base to increase to over 6,000 by June of 2032.

Cook Inlet supply uncertainty

But a few months ago Hilcorp informed all of the utilities sourcing natural gas in the Cook Inlet that they should no longer rely on Hilcorp to the extent that they have on the past and that "they did not have line of sight beyond their current contractual commitments," Britton said.

That, in effect, nixed the Titan expansion, given what would have been a project with an uncertain future involving more than $60 million in debt funding. That uncertainty would likely have made it impossible to attract workable financing, Britton said. Moreover, IGU has a commitment to its existing customers to provide a long-term, gas supply solution, he said.

IGU then looked at several potential options for expanding its LNG supplies. The utility discussed with a company called Cryopeak LNG Solutions the possibility of building a temporary 50,000 gallons per day LNG plant next to the Titan plant, as a short-term fix pending a longer-term solution. But this would have taken about two years to construct and would have resulted in rate increases for IGU's customers and higher long-term costs, Britton said.

Another option could have been to import Canadian LNG while further deferring a decision on the Titan expansion — IGU investigated various proposals for trucking LNG from Canadian producers to the Vancouver area for shipment by barge to Alaska, Britton said. But each option would have required gas price increases in Fairbanks, in addition to which IGU would have been exposed to uncertain future Canadian gas pricing and the vagaries of currency exchange rates.

Ultimately, the option to purchase LNG via a Hilcorp North Slope gas supply and a Harvest operated LNG plant on the Slope proved to be the optimum solution. ●

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continued from page 1

OIL PRICES

high driven by the unwinding of China's strict zero-COVID policy that locked down large swaths of its population and industry in areas of COVID-19 outbreaks.

ANS dropped $1.60 Jan. 24 to close at $82.97, while WTI fell $1.49 to close at $80.13 and Brent plunged $2.06 to close at $86.13.

ANS rose 22 cents Jan. 23 to close at $84.57, as WTI rose 31 cents to close at $81.62 and Brent rose 56 cents to close at $88.19.

On Jan. 20, ANS added 97 cents to close at $84.36, WTI added 98 cents to close at $81.31 and Brent jumped $1.47 to close at $87.63.

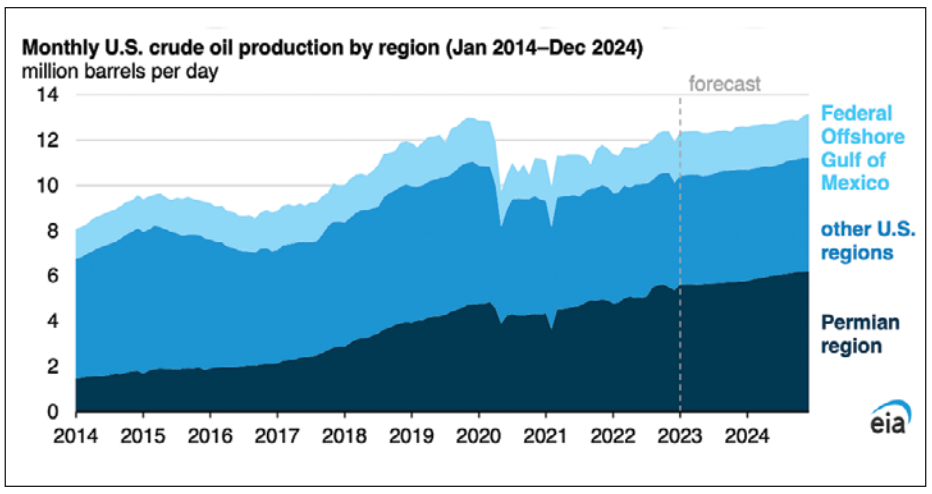
ANS jumped $1.27 Jan. 19 to close at $83.39, as WTI rose 85 cents to close at $80.33 and Brent jumped $1.18 to close at $86.16.

Russian diesel sanctions drive uncertainty

The European Union is about to sever diesel trading with Russia, its largest external diesel supplier, as sanctions on refined fuel from Russia go into effect in early February. The sanctions will launch in concert with the G7 global price cap on Russia's refined fuel sales beginning Feb. 5.

Traders have warned that the sanctions could boost already inflated prices and worsen shortages.

"Any shortfall of Russian product exports could coincide with higher demand in China, tightening markets even further and raising the prospect of price spikes that renew inflationary pressure," Henning Gloystein, Eurasia Group analyst told the Financial Times Jan. 23.



Some in the oil industry are more optimistic, reasoning that the supply chain — tested by pandemic, sanctions, and war — can quickly adapt.

Rystad Energy consultant Jorge Leon expects the sanctions will hobble Russia's economy, rather than backfiring too aggressively on western economies.

"There is going to be a price impact, but it won't be a game-changer," Leon said. "European buyers have been stockpiling diesel including by raising imports from Russia in the past few months, so we're starting this potential shock to the system in a reasonably good position."

Europe will turn to new large-scale refineries in India and the Middle East and exports from China, to replace Russian supplies.

Leon said the refined fuel sanctions could lead to greater discounts on Russian oil.

Russia's primary export grade crudes are trading at $40-$45 a barrel, a discount of some 50%.

"I suspect China and India are going to ask for even bigger discounts, potentially as much as 60%," Leon said, adding that diesel is more complicated to transport long distances than crude oil.

EIA sees new crude production records ahead

The EIA has forecast that crude oil production in the United States will average 12.4 million barrels per day in 2023 and 12.8 million bpd in 2024, surpassing the previous record of 12.3 million bpd set in 2019. U.S. crude oil production averaged an estimated 11.9 million bpd in 2022, the EIA said.

"Increased production in the Permian region and, to a lesser extent, in the Federal Offshore Gulf of Mexico drives our forecast growth in production," the EIA said. "We base our forecast on our expectations of crude oil prices and infrastructure capacity additions."

The EIA forecast of crude oil production in the Permian rose 470,000 bpd to average 5.7 million bpd in 2023.

New natural gas pipelines coming online will allow producers to transport more natural gas that is produced along with crude oil to market, removing a potential constraint on crude oil production, it said.

The EIA called for crude oil production in the GOM to increase by 120,000 bpd in 2023, while production in other regions of the United States except for the Permian declines slightly.

In 2024, the EIA expects crude oil production in the Permian will increase by 350,000 bpd, while production in the GOM declines slightly. It forecasts that production in other U.S. crude oil-producing regions will increase by 70,000 bpd in 2024.

"We forecast the U.S. benchmark West Texas Intermediate crude oil price will average $77 per barrel in 2023 and $72/b in 2024, down from $95/b in 2022," the EIA said. "Despite declining crude oil prices, we expect the WTI price will remain high enough to support crude oil production growth, especially in the Permian, where data from the Dallas Fed Energy Survey indicate that average breakeven prices range from $50/b to $54/b." ●

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