

High Taxes, Expensive Exploration, Delayed Development Man-made obstacles may close trans-Alaska oil pipeline by 2014

By Mike Bradner

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Things aren't looking so good in Alaska's oil patch these days, but there are pockets of industry activity, mostly smaller projects by small companies.

State officials and legislators are worried. Oil pays for about 90 percent of the State budget, and without it Alaskans would be faced with steep reductions in public services, ruinous taxes and a likely end to the popular Permanent Fund dividend.

That's according to studies by the University of Alaska Institute of Social and Economic Research, a respected Alaska think-tank.

What's more, one way or another, oil production accounts for about a third of the state's economy, again according to studies by ISER. Given that, all Alaskans have a stake in what happens in the oil patch.

The good news is that companies are still active and State leaders are beginning to recognize the problem and are looking for ways to help. State legislators stepped up to the plate last spring and approved new exploration and drilling incentives, though mainly for Cook Inlet, a smaller producing area in Southcentral. Gov. Sean Parnell signed the bills and said he would push for more incentives for the North Slope next year.

Alaska now has some of the world's most generous incentives for petroleum development. One new incentive for Cook Inlet, for example, would have the State pay \$20 million to \$25 million cash toward the cost of each of the first three exploration wells drilled with a jack-up rig. This is now attracting serious interest.

World's Highest Taxes

The not-so-good news is that despite the incentives the State's overall fiscal structure imposes some of the world's highest taxes on oil production, and that's a touchy issue State leaders have yet to grapple with. The combination of high taxes, the high cost of working in remote areas, modest prospects for discoveries at least onshore, and what is said to be one of the nation's toughest regulatory regimes may have created the perfect storm in driving off new industry investment.

A grim scenario, but the news isn't all bad. As beset as it is with financial pressures from the Gulf of Mexico oil spill, BP is pushing ahead with its new Liberty oil project on the Slope. This is an offshore field to be reached by long-distance, extended-reach wells

drilled from shore, some as long as eight miles drilled laterally from the surface location of the drill rig.

Another Alaska project for BP this year is a test production program for heavy oil the company is conducting. For years the major companies have looked for ways to develop massive heavy oil resources known to overlie the existing fields. BP has adapted a heavy oil production technology developed in Canada and has drilled test wells to try the technique on the North Slope.

In another project, Exxon Mobil Corp. continues with its development of a gas-cycling and condensate-production project at Point Thomson, 60 miles east of Prudhoe. The company has completed two wells drilled into the high-pressure gas field and plans three more. The goal is to produce, by 2014, 10,000 barrels per day of liquid gas condensates while injecting the produced gas back into the underground reservoir.

While it will produce the condensates and move them to Prudhoe Bay by pipeline, where they will be mixed with crude oil in the trans-Alaska oil pipeline, ExxonMobil also hopes this project will show that condensate production can be expanded. If it can't, the facilities can be used to support natural gas production for a gas pipeline.

Badami Redevelopment

Also east of Prudhoe Bay a small independent, Denver-based Savant Resources, is redeveloping the small Badami oil field. BP developed Badami originally, but the field did not reach production expectations due to reservoir problems. Under an arrangement with BP, Savant and Arctic Slope Regional Corp., as a minority partner, are redeveloping some of the Badami wells and plan to restart production this autumn. Savant also drilled an exploration well nearby, which was successful, the company said, which will contribute production that will be processed in the Badami production facility.

West of Prudhoe Bay, a new exploration well is planned by Brooks Range Petroleum, the operating company for several small independent firms. The company will drill a new well southwest of the Kuparuk River field. Brooks Range drilled exploration wells last year north of the Prudhoe Bay field and is now assessing those results.

Anadarko Foothills Gas

South of Prudhoe Bay, Anadarko Petroleum Corp. is still evaluating its natural gas prospects in the foothills area. Gas has been discovered, but additional testing is required, which may need a drill rig and construction of an ice road to the remote area. Those will be expensive undertakings. Anadarko owns rights to the Gubik gas deposit, a discovery made years ago that was recently tested by Anadarko. It isn't known yet whether there is enough gas at Gubik for commercial development, however, and Anadarko's plans are also contingent on a large natural gas pipeline moving forward, or, alternatively, the construction of a smaller 24-inch gas pipeline being investigated by the State.

Umiat, NPR-A

In the same region, Renaissance Umiat LLC, a small independent based in Houston, is working on commercial development of a small oil deposit at Umiat, on the border of the National Petroleum Reserve-Alaska. Oil was discovered at Umiat decades ago in early U.S. Navy exploration, but was never developed because of the small size of the deposit. Renaissance believes it can develop and produce the field using new drilling technologies. A proposal by the State to build a resource road to the area from the Dalton Highway has boosted prospects for the Umiat project because the road would provide the key infrastructure for a small pipeline taking oil to the trans-Alaska oil pipeline.

The company's plan is to place the pipeline in gravel alongside the road, the company says. The State recently approved an appropriation for an Environmental Impact Statement for the road. If the road is built it would help Anadarko's exploration for gas because the annual construction of expensive ice roads would no longer be needed.

Cook Inlet Gas

In Cook Inlet, the new State incentives have prompted new interest by companies. Apache Oil and Gas, a major U.S. independent, has expressed interest in buying acreage, as have other companies. One is a Tennessee-based company, Miller Petroleum, that has acquired the small Redoubt Shoal and West MacArthur River fields. The new interest is sorely needed because Cook Inlet's existing oil and gas fields are decades old and nearing depletion.

Of immediate concern: there may not be enough gas produced from the region's aging gas fields to meet total gas demand by 2014. There does not appear to be enough new drilling under way this year to assure that gas supply. New drilling for gas is actually down this year compared to last.

Unless new gas discoveries are made or until a gas pipeline can be built from the North Slope – 2017 or 2018 is the most likely date – the most likely source of new gas to assure supplies for the region is, ironically, imports of liquefied natural gas from Asia.

Geologists have said there is more oil and gas to be found in Cook Inlet, but the discoveries are likely to be modest and the costs high. Still, the Legislature has bet State cash on the prospects, in the form of the new incentives, and companies are showing interest.

Taps for TAPS in 2014?

For the North Slope, the underlying problem is that production from the big producing fields is continuing to decline at rates of 5 percent to 6 percent a year. There's insufficient exploration to find enough new oil to flatten the decline. Projects like Shell's offshore program, or ConocoPhillips' development of known deposits in the NPR-A, could

provide needed oil, but they are now delayed by federal restrictions and permitting problems.

There are worries that the amount of oil moving through the trans-Alaska oil pipeline may approach the point within just a few years where the pipeline will begin experiencing operating problems. Alyeska Pipeline Service Co., which operates the pipeline, says the point at which operating problems set in is a throughput of 500,000 barrels per day. The pipeline now moves about 640,000 barrels daily, but the rate is expected to decline to 500,000 barrels per day by 2014.

Ironically, the geologic potential of the North Slope is huge. Geologists say that the Slope is one of the world's greatest hydrocarbon-generation systems, so the oil and gas are clearly there. With a pipeline running at a third of its capacity, it's puzzling as to why there isn't more exploration. Even outside the North Slope, the state's large Interior basins have seen very little exploration. What drilling that has been done, such as recent exploration in the Nenana Basin west of Fairbanks and the Copper River Basin near Glennallen, shows indications there is petroleum to be found even if the wells did not result in commercial discoveries.

Man-Made Obstacles

One can't change the facts of geography and high costs, but some of the biggest impediments to new oil development are government-made. Taxes aren't the only obstacle. There is the federal government.

It's widely agreed that the best chances for getting new oil into the trans-Alaska oil pipeline relatively soon lies with several prospects Shell wants to drill in the Beaufort Sea off the northern coast of Alaska. Shell also plans exploration in the Chukchi Sea, where the prospects are even better, but the remoteness of this area means years of lead-time in developing pipelines. The Beaufort prospects, in contrast, are nearer to shore and nearer to existing pipeline.

Shell wanted to drill in 2007 but was stopped by lawsuits. The company was primed again to drill in 2010, but was again stopped when President Obama ordered a one-year moratorium on Arctic offshore drilling, part of a broader moratorium on all offshore drilling in response to the Gulf of Mexico well blowout and spill. Shell hopes the delay will be only one year, but it could easily slip to two years, company officials worry.

Meanwhile, two other unexplored, but inviting, onshore North Slope areas are also closed to development. One is the coastal plain of the Arctic National Wildlife Refuge, east of Prudhoe Bay, which geologists believe has best prospects for major discoveries of any onshore U.S. area. The other, surprisingly, is the NPR-A, the huge 23-million-acre tract set aside in 1923 for its oil and gas potential.

Exploration has been only modestly successful in NPR-A so far, but the huge reserve is still considered lightly explored. Even so, modest discoveries have been made. Now,

however, the federal government may impede access to discoveries that have been made, an action that will further chill investment.

ConocoPhillips has been working for more than five years to get permission to build a road and pipeline bridge across the Colville River to reach discovered oil on the west side, which is within the NPR-A. Federal agencies have refused, so far, to give permits for the bridge to be built and have attempted to impose their own solution, an underground pipeline crossing and no road access, which the industry feels are uneconomic solutions.

Given the rich geologic endowment of both the North Slope and Cook Inlet, the solutions to the problems of declining production seem so near at hand. But the problems, many of them man-made, loom large as well.