

## Testimony for Senate Finance Committee – Feb. 19, 2014

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For the record, I am Larry Persily, head of the federal Alaska gas line project office.

Thank you for the opportunity to testify today. I hope my comments are useful for your deliberations and answer some of your questions.

I'd like to explain why this time may turn out differently than all the other attempts at a North Slope gas line.

But first, I have two examples of Washington taking notice of what's happening in Alaska.

I know normally Alaskans don't like to hear that the federal government is watching our resource development — but trust me, this time it's OK.

I presented an update on the Alaska LNG project last week at the Department of Interior, speaking to the Alaska Interagency Working Group which created by presidential executive order almost three years ago to track and help coordinate the work of federal agencies for onshore and offshore energy projects in Alaska.

As I started talking about the Alaska gas line, people actually paid attention and asked good questions. They've heard about Alaska gas many times before. And their agencies have spent a lot of time on the many false starts in years past.

But they had heard and read that this time might be different — and they were eager to know what was happening.

They had heard that all of the players are working together on the same project and spending serious money to determine if Alaska's time finally has come.

Between budget cuts, retirements and other staffing reductions, however, federal resource management and regulatory agencies don't have any spare time for another false start — like they went through a few years ago with a proposed pipeline from Alaska to serve North American markets.

Though sponsors of that project tried in good faith to make it work, shale gas put an end to it — but not before federal agencies had spent a lot of time on permitting issues, rights of way, scoping meetings and reviewing draft resource reports for an environmental impact statement.

The Federal Energy Regulatory Commission, Department of Energy, Bureau of Land Management, Army Corps of Engineers and others have more than enough files on their desks without the Alaska gas line.

FERC alone has several Lower 48 LNG export terminals on its work list for environmental review.

The Department of Energy has two dozen LNG export applications waiting for review, including applications from the existing ConocoPhillips plant at Nikiski.

Federal agencies are the same as Alaskans — they don't want another false start.

But every one of those agencies is ready to work on the Alaska LNG project just as soon as an application hits their desk. They would just like to know that this time it has a real shot at making it.

I told them last week what I am going to tell you -- and this is coming from someone who is generally very cynical and skeptical.

This time very well may be different. If the markets perform as expected, if the companies and the state can keep the costs down, if the financial terms look good to all parties, you could see gas flowing in the 2020s.

The latest non-skeptic in Washington is Adam Sieminski, head of the Energy Information Administration at the Department of Energy.

“We think the economics ultimately will favor construction of an LNG facility in Alaska,” Sieminski said in an energy newsletter interview this week.

So why this time?

Global LNG demand is the strongest growth industry for energy. Between nuclear plant shutdowns in Japan and Korea; choking coal pollution in China; population and economic growth in India, China and elsewhere in Southeast Asia; high oil prices that can make LNG look affordable by comparison — they all add up to strong demand build for LNG in the Asian market.

The International Energy Agency predicts global demand for natural gas to grow more than twice as fast as oil over the next 20 years. Others predict even stronger growth rates for gas.

Most of the world's gas trade is by pipeline, but LNG is building. And building at an even faster pace than pipeline deliveries.

Many analysts talk of a 5% to 6% annual growth rate for LNG demand through 2020, then slowing down to the 2% to 3% range through 2035.

That would mean the equivalent of a new, good-sized LNG export terminal will need to start up almost every year to meet that demand growth.

And in addition to market growth, older LNG supply contracts are expiring — and some of those older export plants are running low on reserves.

Just this week Egypt, an LNG exporter since 2005, announced it will need to import LNG for the next several years as gas production has fallen short of domestic demand.

All of which means export project developers are chasing not only new demand but replacement contracts for declining reserves.

Someone is going to win that new business. It will be the lowest-cost, stable, predictable suppliers.

The potential competitors to Alaska LNG have their own strengths and weaknesses, as does Alaska.

Australia?

Seven LNG export projects are under construction and set to open over the next three years. But a majority of that gas is already sold on long-term contracts. Those projects are not Alaska's competition for deliveries to start in the 2020s.

New terminals or expansions in Australia face tough hurdles. Cost overruns on the current projects have got companies worried about repeating history.

Domestic consumers are seeing price increases for natural gas, which is being drawn from the local market to higher-priced export markets.

Dow Chemical claims it cannot get the new gas supply contracts it needs for investments in Australia.

Some local jurisdictions have imposed drilling restrictions on coal-bed gas reserves, which feed three of the export terminals under construction.

Russia?

The country has just one operating export plant, but there's talk of expanding it. Russia has another plant under construction, and thoughts of two more.

The expansion talk at Sakhalin-2, led by Gazprom with partner Shell, is dependent on sufficient gas reserves to justify the work.

Gazprom is also talking about building an LNG terminal at Vladivostok.

Yes, a good location for marketing – it's a short tanker trip from there to Japan, Korea, China or Taiwan – four of the biggest LNG buyers.

But it will take a 2,500-mile pipeline to move the gas from Russia's interior to the coast. The field development costs and pipeline are estimated at \$40 billion — not counting the LNG terminal.

To really make the economics work, Russia will need to extend the pipeline and sell gas to China.

The two countries have agreed on everything but the price for the gas. You could say that about a lot of hopeful projects.

Separately, Rosneft and ExxonMobil are doing their due diligence for an LNG plant called Sakhalin-I. They have issued a contract for initial FEED work.

In Russia's distant Arctic, a terminal under construction is called Yamal LNG. It's about halfway between Iceland and Nome.

Estimated at \$27 billion, the sponsors talk of making their first deliveries in three or four years.

The tricky part for Yamal is that the Northern Sea Route to Asia will be passable for LNG tankers only a few months each year, and even then only with government-funded nuclear-powered icebreakers as escorts.

The rest of the year, the plan is to ship the LNG aboard ice-class tankers to European ports, where the LNG would be transferred to less expensive standard tankers for the long voyage down the European coast, across the Mediterranean Sea, through the Suez Canal, across the Indian Ocean and into Asia.

Look at the map and you see the economic challenges Yamal faces. Plus its main sponsor, Novatek, has never built or operated an LNG terminal.

Canada?

There are multiple proposals; none have all their government authorizations or a final investment decision.

None have cleared the consultation process with every First Nation in the area and along the pipeline route.

The developers that are talking about price are emphatic that they need oil-linked LNG pricing or something comparable to cover their sizable development costs.

There is no Prudhoe Bay production facility in British Columbia's Horn River and Montney shale gas plays that would feed the LNG terminals at Kitimat and Prince Rupert. They have to build it. Gas has to pay for it.

The pipelines that would move that gas to the coast are as long as 525 miles and must go through two mountain ranges.

One possible route into Prince Rupert takes the pipeline offshore for up to 75 miles and across either an old mine tailings disposal site or mollusk bed important to First Nations people.

Meanwhile, the British Columbia government is negotiating a new LNG export tax with project sponsors. The legislation been delayed until fall, with companies saying no project decisions until they know the tax.

Tanzania and Mozambique?

An awful lot of gas but minimal infrastructure; still developing their oil and gas laws and fiscal regimes; and local poverty could become an issue for developers and political leaders.

Closer to home, the U.S. Lower 48 states?

It's a tough political battle, pitting oversupply and low prices at home vs. the free market and exports to trade partners.

The Department of Energy has approved six export licenses, totaling 8.5 bcf a day. That's equal to almost 12% of current U.S. gas production.

The unknown is if and when and under what conditions the department might start to close down or further delay its export approvals.

And regardless of what government does, the only terminals to be built will be the ones that have buyers and can get financing. Just one is under construction so far, in Louisiana.

Other issues for Lower 48 exports include cost overruns at the Panama Canal expansion, which is essential for getting tankers out of the Gulf Coast and into the Pacific.

One of the Gulf Coast project sponsors said this week that Asian buyers are putting off new long-term contracts for U.S. gas because of the delay in knowing just how much it will cost to use the expanded Panama Canal.

Local opposition over environmental and safety concerns is not very noticeable for Gulf Coast terminals but is extremely visible for terminals proposed for the Oregon and Maryland coasts.

My point is: Like Alaska, every proposed project, has its own problems, its own disadvantages, its own issues to solve.

The winners, the terminals that get built will be the ones that solve the problems, hold down costs, and convince buyers that they will start up on time with competitive prices.

The pre-FEED and FEED work — front-end engineering and design — is a key part of that effort. The more you do up front, the better the odds of avoiding surprises during construction.

And in a brief advertisement for our office's work, we issued a report today on just what are pre-FEED and FEED and why they are so important. It's available on our website [arcticgas.gov](http://arcticgas.gov).

### **ALASKA LNG ADVANTAGES**

These are substantial and meaningful.

Shorter tanker run from Nikiski to Japan; one week vs. three weeks from the Gulf Coast

- Tanker charter rates are running \$75,000 to \$100,000 a day. Time is money. Big money at those rates.
- Or less capital tied up in fewer ships if owner-operated tankers.

Proven gas reserves already being produced. It's important to buyers to know that the gas they're committing to buy for 15 or 20 or 25 years actually exists.

Low production costs compared to greenfield projects in B.C., Australia, East Africa.

Oil will carry the infrastructure costs.

Almost 40 years experience producing on the North Slope.

Liquefaction compressors run much more efficiently at cold temperatures.

- Up to 15% more efficient (less gas consumed) than in warm-climate LNG sites

### **ALASKA LNG DISADVANTAGES**

These also are substantial and meaningful.

High construction costs in Alaska.

Seasonal construction limitations (pipeline trenching during the winter only).

Summer-only sealifts of material to the North Slope.

Environmental considerations (wetlands, air quality standards, mitigation expenses).

The cost of an 800-mile pipeline to tidewater that competing LNG projects don't have.

And the need for fiscal certainty is a hard sell in the world of Alaska oil and gas politics.

The federal government is ready for the permitting work, but making the finances work is up to the project sponsors and the state.

The rewards to the state of a successful project include public revenues, the lowest cost to move gas to Alaskans, and an industry commitment to keep North Slope gas and oil flowing for decades.

The risks of state investment are cost overruns that require more cash during years of budget deficits, and the possibility that the project will not make as much money as projected or as people want.

I can't help you there, other than to say the LNG world is a competitive market. But it's not an impossible market.