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Testimony by the Honorable Mead Treadwell, Chairman and CEO of Qilak LNG

Alaska State Senate Resources Committee

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Mr. Chairman, members of the Committee, thank you for having us here today. My name is Mead Treadwell, and I am Chairman and CEO of Qilak LNG, based in Anchorage. I am joined online by David Clarke of Anchorage, our President and COO.

1. Alaska's current approach to commercializing North Slope Gas focuses on Asia.

As you and members of the Committee may know, I have been a longtime advocate of marketing our stranded North Slope natural gas reserves in Asia. Through most of the 1980's, early in my career, I worked with former Governors Wally Hickel and Bill Egan in cooperation with Atlantic Richfield to launch the Yukon Pacific Trans-Alaska Gas System proposal, and helped develop relationships in Japan, Korea, and Taiwan for that project. We also secured key export approvals in Washington, DC, but the project ultimately failed to secure a gas supply, as gas was being used on the North Slope to maintain reservoir pressure to produce oil.

In the latter 1990's, Alaska shifted focus back to pipeline projects that would transport gas across Alaska and through Canada, and pursued this route under Governors Knowles, Murkowski, Palin and Parnell. With those projects Alaska also hit a wall: the value of our gas at a trading hub in Alberta was not high enough to cover its pipeline transportation costs from Alaska to that hub.

After 2010, Governor Parnell and I worked with members of the Legislature and industry to shift our focus from markets in North America, to again aim toward Asia, which pays a premium cost compared to US markets for natural gas in the form of LNG. That was the beginning of the AGDC effort.

Alaska is properly focused on the Asian market today, and I applaud Governor Parnell for calling the North Slope producers together to head in that direction, and his successors – Governors Walker and Dunleavy – for pursuing Asian markets.

Every proposal, including our current proposal, also had a plan to supply gas to Alaskans.

2. While Alaska has pursued pipeline-based LNG to ice-free ports, Russia has successfully begun direct LNG exports with icebreaking tankers

While Alaska focused on permitting an 800-mile pipeline to liquefaction facilities in Cook Inlet, through AGDC, something revolutionary was happening nearby in the Arctic. In 2017, Russia launched direct export of LNG from the Yamal Peninsula to Northeast Asia, through the Arctic Ocean and via the Bering Straits. Fifteen advanced icebreaking tankers were built, and markets in both the Atlantic Region and the Pacific region have been served with production of 16.5 million tons per year of LNG (approximately 2.3 billion cubic feet of natural gas per day.) In 2019, Russia announced it had secured markets and financing from several Asian countries to expand LNG exports to close to 40 million tons per year with the Arctic LNG 2 project. A further six icebreaking Mk II LNG tankers are on order with enhanced ice breaking performance for this second project.

We learned from the first Yamal project not only that the Arctic Ocean is reliably navigable, but we also learned some geography. First, compared to Yamal, the producing areas in the North Slope of Alaska are 2,000 miles closer to the maximum ice edge in the Arctic Ocean and Bering Straits. The Russians are sailing right past us. Second, our State's proposed 800-mile, multi-billion-dollar pipeline only brings the gas around 40 miles closer to market: The North Slope and Cook Inlet ports are virtually equidistant to Tokyo.

3. Could direct export of LNG from the North Slope be an option for Alaska?

I was President of Pt Capital in 2017, and David Clarke had recently retired from BP, after extensive work in the Alaskan and Russian Arctic. Mr. Clarke and I saw the same opportunity for Alaska, that direct export of our gas – as Russia is doing -- might be more economic. We began a desktop study, followed by a pre-feasibility study and looked for project sponsors in Alaska and worldwide. We concluded that a small project, using new FLNG technology (meaning placing liquefaction facilities aboard a barge or gravity-based structure (GBS)), could pioneer a new course for export of Alaska's gas.

We found a project sponsor in Lloyds Energy out of Dubai, a firm which was looking for stranded gas supplies to serve their own independent power projects in Asia. With Lloyds, we completed a pre-feasibility study with their engineering team. We found the cost to get North Slope gas to market would be less expensive than through a pipeline, accomplished with a minimum order quantity that is smaller, and perhaps return an ultimate value to North Slope producers and the State of Alaska (as royalty owner) which is higher. Our view was that direct export could break the cycle which, through more than 8 pipeline proposals for North Slope gas (one of which, Yukon Pacific, that I'd worked on throughout the 1980's), had never materialized a viable project.

4. Qilak LNG announced its formation in late 2019, with Lloyds Energy as sponsor:

- In September of 2019, we entered a Heads of Agreement with ExxonMobil, operator of the Point Thomson Unit (PTU) with the potential to purchase sufficient gas supply to produce 4-8 million tons per annum of LNG. The HOA could lead to a gas supply agreement once project feasibility is established.
- Our base case proposes to buy gas from the Point Thomson Unit owners. This gas would be processed at a gas conditioning plant that would be built onshore, and shipped via a subsea

pipeline six miles offshore to a gravity-based structure (GBS) to be grounded in at least 45 feet of water offshore. The GBS would be fully constructed in a shipyard with a liquefaction plant on the top deck, LNG storage in the hull and a marine terminal to offload the LNG into the icebreaking tankers. We have identified sites in federal waters deep enough to support tanker operations in varying wind, wave and ice conditions; far enough from shore to avoid interference with subsistence whaling. Food security for residents of the North Slope is a core value of our firm.

- Ice management would be provided by icebreaking tugs and we propose to load LNG into specialized Arctic icebreaking tankers for delivery to Asian markets, directly, or through trans-shipment in Japan.
- Our initial pre-feasibility level cost estimate for the project was approximately \$5 billion, excluding onshore gas treating facilities and LNG tankers which we would charter on a long-term basis. (This is approximately \$1,250 per ton of production capacity, compared to almost \$1,900 per ton of production capacity for the proposed AGDC AKLNG project.) We estimated that we can finance the project to deliver gas at prevailing prices in Asia with a return to producers and the state as royalty owner, and a sufficient return necessary to attract global financial institutions' debt and equity to the project.

5. Mr. Chairman, since that announcement, I have the following news to report:

- Our firm has refined its prefeasibility numbers. The cost of specialized tankers for shipping through ice, has come down. When we began, the cost estimate was \$350 million each; the enhanced performance Mk II vessels are now estimated at \$290 million each, and that will result in lower shipping costs. We have identified a work plan with world class engineering firms to set specifications for a competitive Front-End Engineering Design (FEED) program, expected to cost approximately \$100 million after completion of our planned Feasibility Study. We see a large role for Alaska expertise in operating the project, supporting us with ice management, and perhaps being involved directly in the shipping charters.
- We continue to study changing ice conditions in the Arctic Ocean. We know we must have some private ice management capability dedicated to our project, and we are very supportive of the US Coast Guard's new Polar Security Cutters. Some of our ice analysis has shown that heavy duty support icebreakers will seldom, if ever, be necessary for us to reliably deliver LNG to market.
- Liquefaction technology continues to improve. We expect greater efficiencies with the GBS-mounted liquefaction process due to the cold Arctic temperatures, and hence air emissions from the project will be reduced.
- The LNG market in Asia continues to grow, though competition for LNG market share is expected from major developments in Russia and Qatar, as well as other potential projects in North America and Africa. A spike in LNG prices this winter has convinced buyer nations it is in their interest to diversify supply, lock in future supplies and help additional projects get to the Final Investment Decision (FID). We have preliminary offtake commitments today for twice our initial capacity,

most of which is headed to or through Japan. We likewise are in negotiation with a shipping company prepared to build and serve our project with charter tankers to these destinations.

- Neighboring Northwest Territories, in Canada, is doing its own feasibility assessment of a project similar to ours which could bring LNG from the Mackenzie Delta to Asian markets. We wish them well, and as we would likely have a very similar development concept, there is opportunity for cooperation. But Alaska should beware that we could have LNG competitors sailing past us from the East and from the West!
- We are making progress on the project cost definition and in the marketplace with offtakers and shippers, despite delays caused by COVID-19 that impacts our ability to hold face-to-face discussion with global investors and Asian shipyards and offtakers. We still hope to get the project to FID in late 2023 or early 2024, and to begin shipping LNG in 2027 or 2028.
- Global investment bank Lazard is serving as our financial advisor.

6. Appreciation for support for this project, to date:

Before I close, let me express appreciation to many parties. Despite the fact we have two different approaches to marketing North Slope gas, we have had good and close cooperation with AGDC and have done our best to avoid confusion in the marketplace. While the State of Alaska is officially pursuing the AGDC project, Governor Dunleavy has made it clear in press statements and meetings he's attended in Tokyo that the State supports both projects and any valid attempts to monetize our vast gas reserves. We've benefitted from the work of the State's Economic Development Team and from the Alaska Department of Natural Resources' help in discussions with the federal government.

The Point Thomson Unit (PTU) owners, led by ExxonMobil in Alaska, have pursued their own studies on options to supply gas to our project, and I'd also like to thank them for their regular engagement, encouragement, and patience during a tough COVID year where we have not been able to move as fast on cost engineering as we would have liked.

COVID has also prevented us from having the extensive briefings in North Slope communities that we intend to have for this project. We know we have much more work to do before we begin the formal permitting process, but we've made progress in determining how this project can be a win-win for North Slope residents and the North Slope Borough and will continue to share the results of our work.

The Alaska Congressional Delegation has given helpful support on permitting path issues for the project, and in addressing the issues associated with LNG exports with leaders in the new Administration.

While the new Administration has not specifically addressed this project, we were pleased that President Joseph R. Biden Jr. has reportedly assured Union leaders he supports the use of natural gas<sup>1</sup>

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<sup>1</sup>[United Association General President Mark] McManus, one of nine labor leaders who huddled with Biden on Feb. 17 in the Oval Office, said "I brought up natural gas specifically to him, we spoke about pipelines ... and he says, 'I'm all for natural gas.'" who was. [POLITICS: Biden's promise to unions: 'I'm all for natural gas' -- Thursday, March 4, 2021 -- www.eenews.net](https://www.eenews.net/stories/4229444)

and Secretary Jennifer Granholm, the new Secretary of Energy, have made supportive statements about the role of natural gas (and LNG exports in particular) in advancing the climate change agenda.<sup>2</sup>

The Qilak LNG project begins as one of the best “green scoring” LNG projects anywhere for its proximity to market, its use of conventionally produced gas with minimal upstream fugitive methane emissions, its planned capture and sequestration of CO<sub>2</sub>, and its use of new technology. It is our belief we will get a fair hearing when we formally come before the Department of Energy for export approval and MARAD, the likely regulator of the offshore portion of the project. MARAD would also likely conduct the Environmental Impact Statement (EIS).

Japanese officials have given the project encouragement so far, and we have had encouraging discussions in other nations. Leaders in Japan have told us they recognize the value of this project as the closest potential US source of LNG, as a diversification of supplies from Russia and elsewhere, as a pioneer toward larger LNG supplies from Arctic North America, and as a contributor to reducing greenhouse gas emissions as Asian nations seek to achieve net-zero GHG emissions goals by mid-century. Further, this project advances goals of “The Quad”: the US, Japan, Australia and India who seek to help bring investment in clean energy to other Asian nations for both economic and security reasons.

On completing talks with Japan last week before coming to Alaska, Secretary of State Antony J. Blinken and Japan’s Minister of Foreign Affairs Toshimitsu Motegi released a statement stating the U.S. and Japan “will leverage existing bilateral and regional mechanisms and continue close U.S.-Japan interagency cooperation to meet our shared decarbonization and climate change goals with partners in the Indo-Pacific region. Both countries also commit to discussing ways to expand the adoption and deployment of clean energy technologies to regional partners in an affordable and effective manner through close coordination among U.S. and Japanese agencies and the private sector.” We believe the Qilak LNG project fits the commitments that were reaffirmed at this meeting.<sup>3</sup>

7. What can this legislature and the State of Alaska do to progress the long-held goal of North Slope gas exports?

- Please continue to support this option and companies, like Qilak LNG, who want to invest private funds in Alaska to pioneer a breakthrough for Alaska gas development.

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<sup>2</sup> “I believe U.S. LNG exports can have an important role to play in reducing international consumption of fuels that have greater contribution to greenhouse gas emissions,” DOE Secretary and former Michigan Governor Jennifer Granholm told the US Senate Energy and Resources Committee in writing, ahead of her confirmation hearing. Granholm added that if confirmed, DOE would work closely with U.S. LNG exporters to reduce emissions related to the commodity. February 3, 2021 report: [DOE Secretary Designate Granholm Signals Support for U.S. LNG Exports - Natural Gas Intelligence](#)

<sup>3</sup>In a Statement released March 14, 2021 before Secretary Antony Blinken’s trip to Japan, the Department of State made the following comment about energy trade: “The United States and Japan are supporting open and competitive energy markets. We are strengthening energy security in the Indo-Pacific region through the Japan-United States Strategic Energy Partnership (JUSEP) and will continue to identify additional joint commercial engagements in the Indo-Pacific region.” [Reaffirming the Unbreakable U.S.-Japan Alliance - United States Department of State](#)

- We encourage you to ask the Alaska Energy Authority to update its past work on LNG deliveries to coastal communities in Alaska, given the potential of our supply, the existing potential of Russian and Canadian containerized LNG supply, and advances in ISO containers that make transportation of LNG to small communities more viable, even if those communities are not accessible for deliveries by sea or river ice during portions of the year.
- State and Federal Government support for this project is essential.
- At an appropriate time in the future, we will be before the State for approval of the royalty gas sales associated with our project.
- Maintaining a stable tax structure will be necessary to securing the financing that will be required to develop this project. It will be necessary to adequately resolve potential fiscal issues that affect the project's economics.
- The Alaska Industrial Development and Export Authority (AIDEA) has most of the legal authority it needs to support a viable infrastructure project like Qilak LNG, and/or to help Alaskan entities take ownership of parts of the project. While the project has many financing options, we look to have some ownership of the project and its parts held by Alaskans.
- Governor Dunleavy has asked this legislature for support of his efforts to defend equities Alaska gained at Statehood. The state has the right and authority to develop its resources, and to transit federal land to do it.
- Lt. Governor Kevin Meyer and I, as members of the State Committee on Research at the University of Alaska, gained the agreement of the members to host a workshop this year on ways Alaska's resources, and Alaska's own energy use, can help our nation and other nations meet "net zero" greenhouse gas emissions goals by mid-century. Support from the Legislature in screening and studying greenhouse gas mitigation options could be helpful; at Qilak we have learned in our work in Asia of interest in hydrogen and ammonia from Alaska as well as interest in bringing CO<sub>2</sub> captured from Asian power plants back, perhaps to Cook Inlet, for sequestration in reservoirs where it could also help stimulate production.
- Our Department of Natural Resources has an agreement in place with the Japan Bank for International Cooperation. We have had many constructive talks with JBIC, and I appreciate the personal ties our Governor and our US Senators have forged from that agreement. We hope it is renewed at the appropriate time.

Thank you, Mr. Chairman and members of the Committee. We are happy to answer your questions.