ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE
April 7, 2025
3:30 p.m.

MEMBERS PRESENT

Senator Cathy Giessel, Chair
Senator Bill Wielechowski, Vice Chair
Senator Matt Claman
Senator Forrest Dunbar
Senator Scott Kawasaki
Senator Shelley Hughes
Senator Robert Myers

MEMBERS ABSENT

All members present

OTHER LEGISLATORS PRESENT

Senator Kelly Merrick

COMMITTEE CALENDAR

SENATE BILL NO. 114
"An Act relating to an in-state natural gas pipeline developed by the Alaska Gasline Development Corporation; and providing for an effective date."

- HEARD & HELD

PRESENTATION: PEGASUS UPDATE: MEGAPROJECT CONSIDERATIONS

- HEARD

REVIOUS COMMITTEE ACTION

BILL: SB 114
SHORT TITLE: GAS PIPELINE FAIRBANKS SPUR
SPONSOR(s): SENATOR(s) CRONK

02/28/25	(S)	READ THE FIRST TIME - REFERRALS
02/28/25	(S)	RES, FIN
03/21/25	(S)	RES AT 3:30 PM BUTROVICH 205
03/21/25	(S)	Scheduled but Not Heard

WITNESS REGISTER

SENATOR MIKE CRONK, District R
Alaska State Legislature
Juneau, Alaska
POSITION STATEMENT: Sponsor of SB 114.

PAUL MENKE, Staff
Senator Mike Cronk
Alaska State Legislature
Juneau, Alaska
POSITION STATEMENT: Answered questions on SB 114.

FRANK RICHARDS, President
Alaska Gasline Development Corporation (AGDC)
Anchorage, Alaska
POSITION STATEMENT: Answered questions on SB 114.

JOMO STEWART, President
Fairbanks Economic Development Corporation
Fairbanks, Alaska
POSITION STATEMENT: Testified in support of SB 114.

GRIER HOPKINS, Mayor
Fairbanks NorthStar Borough
Fairbanks, Alaska
POSITION STATEMENT: Testified in support of SB 114.

ELENA SUDDUTH, General Manager
Interior Gas Utility
Fairbanks, Alaska
POSITION STATEMENT: Testified in support of SB 114.

KEN HUCKABA, representing self
Wasilla, Alaska
POSITION STATEMENT: Testified with concerns on SB 114.

JOSEPH MILLER, President & Chief Executive Officer (CEO)
Pegasus-Global Holdings, Incorporated
Cle Elum, Washington
POSITION STATEMENT: Presented the report, Pegasus Update: Megaproject Considerations.

JEREMY CLARK, Senior Vice President
Pegasus-Global Holdings, Incorporated

Cle Elum, Washington
POSITION STATEMENT: Presented the report, Pegasus Update: Megaproject Considerations.

ACTION NARRATIVE

3:30:26 PM
CHAIR GIESSEL called the Senate Resources Standing Committee meeting to order at 3:30 p.m. Present at the call to order were Senators Kawasaki, Myers, Hughes, and Chair Giessel. Senators Dunbar, Claman, and Wielechowski arrived thereafter.

SB 114-GAS PIPELINE FAIRBANKS SPUR

3:31:13 PM
CHAIR GIESSEL announced the consideration of SENATE BILL NO. 114 "An Act relating to an in-state natural gas pipeline developed by the Alaska Gasline Development Corporation; and providing for an effective date."

3:31:33 PM
SENATOR MIKE CRONK, District R, Alaska State Legislature, Juneau, Alaska, introduced himself.

3:31:46 PM
PAUL MENKE, Staff, Senator Mike Cronk, Alaska State Legislature, Juneau, Alaska, introduced himself.

3:31:50 PM
SENATOR CRONK paraphrased the sponsor statement for SB 114:

[Original punctuation provided.]

Sponsor Statement for SB 114
"An Act relating to an in-state natural gas pipeline developed by the Alaska Gasline Development Corporation; and providing for an effective date."

The Alaska Gasline Development Corporation (AGDC) was established in 2010 with the passage of HB 369 in the 26th Legislature. HB 369 included language that stated, "the state's significant reserves of natural gas should be made available on a priority basis in the state to enhance employment opportunities, expand the state's economy, and supply a significant portion of community energy needs."

The near- 100,000 people in the Fairbanks North Star Borough pay the highest electricity rates on the Railbelt, according to a report published by the University of Alaska Fairbanks Alaska Center for Energy and Power. If a spur to Fairbanks is not built, the citizens of the Golden Heart City will continue to pay exorbitant electricity costs.

Businesses and citizens living in Alaska's 2nd most populous city and the entire Fairbanks North Star Borough desperately need the energy relief that would come from a spur connected to a natural gas pipeline. The AGDC maintains that the development of a spur line to Fairbanks and 34 other identified communities, although technically feasible, would need to be evaluated prior to construction.

SB 114 guarantees that an in-state pipeline would include a spur to the City of Fairbanks and the Fairbanks North Star Borough and ensures that all Alaskans can benefit from a natural gas pipeline.

SENATOR CRONK paraphrased the sectional analysis for SB 114:

[Original punctuation provided.]

Sectional Analysis for SB 114
"An Act relating to an in-state natural gas pipeline developed by the Alaska Gasline Development Corporation; and providing for an effective date."

Section 1: Amends AS 31.25.005(4) to establish a requirement for the Alaska Gasline Development Corporation to include a direct spur line to the City of Fairbanks and the Fairbanks North Star Borough in the construction of an in-state natural gas pipeline.

Section 2: Establishes an immediate effective date.

3:32:52 PM
CHAIR GIESSEL noted the zero fiscal note from the Department of Commerce, Community and Economic Development (DCCED), OMB Component Number 2986, dated March 14, 2025. She also noted two documents available for review, including the Alaska Gasline Development Corporation (AGDC) Fact Sheet, the Spatial Energy Burden Analysis of the Fairbanks North Star Borough by the

Alaska Center for Energy and Power (ACEP), and two Alaska liquified Natural Gas (LNG) project maps.

3:33:48 PM
SENATOR HUGHES expressed support for this project; however, she surmised that the project would require funding. She directed attention to the fiscal note from the Department of Commerce, Community and Economic Development (DCCED), OMB Component Number 2986, dated March 14, 2025, which states that SB 114 would not have a fiscal impact on AGDC or the construction of the Alaska Liquified Natural Gas Project. She asked about funding sources for the Fairbanks spur line project.

3:33:54 PM
SENATOR DUNBAR joined the meeting.

3:34:20 PM
MR. MENKE explained that SB 114 applies to the in-state gasline portion of the project that ended in 2019. He said the recent announcement from AGDC is for an export line. He shared a recent cost estimate of $150-$200 million. He expressed hope that federal receipts would pay the bulk of the cost and noted federal support. He deferred to AGDC for additional information.

3:35:43 PM
FRANK RICHARDS, President, Alaska Gasline Development Corporation (AGDC), Anchorage, Alaska, asked to hear the question again.

3:35:55 PM
SENATOR HUGHES said that the Fairbanks spur line is estimated to cost $150-$200 million; however, this is not reflected in the DCCED fiscal note for SB 114. She wondered how the project would be financed. She asked if this cost would be included as part of the Alaska LNG project and would thus become part of the financing put forward by Glenfarne.

3:36:21 PM
MR. RICHARDS clarified that the most recent cost estimate for the Fairbanks spur line is $180-$200 million. This cost is all-inclusive with contingency. He stated that it would be a 32-mile pipeline and briefly described its location. He explained that the Alaska LNG project does not include the Fairbanks spur line. He said the Fairbanks spur line was designed as part of the Alaska Stand Alone Pipeline (ASAP) at the request of the State of Alaska. He briefly described the engineering design process, which provided the necessary spur line construction permits from

the Department of Natural Resources (DNR). He reiterated that this was designed under the Alaska Stand Alone Pipeline (ASAP) project and is separate from the Alaska LNG project. With respect to using federal receipts to pay for the spur line, he indicated that this would be welcome. He said AGDC recently signed a memorandum of understanding with an Alaskan pipeline owner/operator to take on the development of the Fairbanks spur line. He shared how AGDC would work with that developer by providing access to the permits, etc., and the developer would bear the costs to complete the project.

3:37:05 PM
SENATOR CLAMAN joined the meeting.

3:38:23 PM
SENATOR HUGHES asked Mr. Richards to repeat his comment regarding the possibility of using federal receipts to help fund the spur line.

3:38:36 PM
MR. RICHARDS said he was not aware of a request to the federal administration to cover the cost of the Fairbanks spur line.

3:38:51 PM
SENATOR HUGHES asked whether a private company would build [the spur line] and charge a tariff to pay for the project.

3:39:01 PM
MR. RICHARDS confirmed this understanding and said the process would be similar to pipeline expansions in southcentral Alaska. He briefly described that process.

3:39:26 PM
SENATOR HUGHES asked whether Mr. Richards could share the name of the company.

3:39:38 PM
MR. RICHARDS said the company asked that its name remain confidential. However, he noted recent discussions between the company and delegates from Fairbanks. He said AGDC is waiting for the company's approval to share its identity.

3:39:57 PM
SENATOR WIELECHOWSKI joined the meeting.

3:40:06 PM

SENATOR KAWASAKI commented that the Legislature has discussed many LNG plans over the years. He pointed out that the initial cost estimate for ASAP was close to $1 billion and asked why the current estimate is less.

3:40:49 PM
MR. RICHARDS said the Alaska Legislature previously directed AGDC to evaluate the opportunity to develop an in-state LNG pipeline that would include a spur line into Fairbanks (the Stand Alone Pipeline project). Once AGDC completed the front-end engineering and design process, the overall project cost was an estimated $10 billion. This included a $7 billion pipeline, of which the Fairbanks spur line was a part. He explained that at that time the estimated cost of the Fairbanks spur line was $150 million (including contingency).

3:41:53 PM
SENATOR KAWASAKI asked about the tariff for Fairbanks residents for a $200 million spur line, assuming the LNG needs of those residents remains the same.

3:42:20 PM
MR. RICHARDS said the ASAP spur line was designed to accommodate current and future needs of Fairbanks residents. He estimated the tariff (for existing volumes) would be $1.20-$1.40. He said he would provide the most recent economic evaluation to the committee.

3:42:56 PM
SENATOR MYERS directed attention to the Wood McKenzie Study and asked about the estimated gas usage of Fairbanks residents in that study.

3:43:16 PM
MR. RICHARDS said he would need to review the report to supply the number.

3:43:35 PM
SENATOR MYERS shared his understanding that the Wood Mackenzie study estimated 11 billion cubic feet (bcf)/year into Fairbanks; however, Fairbanks currently uses 1.5 bcf/year. He emphasized the difference between the two. He offered a hypothetical situation and asked about the impact this would have on the price of the gas in Fairbanks and Southcentral Alaska.

3:44:16 PM

MR. RICHARDS said he would need to run this through ADGC's economic model to provide accurate data.

3:44:27 PM
CHAIR GIESSEL opened public testimony on SB 114.

3:44:58 PM
JOMO STEWART, President, Fairbanks Economic Development Corporation, Fairbanks, Alaska, testified in support of SB 114. He emphasized that a spur line into the Fairbanks area would provide residents with access to affordable LNG. He discussed how a previous ADGC development proposal, which bypassed the Fairbanks North Star Borough, placed strain on Fairbanks area residents. He discussed a variety of ways ADGC has shown it does not consider the Fairbanks spur line a priority. He noted that the highest priority of the State of Alaska is to monetize North Slope LNG and to satisfy the energy needs of Southcentral Alaska. He asserted that it would be unconscionable for a trans-Alaska gas line to bypass Fairbanks or render gas too expensive to benefit residents. He stated that SB 114 does not solve the issue of transporting gas to residents at an affordable price; however, it begins an important conversation.

3:47:38 PM
GRIER HOPKINS, Mayor, Fairbanks NorthStar Borough, Fairbanks, Alaska, testified in support of SB 114. He said it would be unconscionable if the interior was left out but pointed out that the project is not required to include the Fairbanks spur line. SB 114 creates this requirement. He said it is heartening to hear that a private business is interested in funding and operating the spur line; however, the additional cost is disheartening, considering that Southcentral residents do not pay an additional fee for the Anchorage spur line. He said the interior LNG market is expanding and preparing for the necessary infrastructure. He noted that the Fairbanks North Star Borough is working to increase the customer base and is working to connect the local military bases to natural gas. He emphasized the importance of SB 114.

3:50:48 PM
ELENA SUDDUTH, General Manager, Interior Gas Utility, Fairbanks, Alaska, testified in support of SB 114. She said interior Alaska has some of the highest utility costs in the country. This is due in part to the harsh climate and to highly expensive fuel sources. She emphasized the strain this puts on families and businesses, making it difficult for the region to grow. She said the Interior Gas Utility (IGU) serves approximately 1.5 billion

cubic feet (bcf) of LNG per year to homes and businesses. She briefly described this process and emphasized the high cost. She said the cost is twice that of Southcentral Alaska. She stated that this cannot continue and referred to the $44 billion spent on the natural gas pipeline. She noted that the Wood Mackenzie study considers 11 bcf/year and said an increase of $1.20 would only be possible if the gas is affordable. She briefly discussed how high costs in interior Alaska could impact costs for all Alaskans. She indicated that IGU is ready and willing to put forth the required effort to develop the necessary infrastructure to support the Fairbanks spur line. She emphasized that the cost of building the spur line cannot be placed on ratepayers.

3:54:06 PM
KEN HUCKABA, representing self, Wasilla, Alaska, testified with concerns on SB 114. He mentioned contracts and briefly discussed how Australia was negatively impacted by export contracts. He emphasized that Alaska needs first-take, long-term, low-cost contracts. He expressed concern that the discussion has turned to tariffs. He stated that the agreements, plans, and intentions do not equal contracts.

3:55:55 PM
CHAIR GIESEL held public testimony open.

3:56:13 PM
CHAIR GIESSEL held SB 114 in committee.

PRESENTATION: PEGASUS UPDATE: MEGAPROJECT CONSIDERATIONS

3:56:26 PM
CHAIR GIESSEL announced the presentation, Pegasus Update: Megaproject Considerations and Questions

3:57:30 PM
JOSEPH MILLER, President & Chief Executive Officer (CEO), Pegasus-Global Holdings, Incorporated, Cle Elum, Washington, introduced himself and gave a brief overview of Pegasus-Global Holdings, Incorporated (Pegasus).

3:58:02 PM
JEREMY CLARK, Senior Vice President, Pegasus-Global Holdings, Incorporated, Cle Elum, Washington, introduced himself.

3:58:11 PM
MR. CLARKE advanced to slide 2:

[Original punctuation provided.]

Pegasus's 2019 Report Overview

- Engaged by the State to provide advice concerning the risks associated with megaprojects, including specifically the proposed Alaska LNG project.
- Reviewed the Trans-Alaska Pipeline System (TAPS) and Strategic Reconfiguration project execution and issues encountered.
- Identified issues commonly realized on megaprojects.
- Discussed impact of cost overruns.
- Provided examples of contract tools to mitigate risks.

MR. CLARK noted that findings from the 2019 report remain relevant. Challenges and issues will be detailed later in the presentation.

3:59:26 PM
MR. CLARKE advanced to slide 3:

[Original punctuation provided.]

Megaprojects Defined

- Typically have costs in excess of $1 billion USD.
- Comparably high benefits and correspondingly high risk.
- Multi-year construction, often longer than a decade from feasibility planning through execution.
- Many stakeholders that can have substantial impacts on the project (environmentally, economically).
- Unique aspects/scopes (i.e. not a bigger version of a smaller project).
- Conventional project management processes and priorities often not sufficient.

4:00:12 PM
MR. CLARKE advanced to slide 4:

[Original punctuation provided.]

Megaproject Challenges

- Inherent risks due to long planning/execution horizons and complex interfaces.
- Technology/components that are often not standard (including FOAK).
- Decision-making and planning involves multiple parties with conflicting interests.
- Unplanned events (black swans) are often not accounted for, but megaprojects have high exposure and high resulting impacts.
- Over optimism on costs, benefits, and risk treatment.

4:00:55 PM
CHAIR GIESSEL asked Mr. Clarke to define "FOAK."

4:01:06 PM
MR. CLARKE explained that "FOAK" is an acronym meaning "first of a kind." He said the acronym is used to describe many things, including a project that has never been executed, technology, or an aspect of a project.

4:01:34 PM
SENATOR HUGHES asked whether the Alaska LNG project is considered FOAK.

4:01:41 PM
MR. CLARKE said the project is not FOAK; however, some applications may be FOAK. For example, the engineering involved in working through permafrost and certain technologies.

4:02:17 PM
SENATOR CLAMAN asked for more information about "black swans."

4:02:29 PM
MR. CLARKE explained that a "black swan" describes a high impact, low probability event. He offered an example to illustrate this.

4:03:22 PM
MR. CLARKE advanced to slide 5:

[Original punctuation provided.]

The "Iron Law" of Megaprojects

"Over budget, over time, under benefits, over and over again." – Bent Flyvbjerg

92 percent of megaprojects come in over budget, over schedule, or both!

MR. CLARKE stated that completed megaprojects generally provide benefits (even at a higher-than-planned cost). He offered an example to illustrate this. He noted that the cost-benefit ratio can vary depending on how costs are allocated and treated.

4:05:08 PM
SENATOR HUGHES asked whether there is a rule of thumb for determining the cost and timeline of a project.

4:05:34 PM
MR. CLARKE said there are industry standard practices; however, it is generally project specific. He explained that the Association for the Advancement of Cost Engineering (AACE International) has practices for developing cost estimates and schedules. He noted that this includes a table demonstrating the expected estimate range for the different stages of development. He briefly explained how this would apply to various stages. He reiterated that the exercise is generally project specific.

4:06:36 PM
MR. CLARKE advanced to slide 6:

[Original punctuation provided.]

LNG Project Risks
Examples

Risk Factor: Project Economics
Impact on Project Development: Long-term sales contracts that allow for a sufficient return typically underpin the financing of LNG projects. Developers generally need to secure long-term buyers for a large portion of the project's capacity before sanctioning a project; high project costs/changing markets can have a large impact on if/when a project is sanctioned; cost overruns post-FID impact project returns.

Risk Factor: Regulatory Approvals

Impact on Project Development: Regulatory process typically time consuming and costly, particularly for high-profile projects that attract opposition groups. May require additional requirements (including scope changes).

Risk Factor: Partner Priorities
Impact on Project Development: Alignment amongst project partners on strategies and objectives can be challenging; partners may face different constraints, have differing risk exposure.

Risk Factor: Ability to Execute
Impact on Project Development: Partners must have the technical, operational, financial, and logistical capabilities to execute the project. Technical hurdles may impact project feasibility. Craft labor must be available to support project needs. Limited number of contractors able to execute megaprojects.

Risk Factor: Weather/Environment
Impact on Project Development: Adverse/extreme weather impacts productivity and can lead to missed construction windows and schedule extensions.

Risk Factor: Supply Chain/Logistics
Impact on Project Development: Timely receipt of key material and equipment. Challenge of delivering to remote locations.

MR. CLARKE noted that these risks are standalone but are often interdependent. He offered an example to illustrate how changes in environmental requirements stemming from the regulatory process could impact the design or scope of a project. This would then impact the other risk factors.

4:08:06 PM
MR. CLARKE advanced to slide 7, containing an infographic illustrating the impact of risk mitigation and decision-making over the duration of a project. He noted that the left side contains the beginning stages, conceptual and feasibility aspects. The ability to influence costs decreases as the project advances. He directed attention to the "phase gates" (small red arrows along the bottom of the chart). He explained that these can serve as formal review steps to ensure the project is advanced enough to proceed to the next stage of development.

4:09:02 PM
MR. CLARKE advanced to slide 8, containing an infographic illustrating specific stage gates for a typical LNG facility. He pointed out that the final investment decision follows the feasibility study and noted that design and engineering commence before reaching project execution.

4:09:29 PM
CHAIR GIESSEL asked whether the final investment decision (FID) point would be considered the "go/no-go" decision point.

4:09:42 PM
MR. CLARKE replied yes. He explained that, at that point, enough information is available to make an informed decision.

4:10:03 PM
SENATOR KAWASAKI asked whether other stage gates prior to FID could indicate whether or not to move forward.

4:10:32 PM
MR. CLARKE said it is up to the project owner and stakeholders to define those decision points. He shared that in some projects, a decision has been made at the conceptual or feasibility points. He shared reasons this may occur. He reiterated that it is up to the stakeholders. He stated that FID represents the final investment decision, with parties entering contracts to execute the project.

4:11:19 PM
SENATOR KAWASAKI noted that each step and stage has an associated cost. He opined that it would be beneficial to have steps earlier in the process that allow stakeholders to evaluate project feasibility. He asked if there are ways to ensure companies, corporations, businesses, and/or groups could set the process up in a way that would minimize risk in the event that a project does not meet feasibility requirements prior to reaching FID.

4:11:59 PM
MR. CLARKE said the stage gate process serves as a mitigation check. However, aligning this to specific established decision points would make risk mitigation points clear. He explained the intention behind the stage gate process.

4:12:36 PM
CHAIR GIESSEL suggested that the Alaska LNG project is at the feasibility study stage, noting that AIDEA had indicated its

intention to reimburse Glenfarne Group, LLC (Glenfarne) $50 million, dependent on Glenfarne's assessment of the feasibility of the Alaska LNG project. She asked if Mr. Clarke could comment on this.

4:13:14 PM
MR. CLARKE said that Pegasus-Global is aware that Glenfarne was engaged to develop the feed study for the project. He indicated that this is the extent of his knowledge of the issue.

4:13:39 PM
MR. CLARKE advanced to slide 9:

[Original punctuation provided.]

Contracting Approaches

- Size and complexity of megaprojects typically requires multiple delivery methods and contracting approaches.
- Risk should generally be assigned to the party best able to manage/mitigate it.
- For a contractor to assume a risk, additional costs and/or contingencies are expected.
- Cost-plus and time and materials contracting approaches run the risk of the contractor low-balling the bid to win the award, leading to extensive change orders.
- Firm price/lump sum contracting approaches run the risk of the contractor adding excess contingency – and still has the risk of disputes if major issues are encountered.

MR. CLARKE said that a contracting methodology should match the needs of the project and its environment. The methodology should consider the risks, regulations, capabilities, and experience of its partners. It should also support the strategic vision of the project owners and provide alignment amongst the contract parties. He briefly discussed various approaches, including "design-bid-build" and "design-bid" (adversarial) and partnership and alliance contracting (collaborative). He noted previous success for large projects utilizing more collaborative approaches.

4:14:45 PM
MR. CLARKE advanced to slide 10:

[Original punctuation provided.]

Risk Allocation
Basic Allocation Principles

- Control: risk should be allocated to the party best in position to control and manage variable relevant to that risk.
- Clarity: allocation decisions should be clearly articulated and defined in relevant documents and the project contracts.
- Consistency: allocation decisions need to be expressed consistently across the project.
- Fairness: allocation should be conducted in a balanced, clear, and consistent manner.

Balance risk allocation to ensure alignment between the parties on project objectives.

MR. CLARKE pointed out the relationship between risk and fees, stating that assuming all project risk would result in an increase in fees. Risk management efforts must remain robust, with live participation from project team members throughout the planning and execution phases.

4:15:34 PM
CHAIR GIESSEL asked for a definition for "EPC."

4:15:40 PM
MR. CLARKE explained that EPC is an engineering, procurement, construction agreement. He briefly described these. He added that "EPCM" is engineering, procurement, and construction management. He briefly described these.

4:16:26 PM
MR. CLARKE advanced to slide 11, noting that the Trans-Alaska Pipeline System (TAPS) faced many of the same challenges as the Alaska LNG project:

[Original punctuation provided.]

Trans-Alaska Pipeline System
GAO Report Findings - Challenges and Cost Overruns

Site-specific Challenges:

- More groundwater than anticipated.
- Underground construction required deeper/wider trenches than planned.
- Wide variations in soil conditions.
- Permafrost more difficult to move and drill than planned.
- Less backfill material sites available, requiring additional hauling.
- Tolerances for valve support structures far more critical than planned; temperature changes and settlement required realignment.
- Productivity impacts in cold weather.

Construction Cost Overruns:

- Feasibility estimate contained no allowance for escalation (also experienced 4-year delay to start of construction).
- Insufficient contingency (10 percent) compared to status of engineering.
- Underestimated amount of elevated pipe.
- Additional infrastructure required, but not in initial scope.
- Underestimated support structure (camps, airstrips).
- Underestimated scope for environmental requirements (vapor recovery, ballast water treatment system).

4:17:35 PM
MR. CLARKE advanced to slide 12 and noted that lessons learned from the execution of the TAPS project are relevant to the Alaska LNG project:

[Original punctuation provided.]

Trans-Alaska Pipeline System
GAO Report Findings – Lessons Learned

- Initial and subsequent cost estimates should be viewed with skepticism.
- As much site-specific data as is feasible should be obtained.
- Technical and geological uncertainties should be thoroughly investigated.

- Government approval should be contingent on detailed planning for management control, including cost controls.
- Future project expenditures should have an ongoing government audit to protect the public's interest.

4:18:22 PM
MR. CLARKE advanced to slide 13

[Original punctuation provided.]

Strategic Reconfiguration Project (2004)
Prudence Review Findings

- Project engineer lacked Alaska experience, failed to effectively manage the project.
- Poorly defined scope at sanction, leading to poor cost/schedule estimates.
- Reduction of project contingency to an unrealistic level to improve project economics.
- No meaningful oversight by project owner.
- Failure to rely on internal project risk assessments.
- Assumed control of project at Supplement 1 decision point, despite insufficient resources to do so.

MR. CLARKE said that costs increased from approximately $200 million to nearly $800 million. He explained that, as a result of both TAPS and the Early Reconfiguration Project having early estimates challenged, it is increasingly common for megaprojects to identify early cost estimates through a range of probable outcomes. (Rather than a single point estimate.) He stated that this provides greater perspective for possible outcomes.

4:19:39 PM
SENATOR MYERS surmised that both TAPS and the Strategic Reconfiguration project were overseen by individuals unfamiliar with Alaska's unique environmental challenges and this led to cost overruns. He asked if this assessment is correct.

4:20:09 PM
MR. CLARKE shared his understanding that this was a finding with respect to the Strategic Reconfiguration project and indicated that it could be true for both.

4:20:22 PM
MR. CLARKE advanced to slide 14:

[Original punctuation provided.]

Open Questions on the Alaska LNG Project

- Status of program management plans.
- Status of the project's risk management program.
- Status of conceptual or preliminary engineering (pre-FEED).
- Scope of the FEED Study efforts.
- Oversight of Glenfarne.

4:21:09 PM
SENATOR CLAMAN noted that the Alaska LNG project is estimated at $44 billion and wondered about the potential underestimation.

4:21:27 PM
MR. CLARKE replied that he is not able to offer a specific percentage or dollar value. He explained that it is simply the reality of megaprojects. He added that the data indicates that 90 percent of megaprojects have been over schedule and/or over budget. He said it is important to know how much of the estimated budget is dedicated to risk and contingency. He posed a question related to encountering risks and evaluating whether the contingency would be adequate (or whether additional funds would be needed). He emphasized that the initial assumptions are a key factor.

4:22:19 PM
SENATOR CLAMAN shared his understanding that the Alaska LNG project would likely cost more; however, the exact cost is unknown.

4:22:25 PM
MR. CLARKE commented that an estimate is a prediction of a future condition based on a set of assumptions. He said that how those assumptions play out will impact the final cost.

4:22:44 PM
SENATOR HUGHES recalled an earlier statement regarding a $14 billion project that ultimately cost over $36 billion. She noted that this is more than double and asked what caused those

overruns. She suggested that this could provide insight into what to watch for with the Alaska LNG project.

4:23:10 PM
MR. CLARKE said that it is difficult to pinpoint specific issues and dollar amounts. He said general themes included the bankruptcy of one of the project partners (the lead designer for the technology) and an underestimation of the resources required to perform the work in conjunction with training programs developed specifically for that program. He noted that the project was executed during the Covid-19 pandemic, which added an additional layer of difficulty.

4:24:36 PM
SENATOR HUGHES expressed hope that the Alaska LNG project would not see that high level of overrun.

4:24:46 PM
SENATOR WIELECHOWSKI referred to the TAPS cost overrun and asked whether that experience would likely clarify cost estimates and expectations for the Alaska LNG project.

4:25:16 PM
MR. CLARKE said that past experiences should provide an awareness, particularly with respect to environmental requirements. He expressed uncertainty about whether this would translate into more robust estimates and planning. He said the development teams are responsible for ensuring megaprojects reach the next step of readiness.

4:25:59 PM
SENATOR WIELECHOWSKI asked whether Pegasus has information about Glenfarne's overruns on previous projects or whether that information is readily available.

4:26:12 PM
MR. CLARKE replied that Pegasus has very limited information on Glenfarne's past projects and expertise.

4:26:32 PM
SENATOR WIELECHOWSKI asked what type of team Pegasus envisions to provide oversight of Glenfarne.

4:26:50 PM
MR. CLARKE replied that many approaches are possible. He briefly described how Pegasus does independent monitoring. He explained that independent monitors join the project team, attend project

meetings, and take part in discussions. The independent monitors take an independent perspective on the status of the project.

4:27:42 PM
CHAIR GIESSEL asked whether other organizations also do independent monitoring.

4:27:50 PM
MR. CLARKE replied yes.

4:27:57 PM
SENATOR HUGHES asked whether Pegasus has reviewed the TAPS project to determine what caused the more than ten times increase in cost. She suggested that those issues could also impact the Alaska LNG project.

4:28:31 PM
MR. CLARKE said the review of the TAPS project was limited to the Government Accountability Office (GAO) report.

4:29:14 PM
MR. CLARKE advanced to slide 15:

[Original punctuation provided.]

Recommendations

- Detailed review of the FEED Study (including updated cost estimate).
- Readiness reviews prior to FID and prior to execution.
- Perform a contract risk review for the EPC/EPCM contract.
- Independent project monitor/advisory committee during execution.

4:30:05 PM
SENATOR WIELECHOWSKI expressed support for independent monitoring. He noted that tariffs impacted TAPS and would also impact the Alaska LNG project. He asked about the procedure to implement independent monitoring.

4:30:43 PM
MR. CLARKE said this has been done through the legislature or through the regulatory body that has chief oversight (e.g. a public service commission).

4:31:08 PM
SENATOR WIELECHOWSKI wondered about the detailed process.

4:31:31 PM
MR. CLARKE shared that, in New Jersey, this is a part of the administrative code and briefly discussed how independent monitoring is implemented there.

4:32:03 PM
SENATOR KAWASAKI commented on the varied interests that support gas line construction and opined that many would eagerly accept a project with a low estimated cost. However, he shared that he does not believe this is not a fair approach. He asked how the legislature could ensure that the independent monitor is truly independent, given that so many interests are involved.

4:33:04 PM
MR. CLARKE opined that a third party, with no financial stake in the project outcome, would be the clearest approach.

4:33:25 PM
MR. MILLER agreed. He said that at the current stage of project development it is especially important, as there is a general bias toward optimism. He said it is important to seek an independent group that is agnostic about project success and that could provide factual analysis and neutral assessments.

4:34:02 PM
SENATOR CLAMAN commented on the challenges inherent to megaproject analysis and cost estimations.

4:35:40 PM
MR. CLARKE affirmed that megaprojects are challenging. Megaprojects will inevitably encounter change (whether big or small) and that change will have an impact. He stated that at the outset, optimism is common. He added that, while each megaproject is unique, assumptions can be benchmarked against similar projects.

4:36:23 PM
CHAIR GIESSEL directed attention to slide 8 and expressed concern that the Alaska LNG project has reached the FID point too early. She expressed hope that the project is still in the feasibility study stage and that no phases have been skipped. She referred to the $44 billion estimate (2015) and said this would be subject to considerable inflation and additional tariffs would apply to materials. She opined that employing an

independent third party is critical to making the right decisions regarding the Alaska LNG project.

4:37:33 PM
SENATOR MYERS commented on the history of unsuccessful megaprojects in Alaska and asked if megaprojects have a masking effect on the economy (e.g. masking smaller projects that could have a positive economic impact or masking problematic economic conditions).

4:38:09 PM
MR. CLARKE replied that megaprojects demand a great deal of attention and resources and tend to dominate the economic and political landscape.

4:39:06 PM
CHAIR GIESSEL thanked the presenters.

4:41:00 PM
There being no further business to come before the committee, Chair Giessel adjourned the Senate Resources Standing Committee meeting at 4:41 p.m.