Interior Energy Project

Quarterly Report to the Alaska State Legislature

Interior Energy Project

October 20, 2017

AIDEA Alaska Industrial Development and Export Authority

InteriorEnergyProject.com

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LIST OF ATTACHMENTS

ACRONYMS LIST

AIDEA	Alaska Industrial Development and Export Authority
ARRC	Alaska Railroad Corporation
CDBG	Community Development Block Grant
FEED	Front End Engineering and Design
FID	Final Investment Decision
FNG	Fairbanks Natural Gas
FNSB	Fairbanks North Star Borough
HB	House Bill
IEP	Interior Energy Project
IGU	Interior Gas Utility
LNG	Liquefied natural gas
MMCF	Million cubic feet
MOU	Memorandum of Understanding
PACE	Property Assessed Clean Energy
Pentex	Pentex Alaska Natural Gas Company, LLC
RUS	Rural Utilities Services
SETS	Sustainable Energy Transmission and Supply Development Fund
SLA	Session Laws of Alaska
Titan	Titan Alaska LNG, LLC
USDA	United States Department of Agriculture

INTRODUCTION

House Bill (HB) 105 passed the 29th Alaska Legislature on April 27, 2015, and was signed by Governor Bill Walker on June 30, 2015. This legislation was enacted to advance the Interior Energy Project (IEP), a project designed to bring low-cost energy to as many residents and businesses of Interior Alaska as possible, as quickly as possible. The financing package designed by this legislation provided the Alaska Industrial Development and Export Authority (AIDEA) the tools necessary to develop an integrated supply chain bringing low-cost natural gas or propane to residents and businesses through local utilities.

HB 105 requires AIDEA to provide written quarterly reports to the Alaska State Legislature on the status of the IEP. The specific bill language includes:

"The Alaska Industrial Development and Export Authority shall submit quarterly to the legislature a written report on the Interior Energy Project. The authority shall deliver the report to the senate secretary and the chief clerk of the House of Representatives and notify the legislature that the report is available. The report must include:

(1) a description of project progress on all components;
(2) an update on the status of local distribution infrastructure buildout;
(3) to-date and anticipated conversions; and
(4) a financial accounting of funds expended and funds anticipated to be spent, including loans, grants, and bonds."

On September 21, 2017, the AIDEA Board considered and approved a development plan that met the requirements of HB 105 outlined above. Reaching this milestone provides the Authority access to the remaining IEP financial tools. AIDEA is now in a position to advance the IEP goals through a consolidated natural gas utility owned by the Interior Gas Utility (IGU). If IGU chooses to not take on the IEP responsibility, AIDEA will be able to advance the project under its own authority. A copy of the HB 105 plan memorandum is included with this report as Attachment A. The supporting documents for the HB 105 plan can be downloaded at www.interiorenergyproject.com/resources.html.

This is the ninth quarterly report submitted under the requirements of HB 105. Each section of the report will correspond to one of the four items required by HB 105. This report augments the information previously provided, and covers the period from July 1, 2017, through September 30, 2017.

DESCRIPTION OF PROJECT PROGRESS ON ALL COMPONENTS

The IEP work effort is structured on the following project components: Supply, Liquefaction, Transportation, Distribution (including Storage and Regasification), and Conversions. As required by HB 105, the status of each of these components is summarized below.

Supply

Based on progress to combine Pentex LLC (Fairbanks Natural Gas [FNG]) with the Interior Gas Utility under IGU ownership, negotiations to contract for a natural gas supply continued during the previous quarter. Titan Alaska LNG, LLC (Titan) has a current natural gas supply agreement for the existing Titan facility through April 2018.

Titan concluded negotiations on a new gas supply contract with Hilcorp to provide Titan's current liquefaction facility with a term beginning April 1, 2018 and expiring March 31, 2021. The “All Requirements” Agreement provides Titan with enough capacity (5 million cubic feet [MMCF]/ day) for its existing customers, and allows for the expansion of up to 15 MMCF/Day upon 18 months' advance notice to Hilcorp. The terms of the contract:

- Allow the IEP to engage with other Cook Inlet producers as early as 2021.
- Replace the existing supply contract three months before it terms and avoids a scheduled price increase of 4 percent that is slated to start on January 1, 2018.
- Offer the IEP a great deal of volume flexibility without any take or pay risk.
- Contain no price escalation during its duration.
- Remove a price differential for peak winter gas that is contained in the existing supply contract.

Liquefaction

Work continues on contracts and supporting documents required to consolidate IGU and Pentex, as agreed to by the IGU and AIDEA Boards in early January 2017. Final papering and closure of this agreement will utilize the capital funds appropriated to AIDEA in sec. 2. ch. 15, Session Laws of Alaska (SLA) 2012, and later amended in sec. 11, ch. 38. SLA 2015, page 32, lines 17–25, to “advance an Alaska liquefied natural gas production plant and distribution systems to serve Interior Alaska as a primary market.”

Following consolidation of IGU and Pentex, steps will be taken to finalize the optimal design and commercial structure of the LNG plant expansion necessary to move the IEP into Front End Engineering and Design (FEED). During FEED, commercial agreements to secure the plant components and necessary construction services will be developed and negotiated into contracts. At the completion of FEED, IGU will decide whether to make the Final Investment Decision (FID). If the FID is approved, a commercial solicitation will be initiated to increase the capacity of LNG available for shipment to the Interior.

Transportation

Rail option update

FNG continues to explore the potential for future shipments of LNG with the Alaska Railroad Corporation (ARRC) as part of the overall IEP effort.

Trucking update

Three new large-capacity HEIL trailers have been fully integrated into the Pentex LNG transportation fleet. In order to enhance future options, the new trailers are configured to facilitate adding a hitch at a later date. This modification will allow pulling an additional "pup" trailer with each LNG load if this proves to be feasible.

Distribution

Systems expansion

No major changes have been made to the distribution system since the October 1, 2015, IEP Quarterly Report. Detailed maps of the build-out accomplished in 2015 are included in that report, available at www.interiorenergyproject.com.

FNG continued to work with the City of Fairbanks, the Fairbanks North Star Borough (FNSB), and the Alaska Department of Transportation & Public Facilities to perform minor pipe installs in conjunction with major roadwork.

On June 29, 2017, the AIDEA Board approved Resolution No. G17- 09 authorizing Pentex subsidiaries FNG and Cassini to proceed with FEED work for the proposed Fairbanks LNG storage facility expansion in an amount not to exceed $1,500,000. Funds for this effort are available from the FY 2014 capital appropriation made to the Authority to advance the Interior Energy Project. A competitive request for proposals was issued for this work with a close date of October 31, 2017. Following the end of this period, proposals received will be reviewed and scored for a final selection.

Systems consolidation

Following negotiations in 2016, a non-binding Utility Integration Memorandum of Understanding (MOU) was forwarded to the IGU and AIDEA Boards for consideration in early January 2017. The purpose of the MOU is to provide guidance and structure for documents required to form a single, investment-grade natural gas sourcing and distribution utility within the FNSB, through the consolidation of IGU with the AIDEA-owned Pentex natural gas system commonly referred to as FNG.

Costs incurred by IGU, in its review of the technical and business integration of IGU and FNG into a single consolidated natural gas utility, were approved by the AIDEA Board for inclusion in the existing IGU Sustainable Energy Transmission and Supply Development Fund (SETS) loan. Action on this matter was taken through the adoption of Resolution No. G17-14. A copy of the resolution accompanies this report as Attachment C.

Negotiations on the contractual documents to sell Pentex to IGU continue and are anticipated to reach finality soon after the issuance of this report.

Conversion

Efforts to assist consumers with conversion to natural gas have centered primarily on identification of low-cost loan funds and access to favorable financing mechanisms. Work has also been done with furnace and boiler manufacturers regarding new boiler components that may reduce the cost of individual customer conversion to natural gas.

Consumer interest in conversion assistance

The Cardno Entrix *Interior Energy Project Natural Gas Conversion Analysis,* finalized in January 2014, identified a high level of interest in converting to natural gas as a lower cost, cleaner source fuel for space heat if the delivered price approached the target of $15 Mcf. At the time the Cardno Entrix analysis was performed, many homeowners indicated a desire to forego financing conversion and instead expressed a willingness to fund this action from personal savings due the high cost of fuel oil. For individuals without personal funds for this purpose, the ability to finance all, or a portion, of the cost over an extended period of time scored high as a necessary tool to support their conversion to gas.

The ability to pass the obligation for repayment of conversion financing to a new owner of a building proved to be very attractive to residential owners. The ability to spread natural gas conversion costs over a 10- to 20-year period and the use of transferable financing are both attributes of two energy efficiency financing mechanisms described below that have achieved widespread use across the Lower 48.

The current lower price of home heating fuel oil increases the value of conversion assistance that will incentivize individual property owners in the FNSB to switch to natural gas when it becomes available. The original Cardno Entrix conversion estimates and demand model was modified to reflect the lower price of fuel oil and expected reduction in natural gas conversions. However, just as the price of home heating oil declined unexpectedly, the future price is uncertain.

Property Assessed Clean Energy financing

Property Assessed Clean Energy (PACE) is a means of financing improvements that increase the energy efficiency of commercial buildings. The improvements are financed with repayment accomplished through a voluntary assessment placed on the annual property tax bill. PACE financing is often structured to allow a longer payback period than is possible with conventional business loans. The strength of the PACE collection mechanism results in low default/low risk loans, which may justify a lower interest rate.

PACE legislation (HB 80) was passed by the 30th Alaska Legislature on April 17, 2017. HB 80 was signed into law by Governor Walker on October 6, 2017. The Alaska Energy Authority is now working with municipalities to determine how to best implement the law.

On-bill financing

On-bill financing allows utility customers to borrow funds that are repaid via a voluntary line item added to their standard utility bill. This financing mechanism is often used by utilities to assist new customers in overcoming the initial cost of accessing a utility service.

The current ownership and governance structure of IGU and FNG allow these local utilities the flexibility to offer an on-bill financing mechanism. Previous conversion surveys and focus groups indicated that access to such a transferable financing mechanism would help incentivize conversion to natural gas. Coupling this tool with low cost loan funds will be helpful.

Although FNG and IGU currently have access to on-bill financing as a means of assisting consumers with conversion to natural gas, it is unclear whether utilities that are rate-regulated by the Regulatory Commission of Alaska have such latitude. As a result, there is interest in legislation that would amend existing Alaska statutes to clearly allow this opportunity.

Identified funding sources for conversion assistance

The Local Conversion Working Group has identified the following possible funding sources for conversion assistance:

I. Commercial lenders
   a. Commercial loans as part of a community-wide conversion program

II. Local government
   a. PACE-enabled conversion loans
   b. Possible local government back-stop funding for PACE loans

III. State sources
   a. Air quality programs
   b. Community Development Block Grants (CDBG)

IV. Federal sources
   a. United States Department of Agriculture (USDA) Rural Utilities Service (RUS) Energy Efficiency and Conservation Loan Program
   b. USDA RUS Rural Energy Savings Program loans
   c. Clean Water Fund
   d. United States Environmental Protection Agency Targeted Airshed Grants

CDBGs were added as a potential funding source based on work performed by IGU staff that identified specific areas within the combined FNG and IGU service territory with income characteristics that may support access to CDBG funds.

UPDATE ON THE STATUS OF LOCAL DISTRIBUTION INFRASTRUCTURE BUILD-OUT

No major changes were made to the distribution system in the last quarter other than work with the City of Fairbanks, the FNSB, and the Alaska Department of Transportation & Public Facilities to coordinate pipe installs that could be efficiently constructed along with roadwork taking place. Detailed maps of the build-out accomplished in 2015 were included in the October 1, 2015, IEP Quarterly Report.

TO-DATE AND ANTICIPATED CONVERSIONS / CONNECTIONS

To-Date Conversions / Connections

No conversions are currently occurring, due to limited gas supply. Until the supply is increased, there is not sufficient gas in the winter to ensure uninterrupted service to additional customers. Expanded distribution lines installed previously have been pressurized and are available to supply gas to homes and businesses when additional natural gas is available.

Anticipated Conversions

The number of anticipated conversions provided in the October 1, 2015 IEP Quarterly Report was based on the analysis undertaken by Cardno Entrix. The report assessed "willingness to convert" based on a number of factors related to conversion costs, prior conversion history, survey data, and potential savings. A copy of that report can be found at interiorenergyproject.com/Resources%20and%20Documents/IEP_Conversion_Analysis_Final.pdf.

The significant change in the price of heating fuel required a fresh look at the "willingness to convert" with specific attention paid to the closing of the cost gap between heating fuel and the IEP natural gas price targets. Cardno Entrix was engaged to update the analysis of "willingness to convert" based on a range of scenarios of lowered heating oil prices. In the most conservative scenario, expected conversions were projected to drop by approximately one-third from the original analysis.

The change in projected willingness to convert, combined with an extension of the time needed to reach conversions from six years to eight years, results in a revision to the number of anticipated conversions and the anticipated demand for the project. Table 1 depicts the anticipated number of conversions, by year, based upon the revised Cardno Entrix analysis.

Table 1: Natural Gas Customer Projection

	2015	2016	2017	2018	2019	2020	2021	2022	2023
FNG	959	959	1,506	2,183	3,031	3,732	4,362	4,635	4,807
IGU	-	-	167	576	1,285	2,255	3,502	4,818	5,998

Anticipated / Potential Connections

The anticipated mission expansions to the Department of Defense (DoD) bases in the FNSB provide an opportunity to add significant natural gas demand for the consolidated utility system by installation of natural gas heating systems in the new housing units that will be required. The IEP team is working with the FNSB and the cities of Fairbanks and North Pole to explore mechanisms to ensure those new housing units use natural gas space heating. Options to be considered include incentives (e.g., reduced cost connections) and potential building code or other mandates. The financial viability of the consolidated FNSB natural gas utility – and its ability to offer low rates attractive enough to drive conversion of existing residences – can be substantially enhanced by adding demand from the new housing units.

FINANCIAL ACCOUNTING OF FUNDS EXPENDED AND FUNDS ANTICIPATED TO BE SPENT, INCLUDING LOANS, GRANTS, AND BONDS

Table 2 outlines the IEP expenditures related to the $57.5 million capital appropriation, the $125 million of SETS fund capitalization, and the $150 million of SETS bond authorization.

Table 2: Expenditures from and Remaining Funds of Legislative Appropriation & Authorization(s)

Expenditures* from and Remaining Funds of Legislative Appropriation & Authorization(s):

		HCS CSSB 18 $57.5 mill Cap Approp	SB 23 SLA 2013 $125 mill SETS	SB 23 SLA 2013 $150 mill Bonds	Total
Development Costs	**IEP Phase 1 (Pre HB 105)**				
	LNG Plant	7,585,150	-	-	7,585,150
	North Slope Pad	6,003,418	-	-	6,003,418
	Distribution	500,005	-	-	500,005
	Total	**14,088,573**	-	-	**14,088,573**
	IEP Phase 2 (Post HB 105)				
	Commodity	87,269	-	-	87,269
	LNG Plant	430,030	-	-	430,030
	Trucking	14,075	-	-	14,075
	Storage	1,513,185	-	-	1,513,185
	Distribution	26,000	-	-	26,000
	Project Management	400,790	-	-	400,790
	Due Dilligence & Deal Structuring	342,697	-	-	342,697
	Total	**2,814,046**	-	-	**2,814,046**
	Total	**16,902,619**	-	-	**16,902,619**
Loans & Investments	**LNG Plant**	-	-	-	-
	Trucking	-	-	-	-
	Storage	-	-	-	
	Distirubtion				-
	FNG Loan	-	15,000,000	-	15,000,000
	IGU Loan	-	37,780,000	-	37,780,000
	Total	-	**52,780,000**	-	**52,780,000**
Total	**Total Expenditure**	**16,902,619**	**52,780,000**	-	**69,682,619**
	Remaining Funds	**40,597,381**	**72,220,000**	**150,000,000**	**262,817,381**

Notes

Financial data per unaudited accounting system records as of 10/10/2017

**Expenditures include Actuals, Encumbrances, and Commitments as of 10/10/2017*

Legislative Appropriation & Authorization(s) only include those identified above and do not include AIDEA operating, Economic Development Fund, or other sources.

SUMMARY

Securing the natural gas supply described under the Supply section of this report enabled the AIDEA Board to adopt a "HB 105 Plan" on September 21, 2017. At that time, the Board was presented with a memorandum and associated attachments that covered the components required by HB 105. That memorandum is included with this report as Attachment A. The attachments to the memorandum can be found on the IEP website at www.interiorenergyproject.com/resources.html.

Board action on the HB 105 plan memorandum was taken through the consideration and passage of Resolution No. G17-13 which is included in this report as Attachment B.

The next quarterly report is due in early January 2018.

Attachment A:
House Bill 105 Plan Memorandum

MEMORANDUM

To: John Springsteen, Executive Director
Alaska Industrial Development and Export Authority

From: Gene Therriault, IEP Team Lead
Mark Gardiner, IEP Team Member
Dan Britton, CEO Pentex/Fairbanks Natural Gas

Date: September 20, 2017

Re: Interior Energy Project – HB105 Required Project Plan

This memorandum and accompanying attachments constitute an IEP project plan that complies with specific requirements of Chapter 39, SLA 2015 (HB105). In addition, the documents assess the impact of current low fuel oil prices on the IEP. Finally, this memorandum recommends the AIDEA Board approve this plan through consideration and adoption of Resolution No. G17-13.

The IEP Team recommends adoption of the HB105 compliant plan for development of the natural gas system in the Fairbanks North Star Borough (FNSB) based on incremental investment in system capital and continued low-cost utility operations. The AIDEA IEP HB105 Plan achieves the IEP objectives for significant customer rate reductions sufficient to support a critical mass of space heating fuel conversion to natural gas. The plan is based on proven municipal utility principles, establishing the foundation for integration of the existing Fairbanks Natural Gas (FNG) and Interior Gas Utility (IGU) natural gas distribution infrastructure in the FNSB into a single, consolidated utility. The Plan invests the appropriated capital funds, deploys designated funds from the Sustainable Energy Transmission and Supply (SETS) fund and makes prudent use of authorized bond financing in the early years – thereby matching the financial requirements for capital investment to the conservative estimated conversion and gas demand growth rates.

Background

In 2013, the Alaska Legislature, at the request of Governor Parnell and the Interior community, acted to authorize a financing package designed to bring North Slope gas to the Interior via trucked Liquefied Natural Gas (LNG). Financing for the project (the Interior Energy Project or "IEP") included $57.5 million of state appropriated funds and $275 million of authorized project financing consisting of $125 million appropriated to the SETS fund and an authorization of $150 million in AIDEA bonds backed by a state "moral obligation" credit support. The financing portion of the project was contained in SB23 of the 2013 Legislative session.

In the remainder of 2013 and all of 2014, AIDEA proceeded to select a project partner and advance development of a LNG plant on the North Slope of Alaska. At the end of 2014, the project development Concession Agreement for the North Slope plant expired, leading to termination of the Concession Agreement in early 2015.

During the 2015 Legislative session, HB105 reauthorized the IEP financing with new language expanding alternatives (gas sourced from other than the North Slope, propane, or small diameter pipelines) for supplying energy to the Interior of Alaska. This legislation, introduced by Governor Walker and supported by the Interior community, passed both houses of the legislature unanimously and was signed into law June 30, 2015. One change in HB105 from the previous authorization was the addition of a requirement that the AIDEA Board approve, by resolution, a project plan for the Interior Energy Project. The specific language of that requirement states:

> *"(a) The Alaska Industrial Development and Export Authority, through the Alaska Industrial Development and Export Authority sustainable energy transmission and supply development fund (AS 44.88.660), may provide financing up to a principal amount of $275,000,000 for the development, construction, and installation of, and the start-up costs of operation and maintenance for, a liquefied natural gas production plant and system and affiliated infrastructure in the state that will provide natural gas to Interior Alaska as a primary market and natural gas delivery and distribution systems and affiliated infrastructure that will provide natural gas to Interior Alaska, if the members of the Alaska Industrial Development and Export Authority approve by resolution a project plan. The project plan must*
>
> 1. *identify the source of the natural gas;*
> 2. *include the estimated cost of the project;*
> 3. *and include the estimated price of natural gas supplied to natural gas utilities in Interior Alaska before distribution to consumers."*

This memorandum, and the associated attachments, provide the documentation for Board Resolution No. G17-13, RESOLUTION OF THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY APPROVING AN HB 105 COMPLIANT PROJECT PLAN FOR THE INTERIOR ENERGY PROJECT.

Project Plan

The project recommended by the IEP team to the AIDEA administration for action by the AIDEA Board is founded on a "Titan 2" LNG plant in the Cook Inlet area, co-located with the existing Titan LNG facility at Point MacKenzie presently serving Interior Alaska.

The proposed Titan 2 project will add approximately 100,000 gallons per day (3Bcf per year) of LNG capacity to the present output of the Titan facility. The existing Titan plant has a production capacity of 50,000 gallons per day. Estimated capital cost for the new plant capacity is $46 million. That number will be refined and confirmed by early works Front End Engineering and Design (FEED) efforts prior to presenting a Final Investment Decision (FID) recommendation.

Additionally, FNG will construct a new 5.25 million gallon LNG storage facility in Fairbanks. The cost of this project component is estimated to be $42 million and the storage facility is expected to qualify to receive a State of Alaska LNG storage payment of $15 million under the provisions of AS 43.20.047. This storage project will meet the RCA's requirement for five days of storage and provide an increased level of seasonal supply by storing LNG produced in the summer for use in the winter. Completion of this storage facility will allow the existing LNG tanks in South Fairbanks to be re-deployed to North Pole for initial supply to the existing IGU system.

The structure of the commercial and supply chain arrangements is as follows:

I. The IGU or AIDEA SETS fund will acquire Pentex Alaska, LLC from the AIDEA Revolving Fund. Pentex is the parent company of Fairbanks Natural Gas, LLC, Arctic Energy Transport, LLC, and Titan Alaska LNG, LLC. Pentex and its subsidiaries constitute an operating natural gas enterprise currently providing natural gas utility service to 1,100 customers in Fairbanks.

II. IGU and/or Pentex will continue to operate expanded liquefaction, transportation, storage, re-gasification, and distribution of the gas to existing and new customers in the FNG and IGU service areas.

III. AIDEA will provide financing to IGU and/or Pentex consistent with HB105 authorizations and IEP goals, maintaining fiscal controls through loan terms and covenants.

IV. IGU and/or Pentex will construct the Titan 2 addition integrated with the current Titan LNG plant. A copy of the Titan Expansion Development Plan is included as Attachment A.

V. Titan will purchase feed gas for the expanded liquefaction plant. Gas will be provided into the plant via a gas sales agreement between Titan and Hilcorp Alaska. A copy of the gas sales agreement executed by the parties is included as Attachment B.

VI. Titan will arrange for transport of the LNG to the Interior. Initially, this transport is expected to be accomplished via trucking in a manner similar to the present trucking arrangement. A summary of the large capacity trailer pilot project results and projected costs are included as Attachment C.

VII. FNG will construct new LNG storage capacity sufficient to meet the RCA required 5-day minimum storage requirement as well as provide increased seasonal supply during peak winter months. A summary of the LNG storage expansion project is included as Attachment D.

VIII. IGU and FNG will distribute natural gas from the LNG storage facilities to existing and new customers.

Specific HB 105 Required Components

(1) Source of Natural Gas

Titan recently executed a new gas supply contract with Hilcorp to provide Titan's current liquefaction facility with a term beginning April 01, 2018 and expiring March 31, 2021. The All Requirements Agreement provides Titan with enough capacity (5 MMCF/ Day) for its existing customers, and allows for the expansion of up to 15 MMCF/Day after Titan provides 18 months' notice to Hilcorp. This is enough capacity to allow for the expansion of the Titan facility as described in this memo.

(2) Estimated Cost of the Project

The estimated costs of the project, including future expansions of the combined distribution systems and LNG plant, are outlined in Table 1. The capital costs are split into three categories: Already Invested, Immediate, and Demand Dependent. The immediate capital costs will be incurred upon project sanction in order to meet the goals of the IEP. The immediate capital investment will allow for demand and corresponding revenue growth. Upon sufficient revenue growth, IGU and/or Pentex will have the financial ability to incur revenue-backed debt to finance additional expansion of the LNG plant and combined distribution systems within the FNSB.

IEP Capital Program	Already Invested	Stage 1 & 2 - Consolidated Utility - Immediate	Stage 3 - Demand Dependent	Total
SOURCES OF FUNDS				
Capital Appropriation	$ 15,060,000	$ 42,440,000	$ -	$ 57,500,000
SETS Loans	42,400,000	82,600,000	-	125,000,000
Bond Financing - Capital	-	19,451,400	121,092,600	140,544,000
Storage Tax Credits	-	18,500,000	-	18,500,000
Commercial Financing	-	1,825,000	2,920,000	4,745,000
Utility Revenues	-	-	-	-
Total - Sources of Funds	**$ 57,460,000**	**$ 164,816,400**	**$ 124,012,600**	**$ 346,289,000**
USES OF FUNDS				
Pentex Acquisition	$ -	$ 59,575,000	$ -	$ 59,575,000
Liquefaction Development	-	46,200,000	25,000,000	71,200,000
Transportation	-	1,825,000	2,920,000	4,745,000
Storage & Regasification	-	52,000,000	-	52,000,000
Distribution	42,400,000	5,216,400	96,092,600	143,709,000
Other Project Costs (NS, etc.)	15,060,000	-	-	15,060,000
Total - Uses of Funds	**$ 57,460,000**	**$ 164,816,400**	**$ 124,012,600**	**$ 346,289,000**

Table 1

(3) Estimated Price of Natural Gas Supplied to Natural Gas Utilities Before Distribution to Consumers

The estimated price of natural gas supplied to Interior customers is outlined in Table 2. Under the project plan, the LNG plant is owned by IGU and/or Pentex and the capital costs are integrated into the entire utility, including the storage and distribution system. For purposes of HB105, the estimated price of natural gas (LNG) supplied to utilities is shown in the line labeled “Subtotal – Cost to Utilities”.

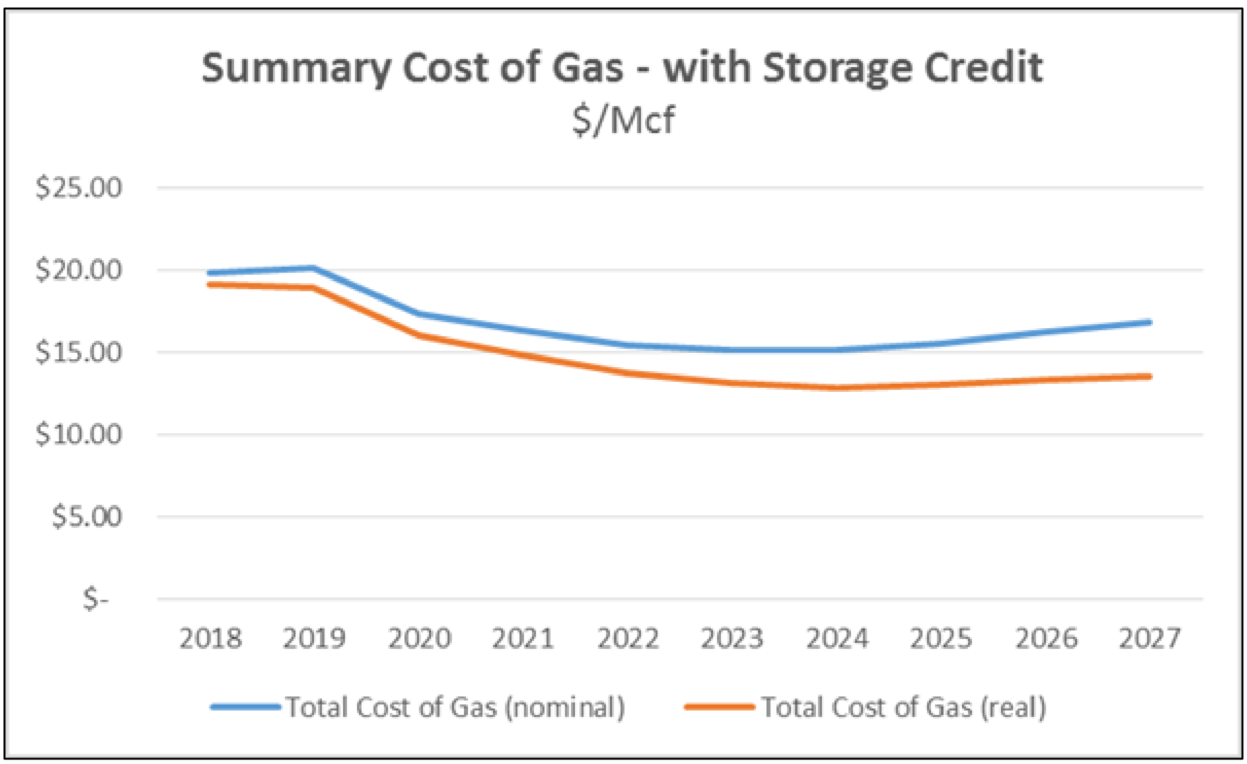
The cost of debt for the project recovers the pooled capital investment for all assets of the project identified in the category above. The total cost of gas is shown in nominal and inflation adjusted real dollars. The table below shows that after adjusting for inflation this project can meet the price goals of the IEP most years. It is anticipated that rates will be set slightly higher than costs in order to provide cash reserves and smooth out the impact to the end consumer of the year-to-year fluctuations in cost.

Summary Cost of Gas - With Storage Tax Credit										
Anticipated Demand (Bcf)	**0.75**	**0.75**	**1.19**	**1.83**	**2.55**	**3.25**	**3.90**	**4.41**	**4.75**	**4.95**
Cost of Gas ($/Mcf nominal)	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Natural Gas - Cook Inlet	$7.72	$7.72	$7.72	$7.72	$7.87	$8.03	$8.19	$8.36	$8.52	$8.69
Pipeline Trans. Cost to Pt. Mac. (3rd-party)	0.65	0.66	0.68	0.69	0.70	0.72	0.73	0.75	0.76	0.78
LNG Production - Titan Plant	4.28	4.34	3.22	2.53	2.19	2.02	1.92	1.88	1.87	1.89
Trucking - Pt. Mac. To Fairbanks	2.48	2.53	2.58	2.63	2.68	2.73	2.79	2.84	2.90	2.96
Subtotal - Cost to Utilities	**$ 15.12**	**$ 15.25**	**$ 14.19**	**$ 13.57**	**$ 13.45**	**$ 13.50**	**$ 13.64**	**$ 13.83**	**$ 14.06**	**$ 14.32**
Distribution, Storage, Vaporization	4.76	4.85	3.13	2.07	1.51	1.21	1.03	0.93	0.88	0.86
Total Cost of Gas before Financing	**$ 19.88**	**$ 20.10**	**$ 17.31**	**$ 15.64**	**$ 14.96**	**$ 14.71**	**$ 14.67**	**$ 14.76**	**$ 14.94**	**$ 15.18**
Debt	-	-	-	0.72	0.51	0.40	0.43	0.78	1.34	1.69
Total Cost of Gas (nominal)	**$ 19.88**	**$ 20.10**	**$ 17.31**	**$ 16.35**	**$ 15.48**	**$ 15.11**	**$ 15.10**	**$ 15.54**	**$ 16.28**	**$ 16.87**
Total Cost of Gas (real)	**$ 19.11**	**$ 18.94**	**$ 16.00**	**$ 14.81**	**$ 13.74**	**$ 13.16**	**$ 12.88**	**$ 13.00**	**$ 13.36**	**$ 13.57**
Equivalent Fuel Oil Price (nom. $/gal)	**$ 2.74**	**$ 2.77**	**$ 2.39**	**$ 2.26**	**$ 2.13**	**$ 2.08**	**$ 2.08**	**$ 2.14**	**$ 2.25**	**$ 2.33**
Equivalent Fuel Oil Price (real $/gal)	**$ 2.64**	**$ 2.61**	**$ 2.21**	**$ 2.04**	**$ 1.90**	**$ 1.81**	**$ 1.78**	**$ 1.79**	**$ 1.84**	**$ 1.87**
Planned Average Customer Rates*	**$20.20**	**$20.20**	**$17.31**	**$16.35**	**$15.48**	**$15.11**	**$15.10**	**$15.54**	**$16.28**	**$16.87**
Equivalent Fuel Oil Price (nom. $/gal)	**$ 2.79**	**$ 2.79**	**$ 2.39**	**$ 2.26**	**$ 2.13**	**$ 2.08**	**$ 2.08**	**$ 2.14**	**$ 2.25**	**$ 2.33**
***Differs from Total Cost of Gas in 2018 and 2019 due to utility consolidation**										

Table 2

Visual Comparison of Total Cost of Gas to customers (nominal vs real)

Graph 1 utilized values from Table 2 to provide a visual comparison of the Total Cost of Gas (nominal) and the Total Cost of Gas (real) over time.



Graph 1

Comparison of AIDEA IEP Projected Gas Cost to Notional IEP Target Cost

Table 3 provides a comparison of the projected AIDEA IEP cost of gas versus the pre-IEP Pentex gas price and the notional IEP price target. In order to reflect an apples-to-apples comparison, all of the costs in this table reflect an assumed 2.00% rate of inflation.

Cost of Gas (with inflation)	2.00%									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Pentex Rate (pre-IEP)	$24.00	$ 24.48	$ 24.97	$ 25.47	$ 25.98	$ 26.50	$ 27.03	$ 27.57	$ 28.12	$ 28.68
IEP Notional Target Rate	$15.00	$ 15.30	$ 15.61	$ 15.92	$ 16.24	$ 16.56	$ 16.89	$ 17.23	$ 17.57	$ 17.93
AIDEA IEP Rate - w/ Storage Credit	$19.88	$ 20.10	$ 17.31	$ 16.35	$ 15.48	$ 15.11	$ 15.10	$ 15.54	$ 16.28	$ 16.87
AIDEA IEP Rate - no Storage Credit	$19.88	$20.10	$17.31	$16.96	$15.91	$15.46	$15.37	$15.80	$16.53	$17.11
% of IEP Target Savings										
AIDEA IEP Rate - w/ Storage Credit	45.8%	47.7%	81.8%	95.4%	107.8%	114.6%	117.7%	116.4%	112.2%	109.8%
AIDEA IEP Rate - no Storage Credit	45.8%	47.7%	81.8%	89.1%	103.3%	111.1%	115.0%	113.8%	109.9%	107.6%

Table 3

As Table 3 shows, the LNG storage credit/payment enables the AIDEA IEP HB105 Plan to achieve the same level of savings as the IEP Notional Target rate by 2022.

Recommendations for AIDEA Board action

The IEP Team and the AIDEA administration recommend the AIDEA Board vote to pass Resolution No. G17-13 approving this HB105 compliant project plan.

AIDEA Board passage of Resolution No. G17-13 will accomplish the following actions:

- Approve an IEP Project Plan with components specified in HB105
- Authorize AIDEA access to full IEP funding to be deployed in pursuit of the project goals
- Authorize AIDEA to consider sale of Pentex Alaska, LLC to the IGU or the AIDEA SETS fund under separate action

This action provides the commercial structure and financing tools for IGU or Pentex to control the IEP project. This includes constructing the Titan 2 LNG plant, building additional LNG storage in Fairbanks, integrating the existing FNG and IGU distribution infrastructure and, as demand and revenue permit, future expansions of the infrastructure needed to increase the natural gas availability and utilization in Interior Alaska.

The IEP Team and the AIDEA administration have determined that this project plan provides a path to lower the cost of natural gas to Interior residents and businesses.

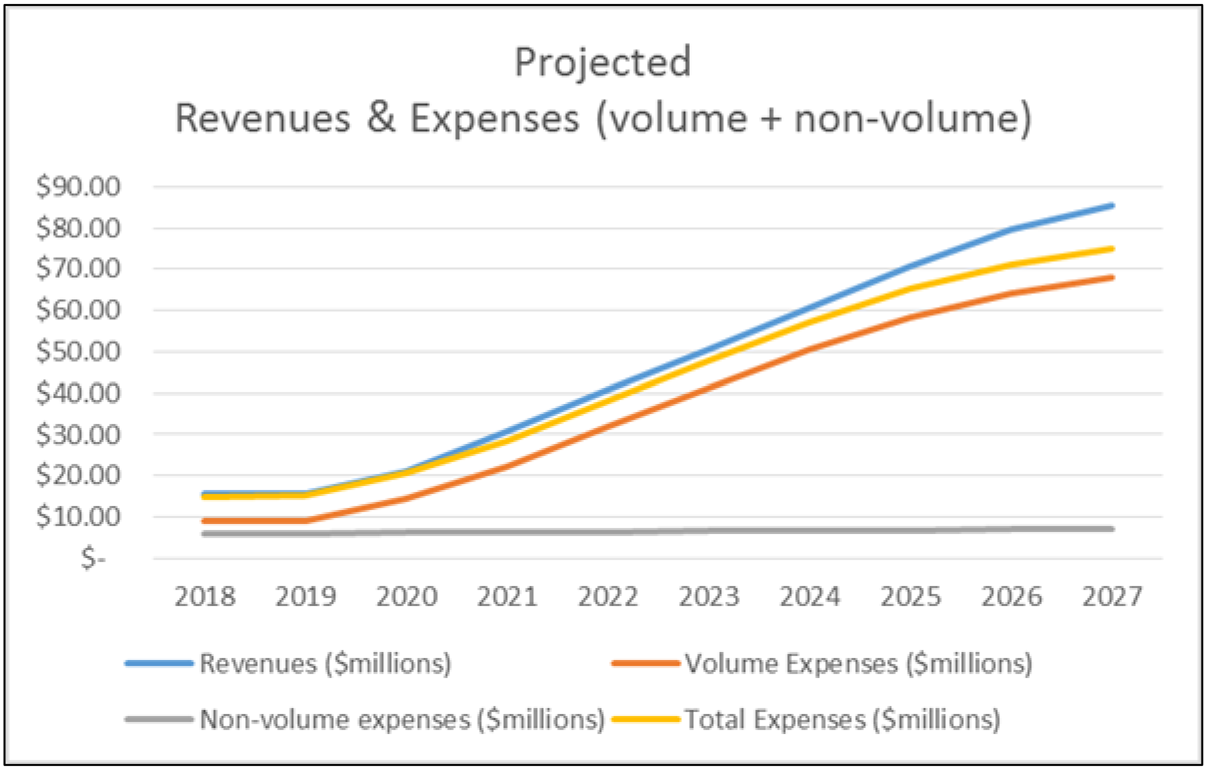
Attachments

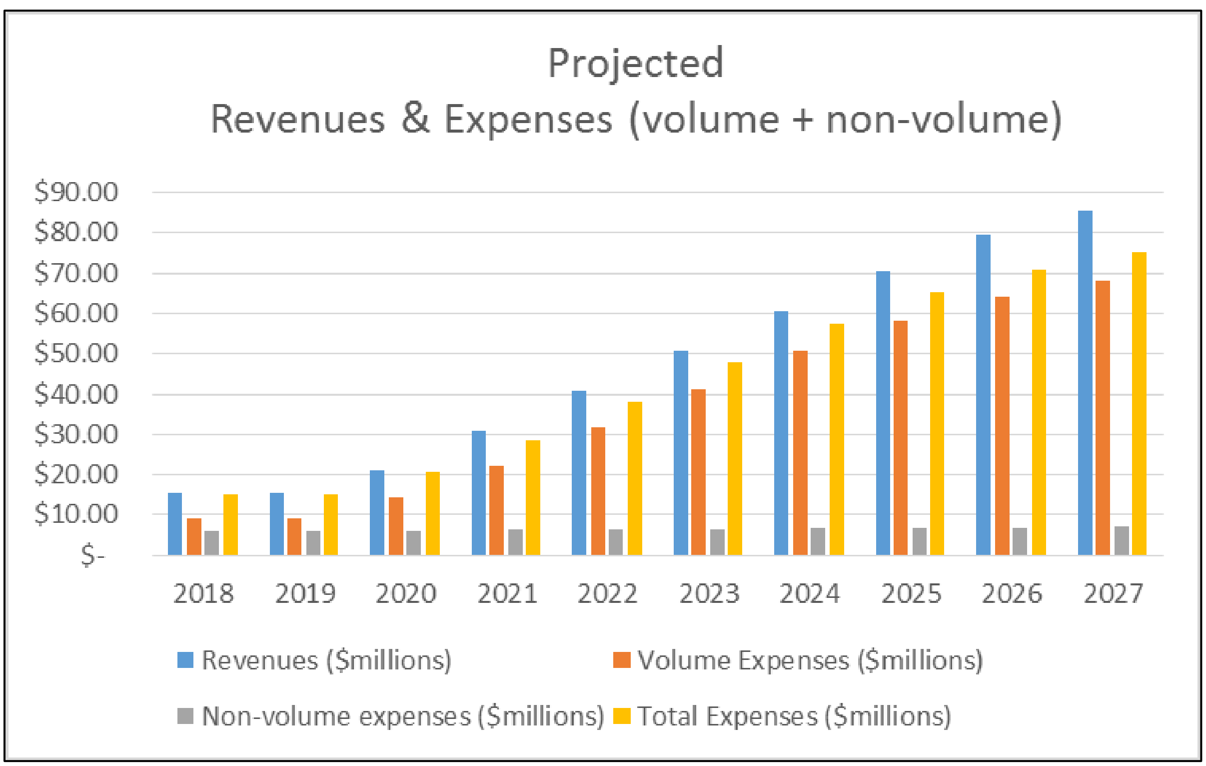
Attachment A: The development for the Titan 2 LNG plant expansion

Attachment B: Gas Sale Agreement between Titan Alaska LNG, LLC and Hilcorp Alaska

Attachment C: A summary of the large-capacity trailer pilot project results and projected costs

Attachment D: The development plan for expansion of LNG storage in Fairbanks


Projected
Revenues & Expenses (volume + non-volume)
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$-
2018 2019 2020 2021 2022 2023 2024 2025 2026 2027
Revenues ($millions)
Volume Expenses ($millions)
Non-volume expenses ($millions)
Total Expenses ($millions)


Projected
Revenues & Expenses (volume + non-volume)
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$-
2018 2019 2020 2021 2022 2023 2024 2025 2026 2027
Revenues ($millions)
Volume Expenses ($millions)
Non-volume expenses ($millions)
Total Expenses ($millions)

Interior Energy Project

Attachment B:
Resolution No. G17-13

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

RESOLUTION NO. G17-13

RESOLUTION OF THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY APPROVING AN HB 105-COMPLIANT PROJECT PLAN FOR THE INTERIOR ENERGY PROJECT

WHEREAS, the Alaska State Legislature authorized the Alaska Industrial Development and Export Authority (the "Authority") to provide financing up to a principal amount of $275,000,000 for the development, construction, and installation of, and the start-up costs of operation and maintenance for, a liquefied natural gas production plant and system and affiliated infrastructure and natural gas delivery and distribution systems that will provide natural gas to Interior Alaska as a primary market (the entire project is known as the "Interior Energy Project");

WHEREAS, in 2015, the Alaska State Legislature passed chapter 39 of the 2015 Session Laws of Alaska (SCS CSHB 105(FIN) am S), hereafter referred to as "HB 105," which concerned the Authority and the Interior Energy Project

WHEREAS, among other things required by HB 105, Section 9 of the law specified that in order for the Authority to deploy the financing approved for the Interior Energy Project the Authority had to approve by resolution a project plan;

WHEREAS, the staff of the Authority, working in conjunction with the Authority's advisors, have developed a project plan for the Interior Energy Project, a complete copy of which with all attachments is appended to this Resolution;

WHEREAS, the proposed project plan for the Interior Energy Project meets all of the requirements of Section 9 of HB 105; and

WHEREAS, it is in the best interests of the Authority and in furtherance of the goals of the Interior Energy Project that the proposed project plan be approved.

NOW, THEREFORE, BE IT RESOLVED BY THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY AS FOLLOWS:

The project plan for the Interior Energy Project that is appended to this Resolution is hereby approved.

Dated at Anchorage, Alaska, this 21st day of September 2017.

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY
CORPORATE
SEAL
1967

ATTEST
[SEAL]

Chair

Secretary

Attachment C:
Resolution No. G17-14

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

RESOLUTION NO. G17-14

RESOLUTION OF THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY APPROVING AMENDMENT TO LOAN AGREEMENT WITH THE INTERIOR GAS UTILITY

WHEREAS, the Alaska Industrial Development and Export Authority (the "Authority") previously made a loan to the Interior Alaska Natural Gas Utility, which is also known to the Interior Gas Utility ("IGU");

WHEREAS, the loan to IGU was made under the Authority's sustainable energy transmission and supply development ("SETS") program, and the SETS loan was a part of the Interior Energy Project that the Authority has been pursuing;

WHEREAS, the SETS loan to IGU is documented in the Amended and Restated Loan Agreement dated as of April 2, 2015;

WHEREAS, IGU has requested that the scope of the existing SETS loan be modified so as to permit loan proceeds to be used to pay for costs IGU incurred in working on the physical and business integration of the two Fairbanks area natural gas utilities, IGU and Fairbanks Natural Gas, LLC ("FNG");

WHEREAS, the approval of a project plan for the Interior Energy Project as required by Section 9 of HB 105 (ch. 39, SLA 2015 (SCS CSHB 105(FIN) am S)) allows the Authority to legally consider modifying the existing SETS loan as IGU has requested;

WHEREAS, modifying the SETS loan as requested is in conformance with the governing statutes of the Authority's SETS program; and

WHEREAS, the integration of two Fairbanks area natural gas utilities is in furtherance of the goals of the Interior Energy Project and is in the best interests of the Authority;

NOW, THEREFORE, BE IT RESOLVED BY THE ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY AS FOLLOWS:

Section 1. The Authority is authorized and directed to modify the existing SETS loan to IGU so as to permit loan proceeds to be used for costs IGU incurred in working on the physical and business integration of IGU and FNG.

Section 2. The Executive Director is authorized to negotiate and execute a loan modification agreement and all other documents and instruments that the Executive Director determines are necessary or convenient to carrying the purposes of this resolution.

Dated at Anchorage, Alaska, this 21st day of September 2017.

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY
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Chair

ATTEST

Secretary