

Alaska LNG Project Legislative Update House Resources Committee

Joe Dubler, Interim President
January 22, 2020

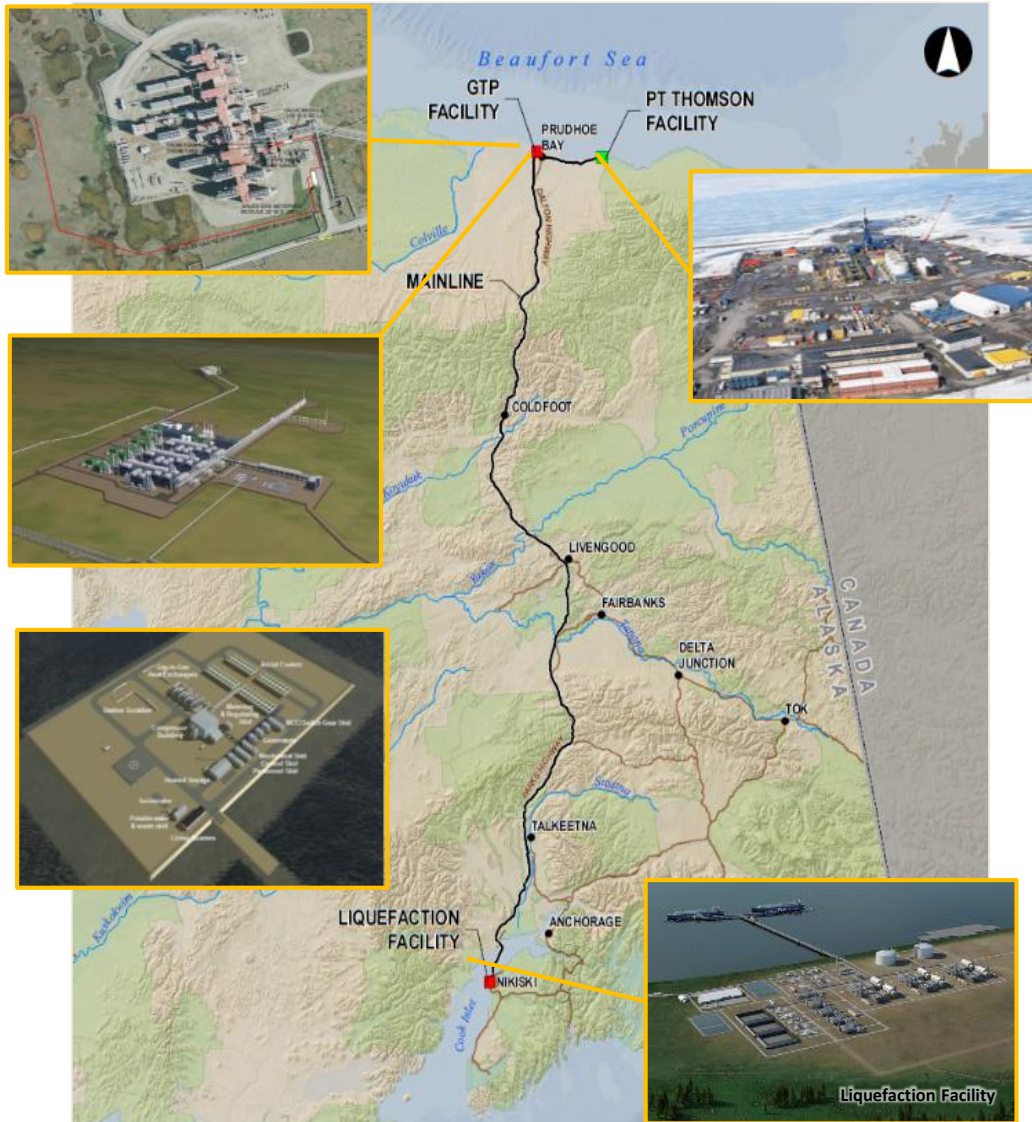


- In 2010 HB 369 instructed AHFC to conduct a pre-feasibility study of a small diameter pipeline from the North Slope to Fairbanks and south-central Alaska
- In 2013 HB 4 created the Alaska Gasline Development Corporation (AGDC) in A.S. 31.25, giving broad powers and funding to advance the Alaska Stand Alone Pipeline Project (“ASAP”)
- In 2014 SB 138 gave AGDC authority to represent the SOA in the LNG terminal of the Alaska Liquefied Natural Gas Project (“AKLNG”)
- In 2016 DNR bought out Trans Canada and AGDC was granted the entire 25% SOA share in AKLNG
- In 2016 the Pre-Front End Engineering and Design (“Pre-FEED”) was completed and the Producers, based upon the economics resulting from that work, stepped aside to allow AGDC to continue working the project
- In 2019 AGDC focused efforts on the AKLNG Project

AGDC's Board took the following steps:

1. Shelved the Alaska Stand Alone Pipeline Project ("ASAP") after receiving the Joint Record of Decision and resulting right of way on federal land
2. Re-initiated the stage-gate process for the Alaska Liquefied Natural Gas Project ("AKLNG")
3. Focused AGDC activities on obtaining the authorization to construct from the Federal Energy Regulatory Commission ("FERC")
4. Committed to evaluating the competitiveness of the AKLNG project by reviewing costs and updating the economic analysis
5. Committed to soliciting private sector firms to build, own and operate AKLNG

Alaska LNG Project - Overview



Producing Fields

- ~35 TCF discovered North Slope resource
- Anchored by Prudhoe Bay and Point Thomson for 20 years
- Confirmed use of existing North Slope facilities
- Peak Workforce: 500-1,500 people

Gas Treatment Plant

- Located at North Slope
- Remove CO₂ / H₂S; Compress for re-injection
- Footprint: 150 - 250 acres
- Peak Workforce: 500-2,000 people
- Required Steel: 250k-300k tons

Pipeline

- Large diameter: 42" operating at >2,000 psi
- Capacity: 3.3 billion cubic feet per day
- Length: ~806 miles (similar to TAPS)
- Peak Workforce: 3,500-5,000 people
- Required Steel: 600k-1,200k tons
- State off-take: ~5 with initial off-take of 250-500 MCF/d

Liquefaction Plant

- Capacity: up to 20 MTA
- 3 trains (6.67 MTA/train)
- Footprint: 640-1,000 acres
- Peak Workforce: 3,500-5,000 people
- Required Steel: 100k-150k tons

Storage / Loading

- Terminal: 2 x 240,000 m³ LNG Storage Tanks
- 1 loading jetty with 2 berths; 15-20 tankers per month
- Peak Workforce: 1,000-1,500 people

Alaska LNG Project Scope



Gas Treatment Plant (\$10.7bn)*

- Treat and compress 3.5Bcf/d
- Capture/re-inject all CO₂
- PTU and PBU transmission lines

Pipeline (\$13.9bn)*

- 800 mile, 42 inch diameter pipeline to Nikiski
- Established corridor under State of Alaska control
- Delivers more than 3.3Bcf/d

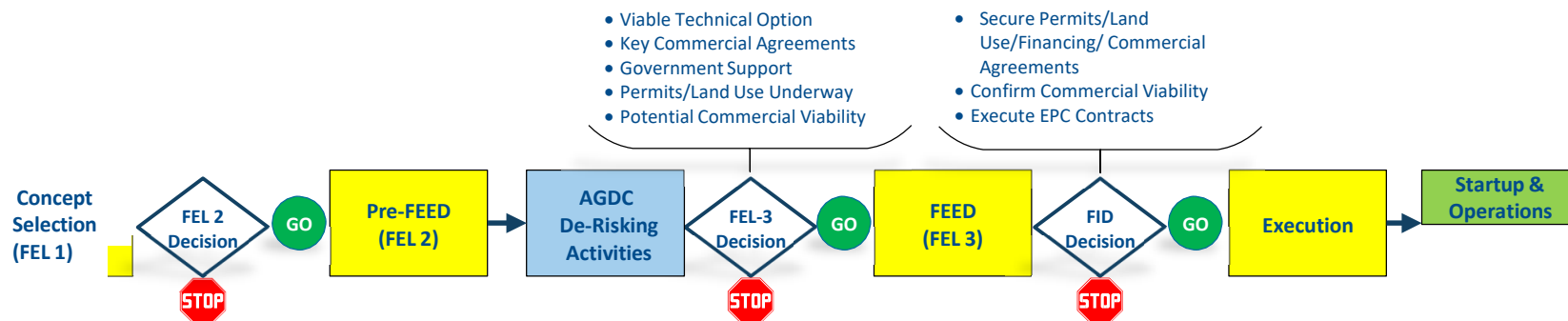
LNG Production Facility (\$19.6bn)*

- 20 MTPA; 3 trains with phased development opportunity
- Two 240,000m³ LNG storage tanks
- Two berths, capable of 217,000m³ vessels

Timeline:

- FERC final EIS due March 2020; record of decision expected June 2020
- Estimated FID 2022, first cargo 2028

Alaska LNG Project – Stage Gate Process



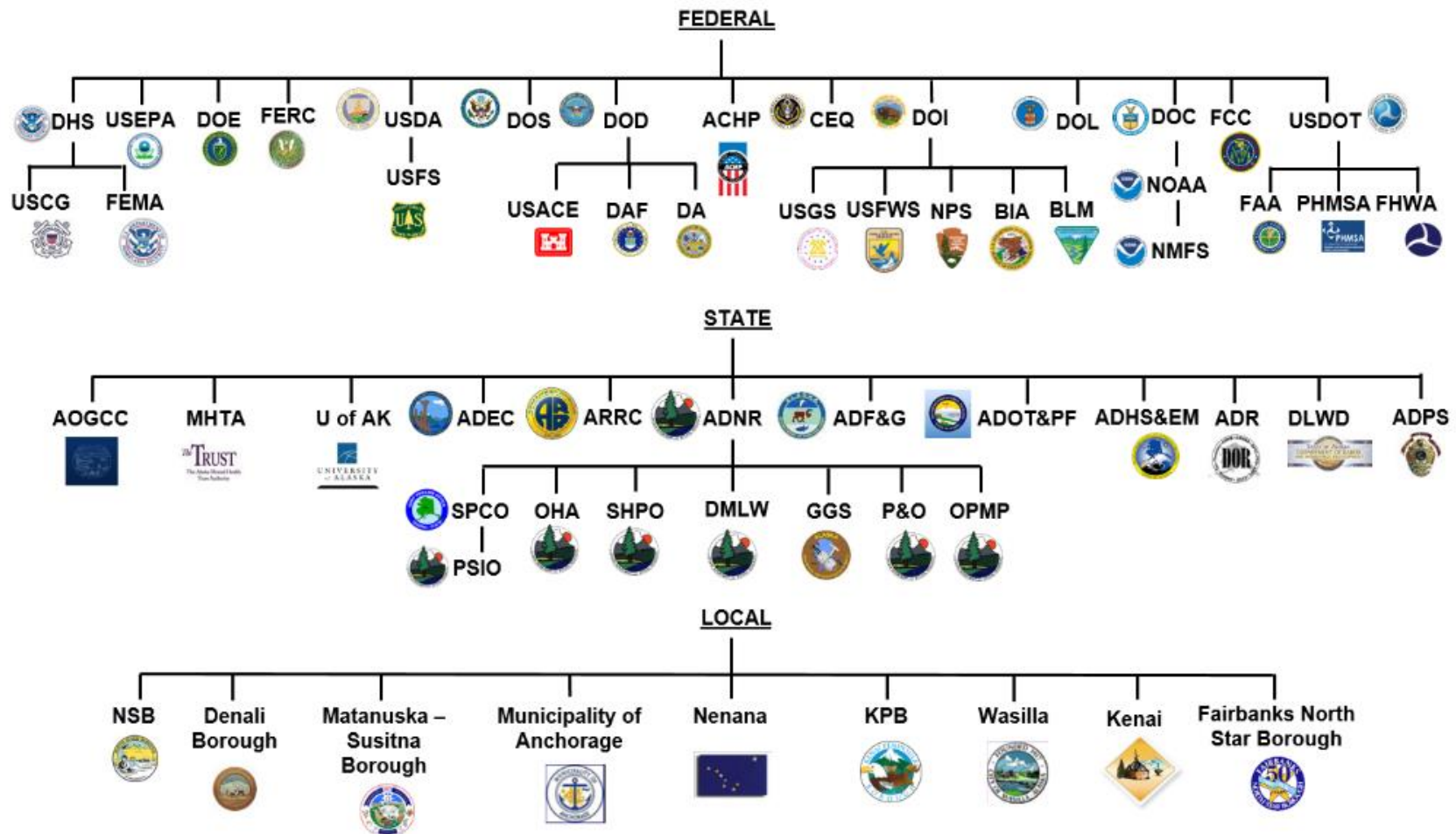
Evaluate: <ul style="list-style-type: none"> • Range of technically viable options for major project components • Business structure • In-state gas/export LNG demand 	Progress: <ul style="list-style-type: none"> • Preliminary engineering to refine concept • Business Structure • Financing plan 	De-Risk: <ul style="list-style-type: none"> • Submit FERC application • Progress major permits/land authorization • Engage LNG customers • Progress KSH design 	Complete: <ul style="list-style-type: none"> • Front-end engineering & design • Major contract preparation • Business structure • Financing arrangements 	Execute: <ul style="list-style-type: none"> • Final engineering • Financing • Procurement • Fabricate/Logistics/ • Construct • Prepare for operations
	Start individual gas/LNG sales & shipping efforts	Develop individual gas/LNG sales & shipping efforts	Execute individual gas/LNG sales & shipping agreements	Implement business structure & agreements
Screen commercial viability	Assess commercial viability	Develop commercial viability	Confirm commercial viability	Commission/Start-up

Regulatory Program Overview

- Pre-FEED JVA progressed regulatory program through the FERC Pre-Filing
- AGDC's took over as "Project Lead" in 2017 and resourced the regulatory and technical programs using the internal AGDC Project Management Team supported by knowledgeable Joint Venture Agreement contractors
- FERC Natural Gas Act Section 3 application and major federal permit applications submitted in April 2017
- No change to design criteria
- Primary objective is to maintain FERC's published schedule and significantly de-risk the Project through completion of major permitting and rigorous management of compliance commitments
- AGDC's Regulatory Program has resulted in quantifiable and significant mitigation of risk events from the Class 4 Cost Estimate
- Leveraged ASAP Supplemental EIS (SEIS) work product
- Received DOE Export Licenses – Free-Trade & Non Free-Trade countries

Regulatory Framework

FERC leads NEPA process – umbrella for creation of all other permit applications.
Requires collaboration with cooperating and reviewing federal, state, Alaska Native, and local entities.



FERC Milestones Achieved:

Milestone	Date
FERC Public Comment Meetings	September 9-12, 2019
BLM Public Subsistence Hearings	September 17 & 19, 2019
AGDC Post-Public Meeting Update Meeting	September 17, 2019
Draft EIS Comments Due to FERC by 5:00 PM EST	October 3, 2019

Future FERC Milestones:

Milestone	Date
Publication of Notice of Availability of Final EIS	March 6, 2020
Issuance of Final FERC Order	June 4, 2020

Major Permit Status – Complete

Permit	Agency	Status	Note
Letter of Recommendation	USCG	Issued	Complete
Natural Gas Export	DOE	Issued	Complete
Essential Fish Habitat Consultation	NOAA	Issued	Complete
Strain-Based Design	PHMSA	Issued	Complete
Crack Arrestor Spacing	PHMSA	Issued	Complete
Mainline Block Valve Spacing	PHMSA	Issued	Complete
Three Layer Polyethylene Coating	PHMSA	Issued	Complete

Major Permit Status – In Process

Permit	Agency	Status	Note
Prevention of Significant Deterioration - Air Permit - GTP	ADEC	In Process	Public comment closed; AGDC responding to RFI by Jan 8; anticipated Q1 2020
Pipe-in-Pipe	PHMSA	In Process	Public notice period; anticipated Q2 2020
Siting Review Letter of Determination	PHMSA	In Process	Due 30 days prior to FERC FEIS; anticipated Q1 2020
Right-of-Way - State	ADNR	In Process	Public notice period; anticipated Q3 2020
Section 106 Review	FERC	In Process	Misc. cooperating agencies; Programmatic Agreement anticipated Q1 2020; AGDC outreach meetings underway as agreed with SHPO, BLM, NPS
LNG Terminal/EIS	FERC	In Process	DEIS complete; FEIS anticipated March 6, 2020
Right-of-Way – Federal	BLM	In Process	Application submitted; anticipated June 2020

Major Permit Status – In Process

Permit	Agency	Status	Note
MMPA Incidental Take (Whale)	NMFS	In Process	Cook Inlet: Published in Federal Register; active ongoing negotiations regarding mitigation. Prudhoe Bay: Anticipated Q2 2020
MMPA Incidental Take	USFWS	In Process	Sea Otter: Published in Federal Register; Polar Bear anticipated Q2 2020
Endangered Species Act Consultation	NOAA	In Process	Package deemed complete; anticipated Q2 2020
Endangered Species Act	USFWS	In Process	Consultation request received; anticipated Q2 2020
Bridge Permits for original route	USCG	In Process	Public notice complete; anticipated Q3 2020
Right-of-Way - DNPP	NPS	In Process	Application submitted; anticipated June 2020
Section 404 Wetlands	USACE	In Process	Public comment period; anticipated Q3 2020
Section 401 Water Quality	EPA & ADEC	In Process	Application in progress

Major Permit Status – AGDC Action

Permit	Agency	Status	Note
Bald & Golden Eagle Protection Act	USFWS	AGDC Action	Application developed; submittal Q1 2020
Prevention of Significant Deterioration – Air Permit – LNG Facility	ADEC	AGDC Action	Application developed; public comment period anticipated Q1 2020

Cost Reduction Work Program Status

- AGDC committed to analyzing and updating the total capital and operating cost projections of the AKLNG project from the 2015 Joint Venture Agreement level
- AGDC personnel met with senior engineers and project management professionals from BP and ExxonMobil last spring in a workshop to review the original cost estimates and felt that, with changes in the industry, costs could be reduced significantly from that estimate
- In the Fall of 2019, AGDC contracted with Fluor Corporation to evaluate cost reduction opportunities and update the Class 4 Cost Estimate to Q4 \$2019
- Scope of work includes 10 major tasks
- Updated Class 4 Cost Estimate will be provided as input into common economic model developed with input from BP, ExxonMobil, DOR, and an investment bank
- Objective is to provide data for a decision support package if the Project is commercially and technically viable

- BP & ExxonMobil
 - First third-party financial participation in Alaska LNG in three years
 - Each funding 1/3 of AGDC's FY20 costs, up to \$10 million
 - Technical assistance with Federal Energy Regulatory Commission review and analysis
 - Assisting with evaluation of potential cost reduction opportunities and projections
- AGDC is continuing to solicit interest from investors and other participants in the international gas field

Questions?



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