

# Alaska LNG Project Legislative Update House Resources Committee

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Joe Dubler, Interim President  
January 22, 2020

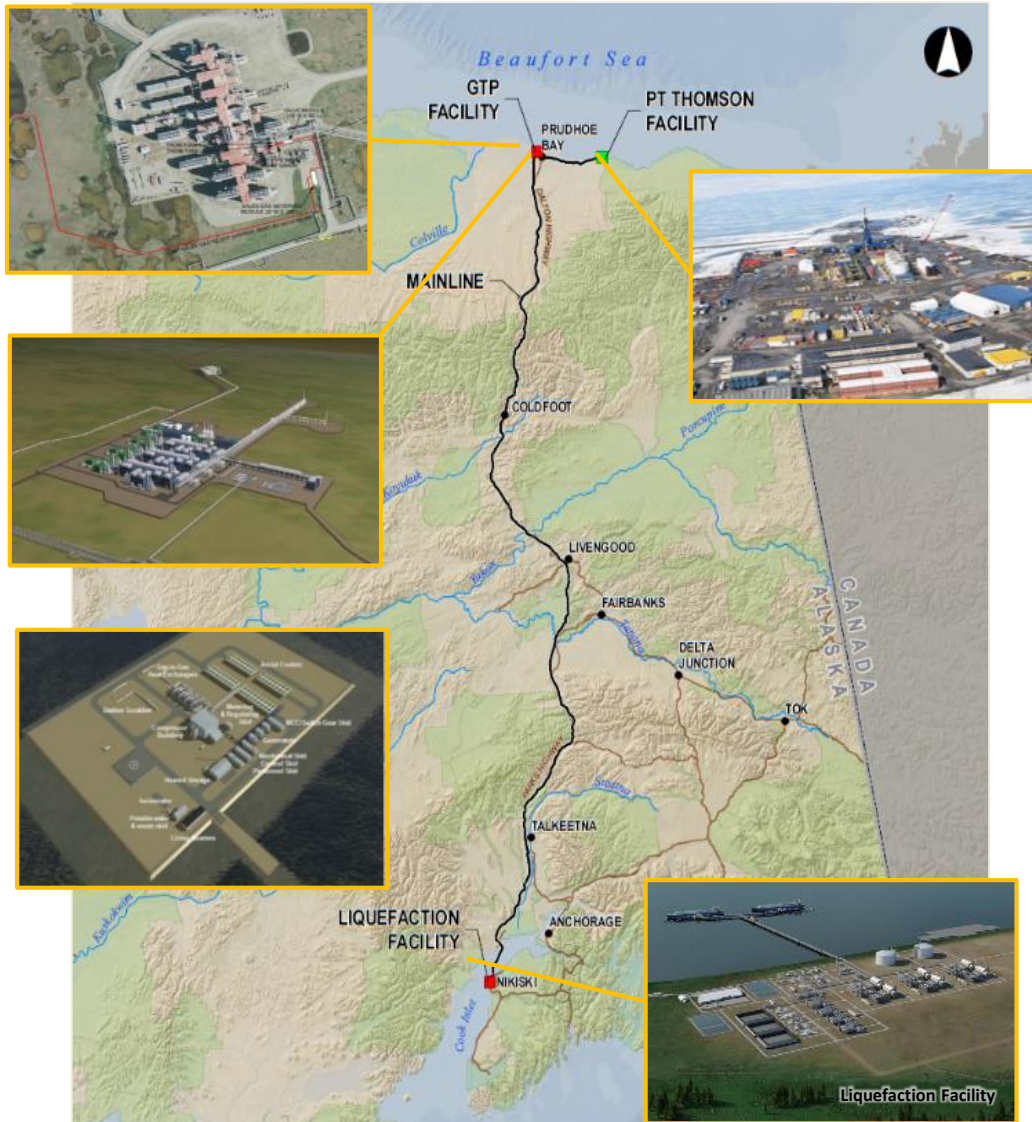


- In 2010 HB 369 instructed AHFC to conduct a pre-feasibility study of a small diameter pipeline from the North Slope to Fairbanks and south-central Alaska
- In 2013 HB 4 created the Alaska Gasline Development Corporation (AGDC) in A.S. 31.25, giving broad powers and funding to advance the Alaska Stand 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 CO<sub>2</sub> / H<sub>2</sub>S; 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 m<sup>3</sup> 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 CO<sub>2</sub>
- 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

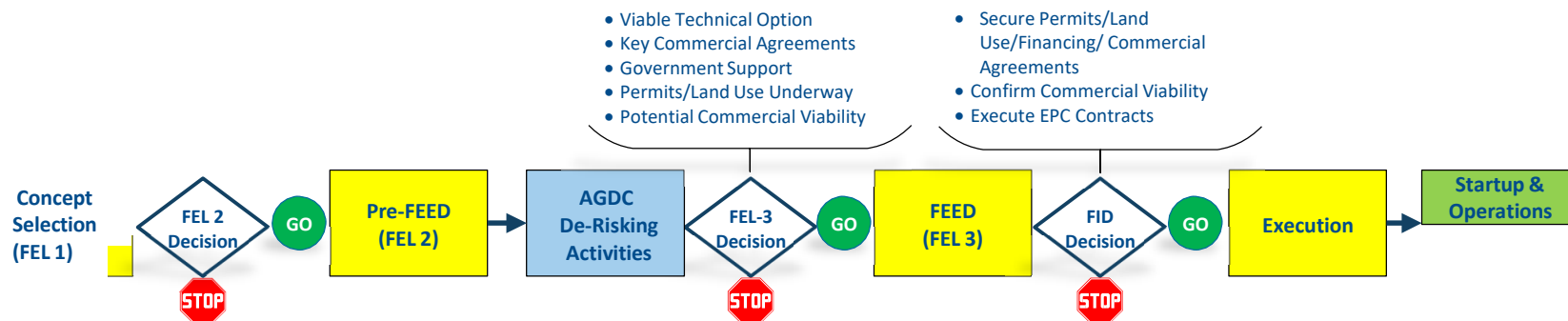
## LNG Production Facility (\$19.6bn)\*

- 20 MTPA; 3 trains with phased development opportunity
- Two 240,000m<sup>3</sup> LNG storage tanks
- Two berths, capable of 217,000m<sup>3</sup> 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



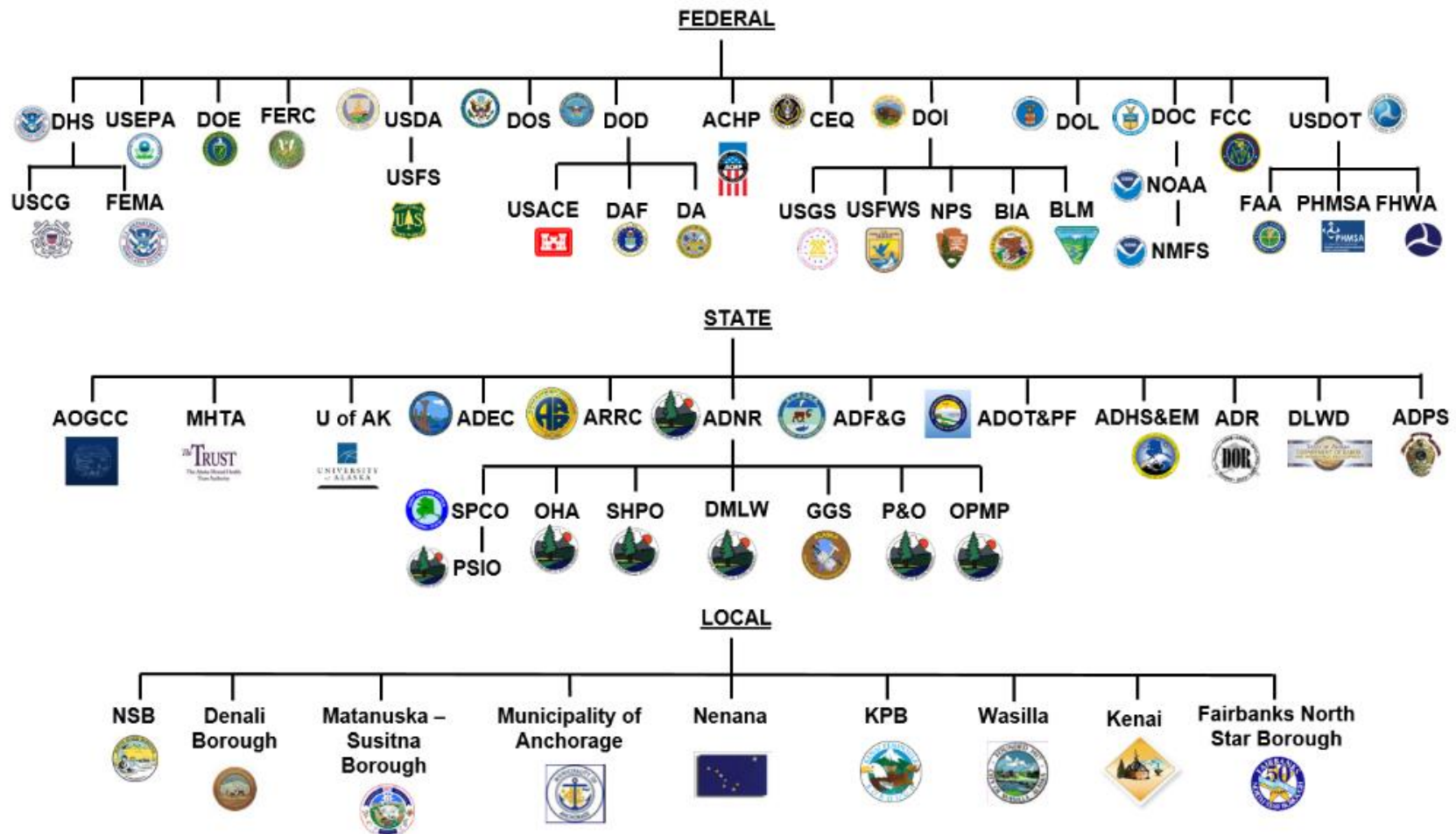
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Evaluate:</b> <ul style="list-style-type: none"> <li>• Range of technically viable options for major project components</li> <li>• Business structure</li> <li>• In-state gas/export LNG demand</li> </ul> | <b>Progress:</b> <ul style="list-style-type: none"> <li>• Preliminary engineering to refine concept</li> <li>• Business Structure</li> <li>• Financing plan</li> </ul> | <b>De-Risk:</b> <ul style="list-style-type: none"> <li>• Submit FERC application</li> <li>• Progress major permits/land authorization</li> <li>• Engage LNG customers</li> <li>• Progress KSH design</li> </ul> | <b>Complete:</b> <ul style="list-style-type: none"> <li>• Front-end engineering &amp; design</li> <li>• Major contract preparation</li> <li>• Business structure</li> <li>• Financing arrangements</li> </ul> | <b>Execute:</b> <ul style="list-style-type: none"> <li>• Final engineering</li> <li>• Financing</li> <li>• Procurement</li> <li>• Fabricate/Logistics/</li> <li>• Construct</li> <li>• Prepare for operations</li> </ul> |
|                                                                                                                                                                                                               | 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                                                                                                                                  |
|-------------------------------------------------------------------|--------|------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prevention of Significant Deterioration - Air Permit - GTP</b> | ADEC   | In Process | Public comment closed; AGDC responding to RFI by Jan 8; anticipated Q1 2020                                                           |
| <b>Pipe-in-Pipe</b>                                               | PHMSA  | In Process | Public notice period; anticipated Q2 2020                                                                                             |
| <b>Siting Review Letter of Determination</b>                      | PHMSA  | In Process | Due 30 days prior to FERC FEIS; anticipated Q1 2020                                                                                   |
| <b>Right-of-Way - State</b>                                       | ADNR   | In Process | Public notice period; anticipated Q3 2020                                                                                             |
| <b>Section 106 Review</b>                                         | FERC   | In Process | Misc. cooperating agencies; Programmatic Agreement anticipated Q1 2020; AGDC outreach meetings underway as agreed with SHPO, BLM, NPS |
| <b>LNG Terminal/EIS</b>                                           | FERC   | In Process | DEIS complete; FEIS anticipated March 6, 2020                                                                                         |
| <b>Right-of-Way – Federal</b>                                     | BLM    | In Process | Application submitted; anticipated June 2020                                                                                          |

# Major Permit Status – In Process

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