

**01-30-15**

**UPDATE:**

**ALASKA LNG**

**PROJECT BY**

**STEVE BUTT,**

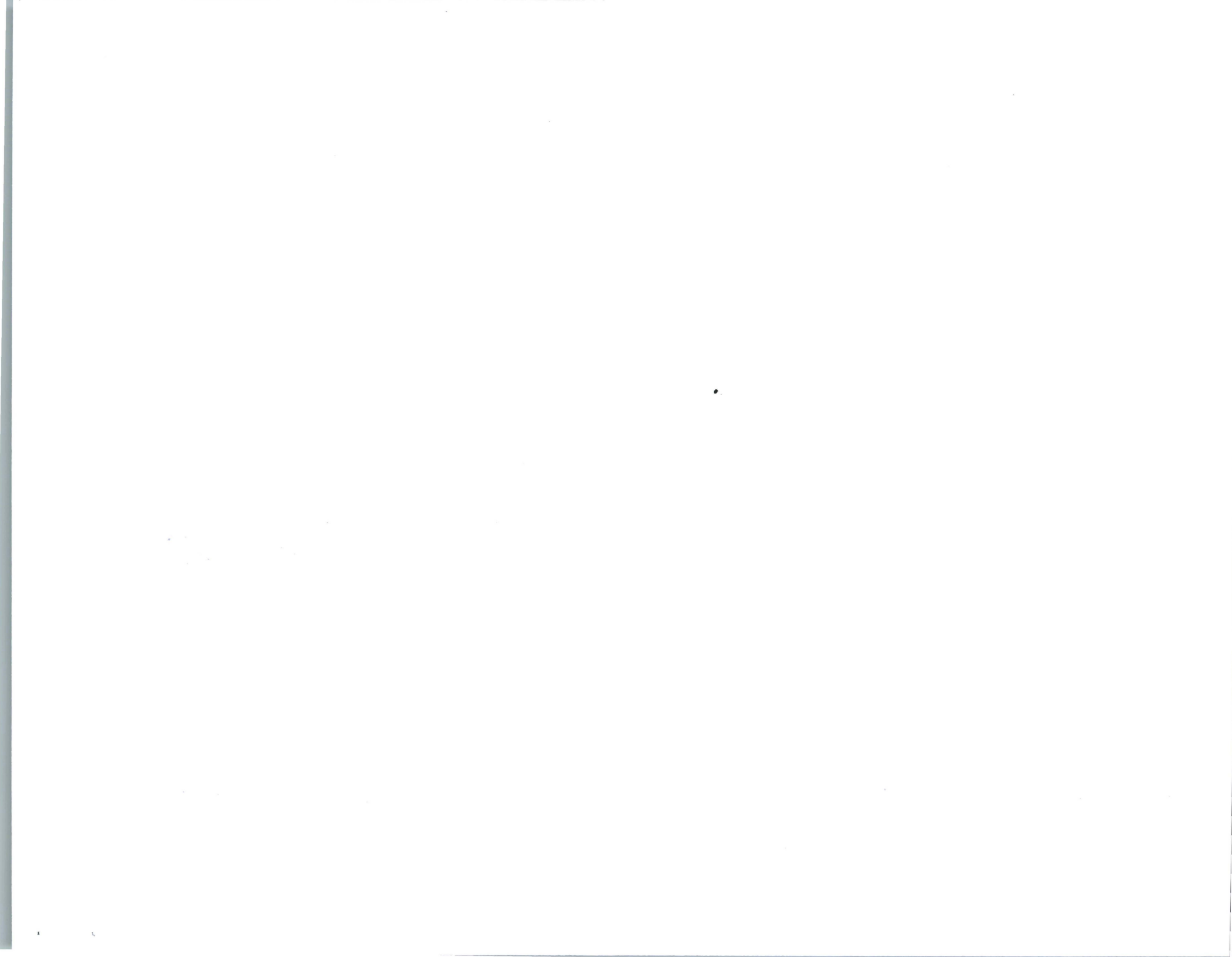
**EXXONMOBIL**

<TARGET><BILL></BILL><SUBJECT>01-30-15 UPDATE ALASKA  
LNG PROJECT BY STEVE BUTT,  
EXXONMOBIL</SUBJECT><COMM>HRES29</COMM></TARGET>



## Alaska LNG

*Legislative Update*  
*January 30, 2015*



# Alaska LNG - Project Overview (30Jan15)

## Safety, Health and Environment Report:

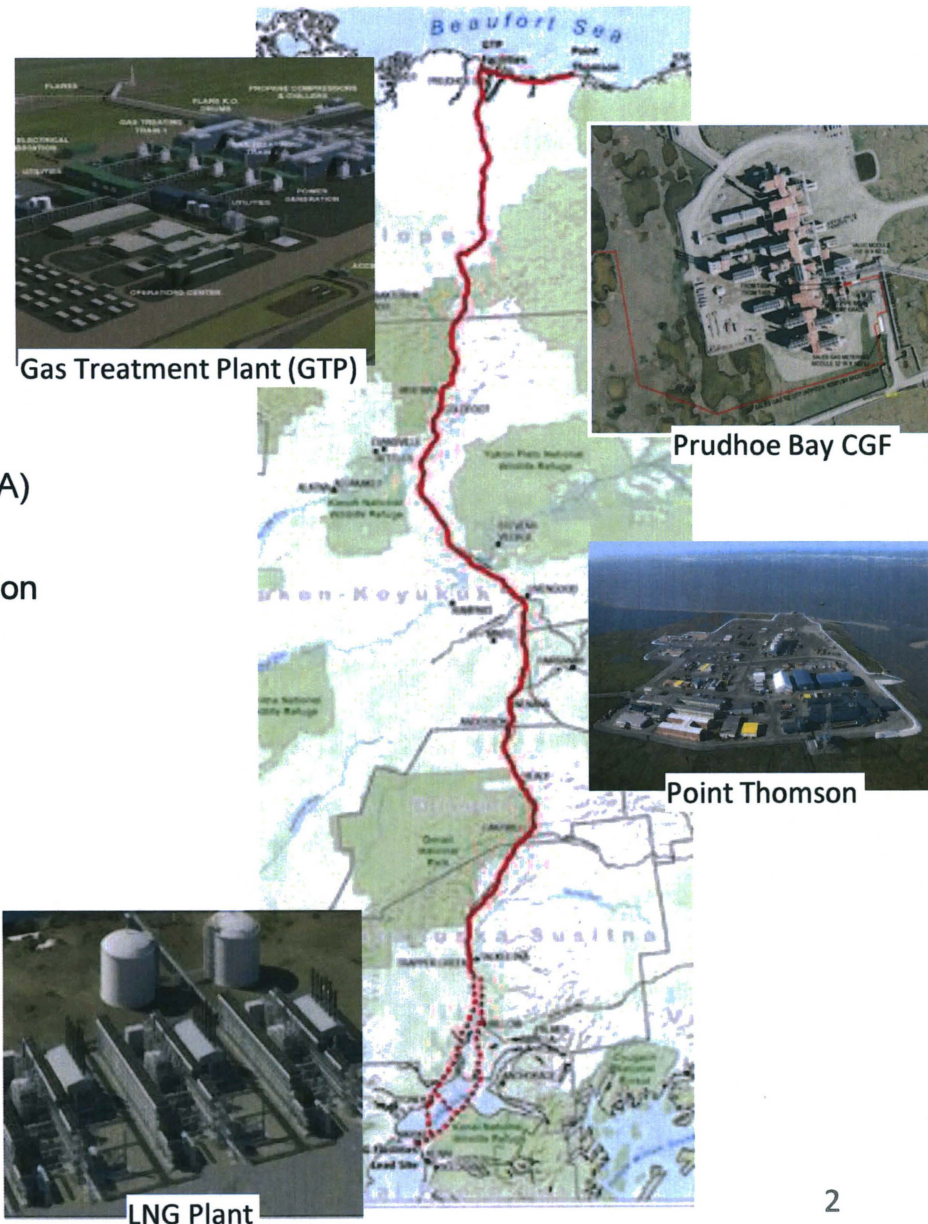
- \* No safety, health or environmental incidents to report
- \* Continued progress building “culture of caring”

## Executive Summary:

- \* Pre-FEED project spend - \$82M in 2014
- \* Pre-FEED contracting complete – all teams working well
- \* Target first draft Resource Reports 1 – 12 to FERC by early 1Q15
- \* Received DoE export authorization for Free Trade Agreement (FTA) nations, progressing review for non-FTA nations
- \* Community open-house sessions continuing with FERC participation
- \* Developing 2015 Summer Field Season plans

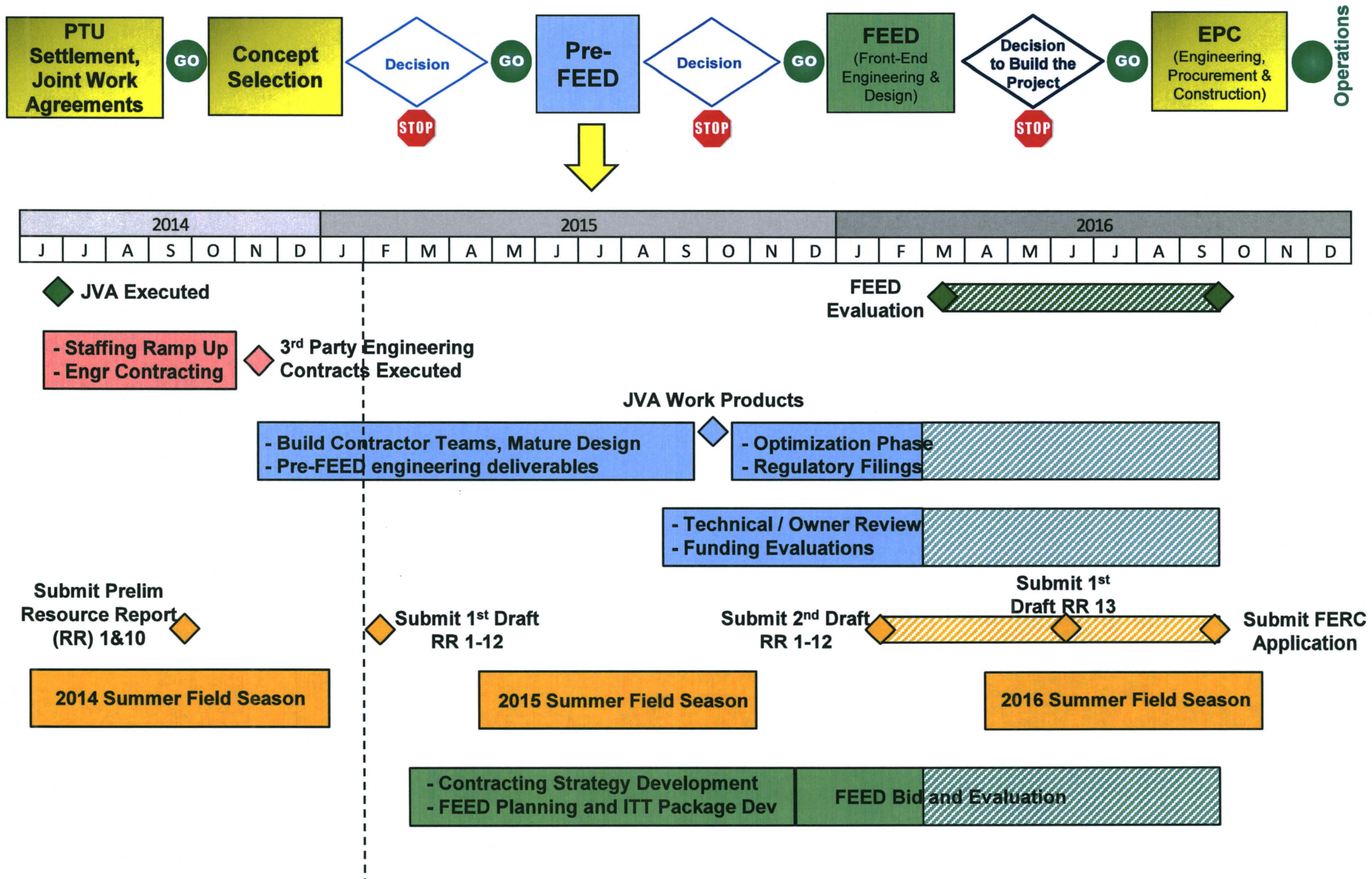
## Key Messages:

- \* Alaska LNG is an integrated LNG project – pipeline *plus* plants
- \* Continued progress on the “ARC of Success”
  - Alignment* - Resource owners working as integrated team
  - Risk reduction* - Pre-FEED work to identify/mitigate risk
  - Cost reduction* - Project “cost of supply” defines competitiveness
- \* Alaska LNG expected to complete pre-FEED in early 2016, need to address open commercial / fiscal issues





# Alaska LNG – Pre-FEED Work Schedule





# Prudhoe Bay Unit (PBU) and Point Thomson Unit (PTU) Update

All work managed by Unit Operators

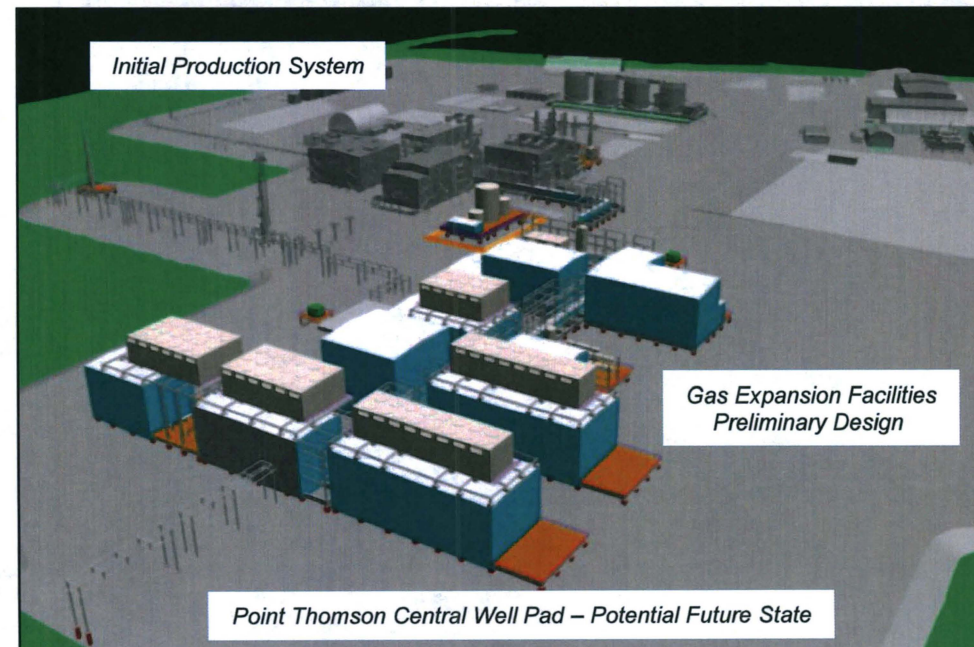
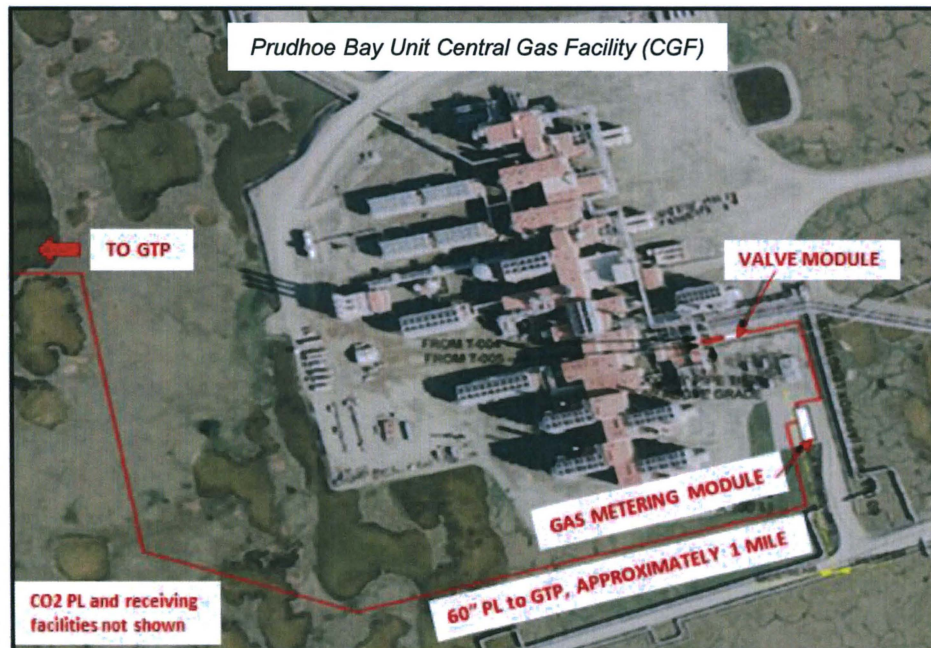
Continuing to integrate Unit work with AKLNG design

Recent PBU achievements:

- \* Engineering contracts in place, optimizing facilities design
- \* Align CO2 handling plans/design with GTP
- \* Progressing gas resource deliverability analysis

Recent PTU achievements:

- \* Gas expansion technology / operating parameters defined
- \* Major equipment sizing defined
- \* Preliminary module layouts, associated logistics plan



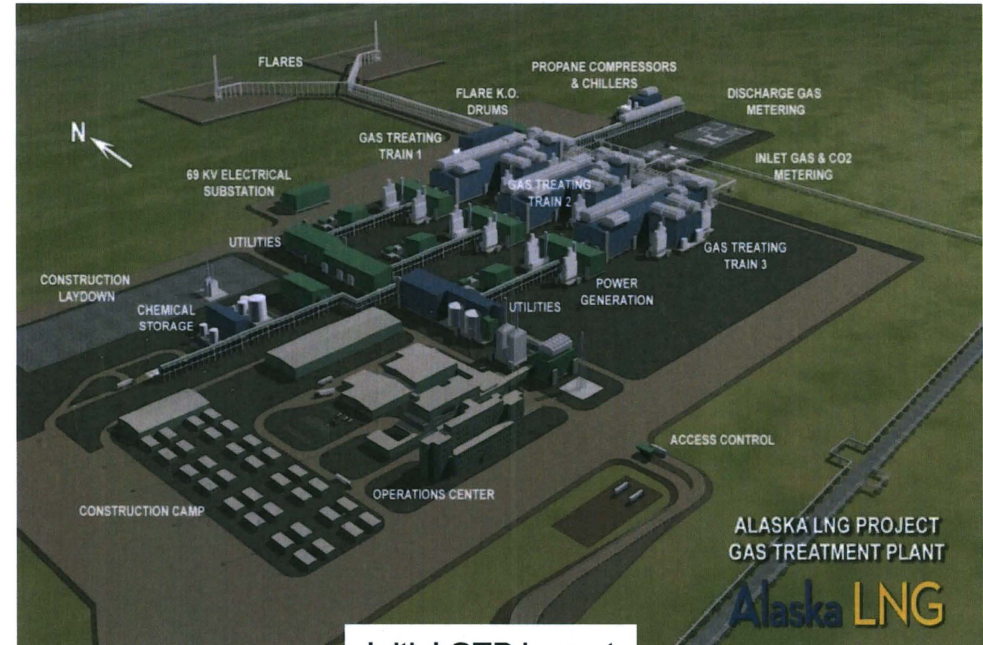


## Gas Treatment Plant (GTP) Overview

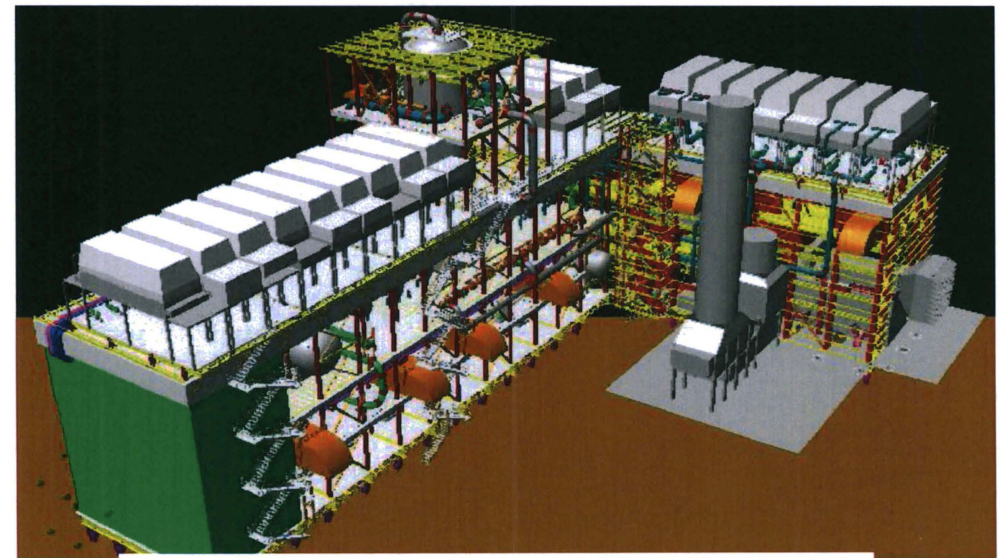
- ✦ 3.3 BCFD peak winter rate
- ✦ 3 process trains to remove impurities
- ✦ Modularized to reduce execution risk

## Recent Progress / Focus

- ✦ Engineering contracts / team in-place
- ✦ Finalized inlet CO2 design with PBU
- ✦ Developed four sealift strategy to reduce execution risks, manage start-up
- ✦ Winter geotechnical assessment proceeding
- ✦ Confirming large pressure vessel fabrication and shipping capabilities
- ✦ Working with PBU on infrastructure sharing
- ✦ Support regulatory process / submittals



Initial GTP Layout



Amine Regeneration & CO2 Compression Modules



## Alaska LNG - Pipeline Update

### Pipeline route work nearly complete

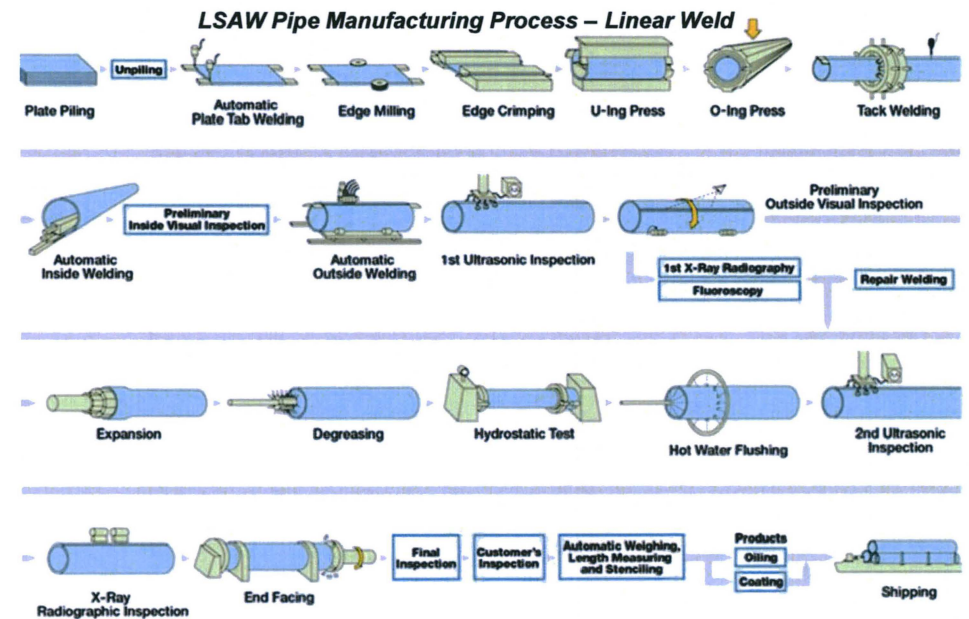
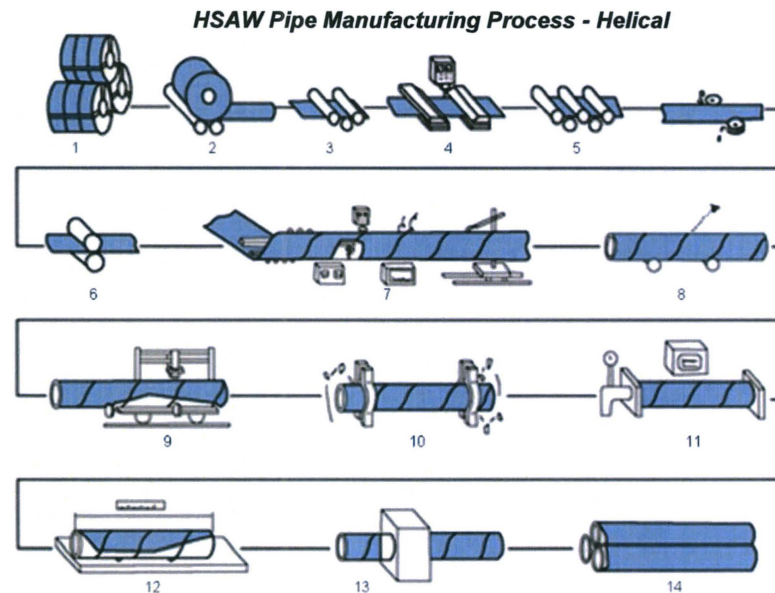
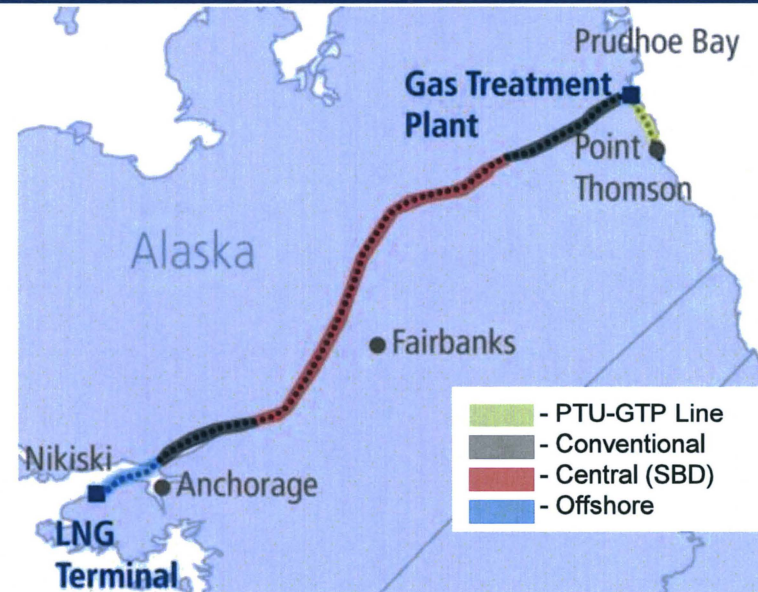
- \* Aligned route with AGDC – continued collaboration
- \* Final Cook Inlet crossing under discussion with FERC

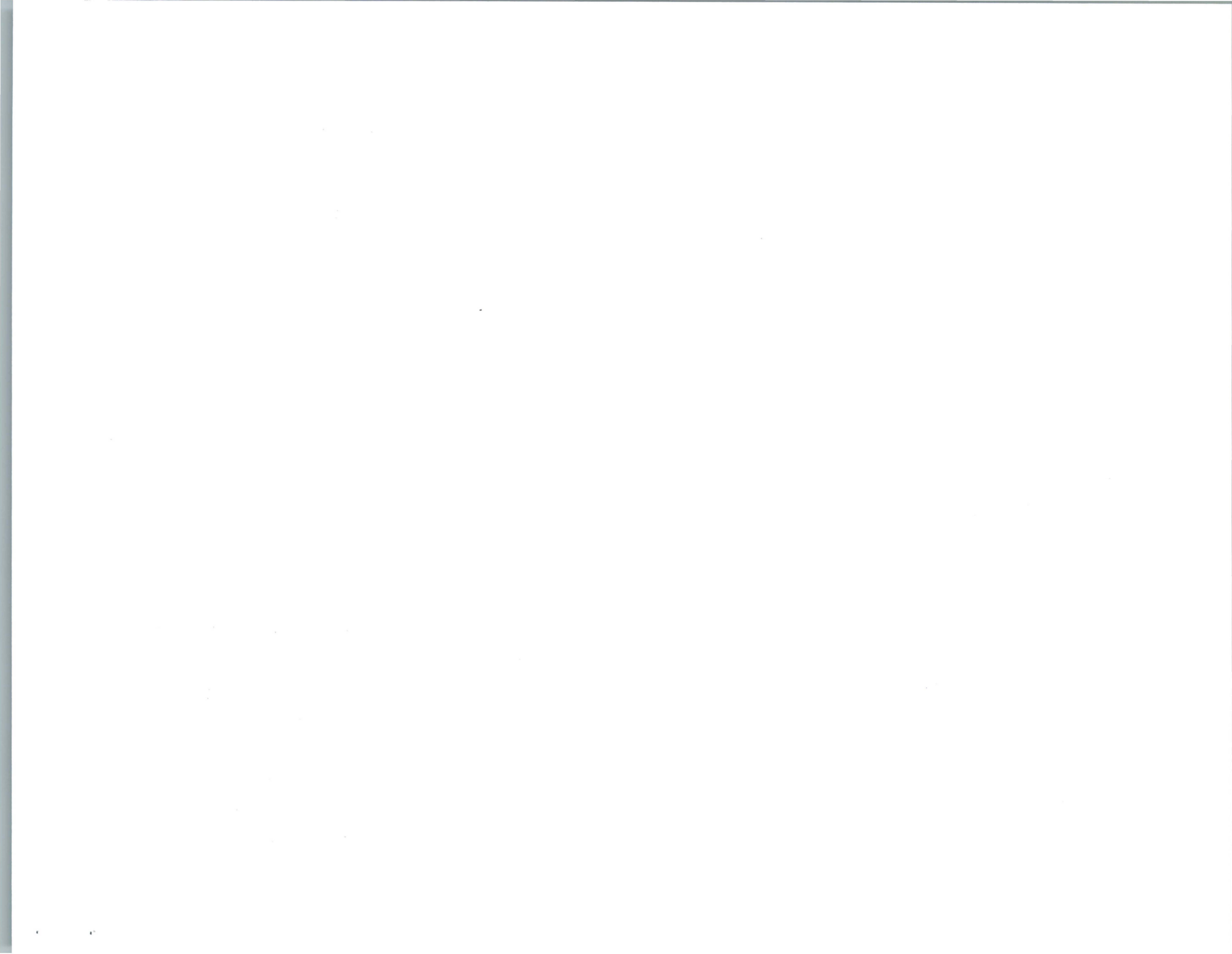
### Pipeline design / materials testing work progressing

- \* Evaluate appropriate pipeline materials for each section
- \* Ordered \$2.5M of pipe for testing (x70 and x80)
- \* Evaluating multiple mills capacity / capability

### Forward plans

- \* Gathering / evaluating geotechnical data
- \* Working with FERC, PHMSA on permitting process
- \* Finalize design cost / schedule estimates





## AKLNG / AGDC leveraging past and current work to benefit both projects under the 2014 Cooperation Agreement

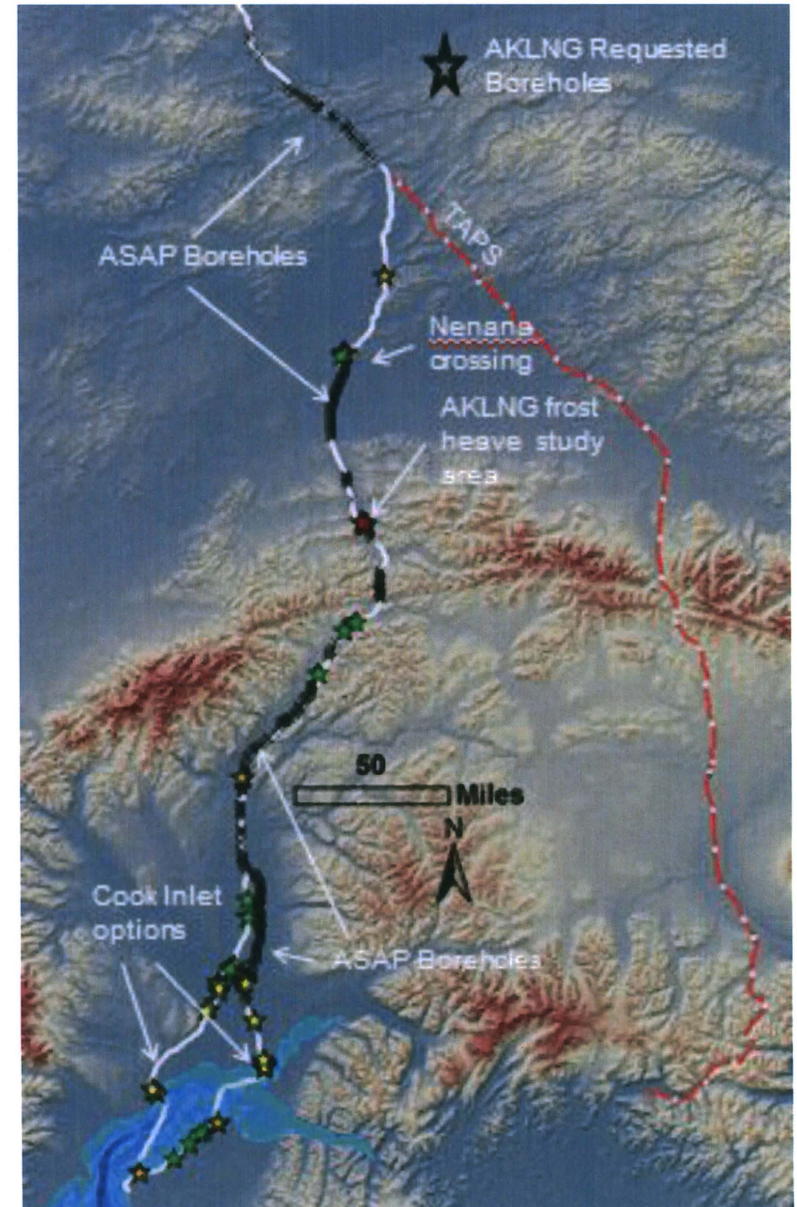
- Continuing to collaboratively work common pipeline route

## AKLNG and AGDC have shared historically generated data

- \* TAPS – geography, alignment, geotechnical data, infrastructure
- \* Denali – geography, alignment, waterway, trenching trials
- \* APP – geography, alignment, seismic, strain based design data, waterway, infrastructure data
- \* ASAP – geography, alignment, geotechnical data, waterways data, environmental, regulatory, infrastructure studies

## AKLNG and AGDC finalizing an agreement to enable future data sharing and collaborative work on future programs including:

- \* Geotechnical field programs
- \* Aerial mapping and LiDAR
- \* Environmental field data
- \* Fault Studies
- \* “On” and “off” Right-of-Way infrastructure data
- \* Design criteria
- \* Materials studies



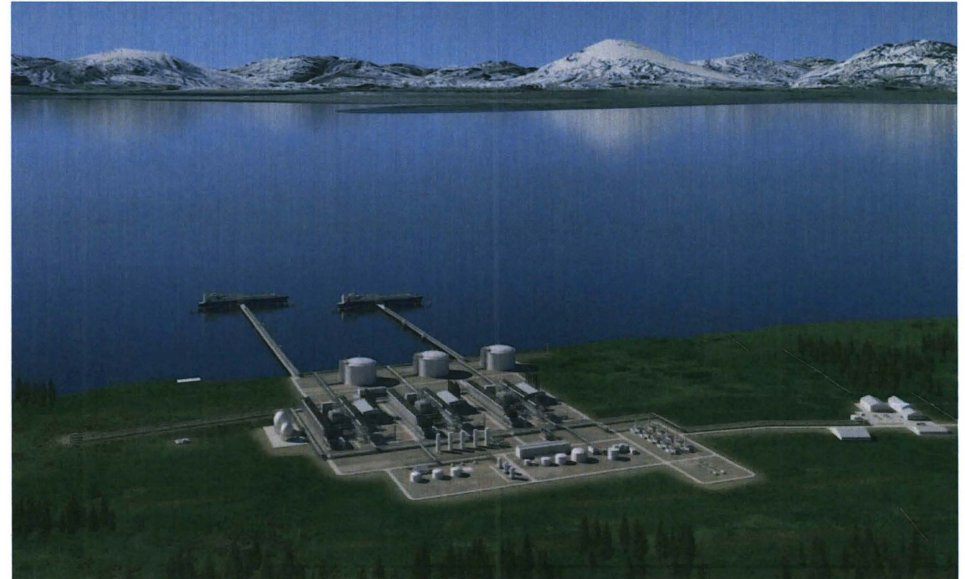


## LNG Plant Overview

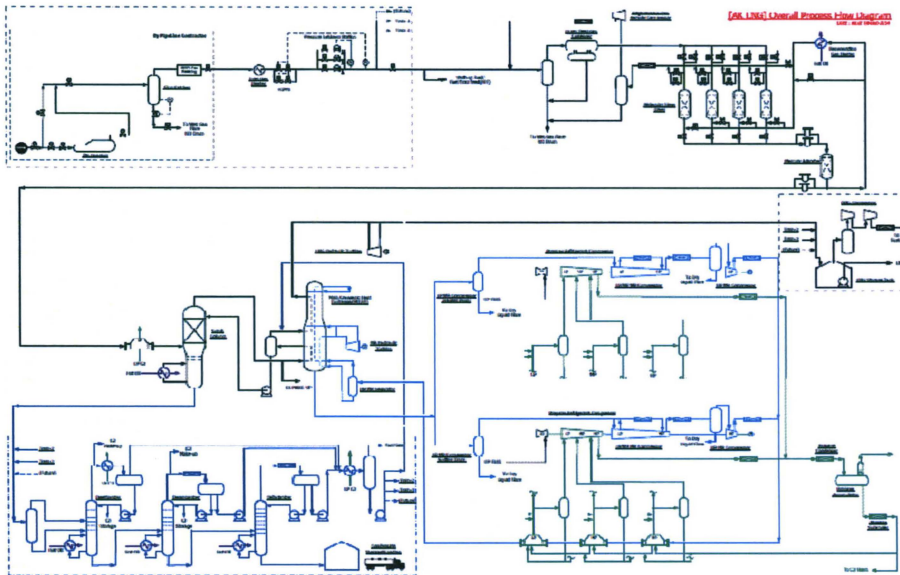
- \* ~20MTA peak winter rate
- \* Three modularized ~6MTA LNG trains
- \* Three 160,000 cubic meter LNG storage tanks

## Recent Progress / Focus

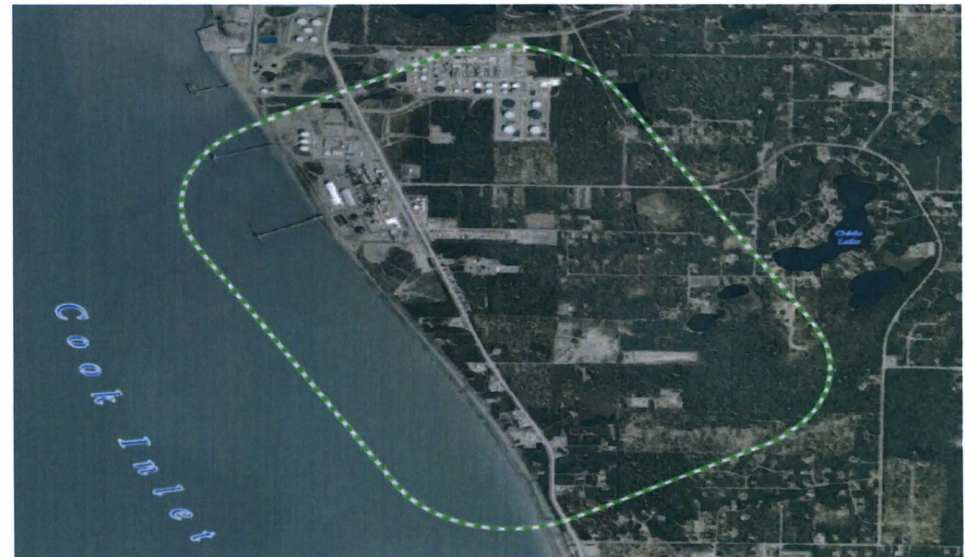
- \* Engineering Contracts / team in-place
- \* Integrated process design progressing well
- \* Continuing land acquisition work
- \* Progressing geotechnical and geophysical site suitability analysis (onshore/offshore)



Initial LNG Plant Layout



High-level Process Diagram

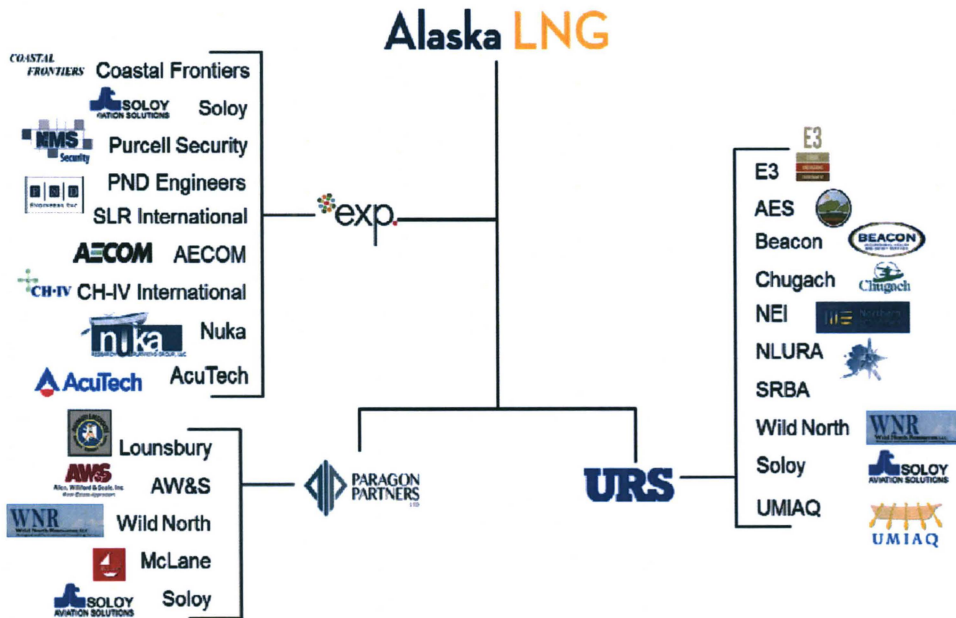
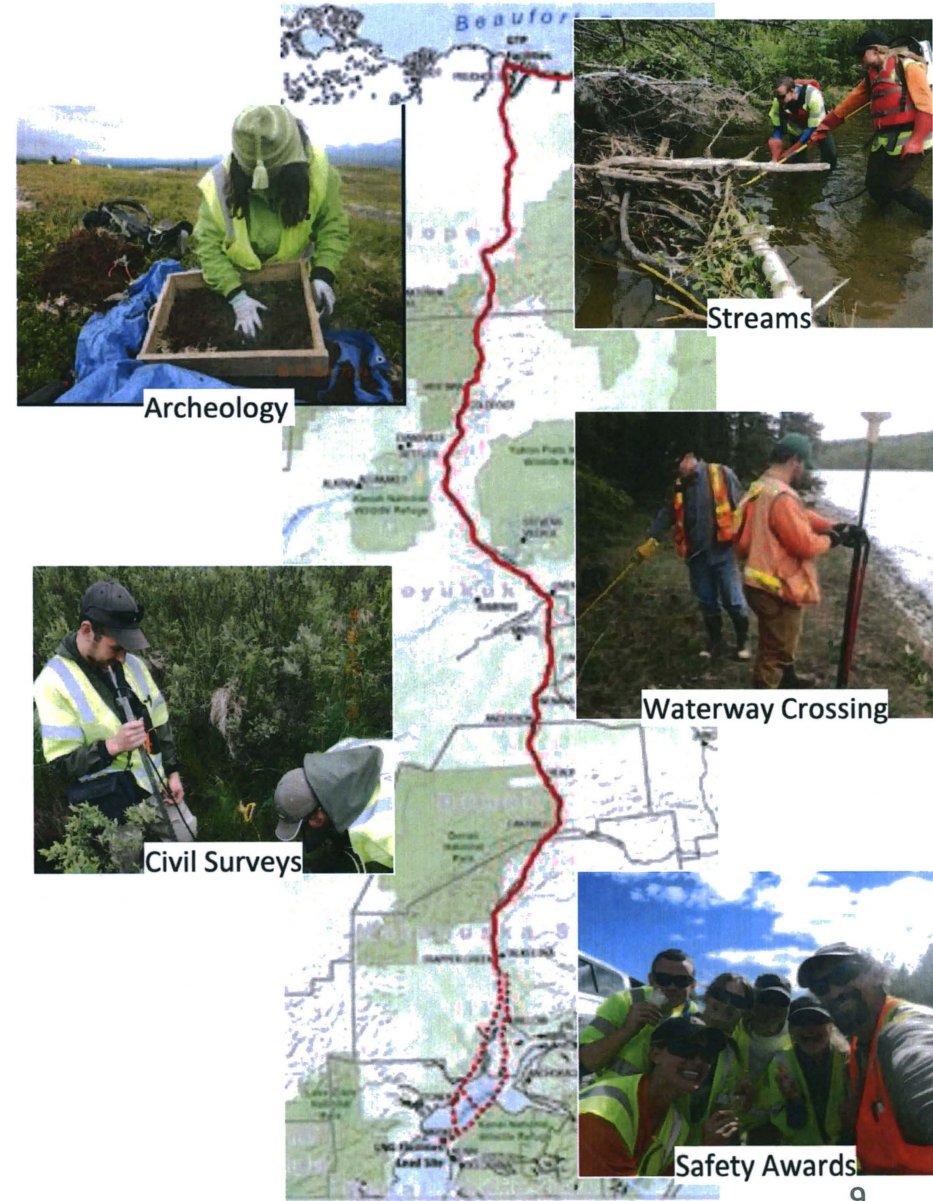


Proposed LNG Plant Site (FERC Resource Reports)



# Alaska LNG - Permitting / Regulatory Progress

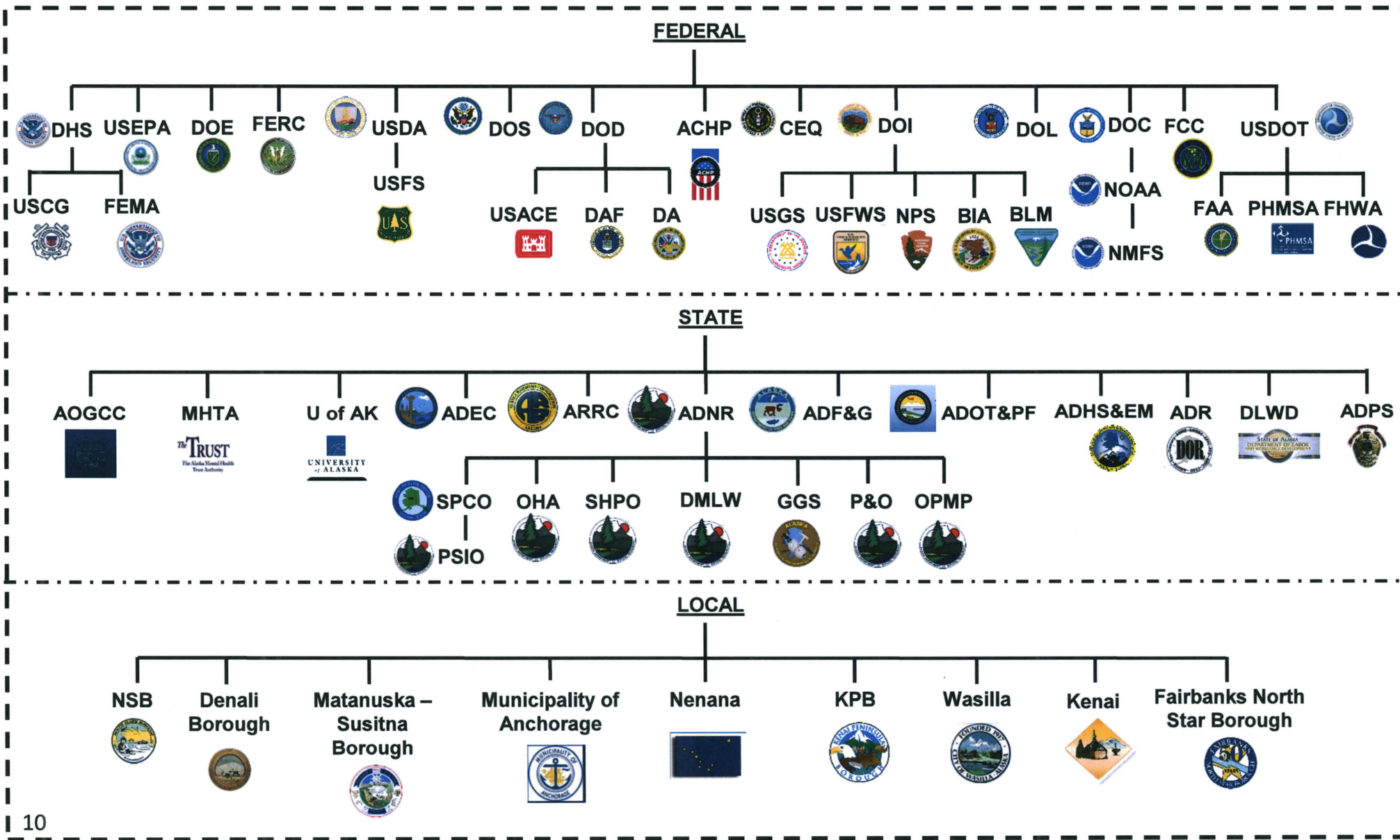
- \* DoE export application posted to Federal Register
  - Strong support from DoE
  - Alaska outside L48 permit process
- \* Completed 2014 Summer Field Season to acquire regulatory data (250+ people, 80% Alaskans)
- \* Working with FERC and other regulators to secure required permits – Resource Reports in process
- \* Initiated community consultation, will continue community meetings with FERC participation





# Alaska LNG – Regulatory Overview (NEPA)

**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**





# Forward Regulatory Process

Federal Interagency Working Group formed to help align regulatory agencies - strong regulatory support

Progressing EIS under FERC direction / integration:

- \* Engaging Alaskans to identify / resolve potential issues
- \* FERC meetings and open houses - first half of 2015
- \* Resource reports provide data on baseline conditions and potential project impacts (environmental / socio-economic)
- \* First draft of resource reports - 1Q15
- \* Second draft of resource reports - 2016

FERC Questions:

- \* Does the plan accurately reflect my community?
- \* What potential impact might the project have?
- \* Are there alternatives to consider?
- \* Are there measures to avoid/lessen possible impacts?

## Resource Reports

1. Project Description
2. Water Use & Quality
3. Vegetation & Wildlife
4. Cultural Resources
5. Socioeconomics
6. Geological Resources
7. Soils
8. Land Use, Recreation & Aesthetics
9. Air & Noise Quality
10. Alternatives
11. Reliability & Safety
12. PCB Contamination
13. LNG Plant Information





## The Path to FEED

### Opportunities to engage

- \* Alaska is an equity participant – owner engagement
- \* Businesses asked to register on the website (ak-lng.com)
- \* Attend community meetings, talk with FERC
- \* Legislative engagement – *need help to align on forward plan to reduce project risk and “cost of supply”*

### Target 2016 decision point

- \* Pre-FEED optimizes design, confirms site / route
- \* Confirm cost, schedule, (competitive “cost of supply”)
- \* Work with State to identify offtakes (“Gas to Alaskans”)
- \* Complete key commercial agreements
- \* Develop durable, predictable fiscal terms (HoA, SB138)
- \* Continue building alignment between all parties

### Alaska LNG Web Site “ak-lng.com”

**Fueling Alaska's Future**

The Alaska LNG Project is about innovative people and technology coming together to develop Alaska's vast natural gas resources in a safe and efficient manner and about providing access to natural gas to Alaskans. The project's participants are the Alaska Gasline Development Corporation (AGDC) and affiliates of TransCanada, BP, ConocoPhillips, and ExxonMobil.

**Project Map**

The Alaska LNG Project is anchored by the Prudhoe Bay and Point Thomson fields. These fields are expected to deliver on average about 3.5 billion cubic feet of gas per day with about 75% from the Prudhoe Bay field and 25% from the Point Thomson field.

An 800-mile pipeline will use proven technologies that enable safe operations while minimizing impact to the environment.

Nikiski is the lead site for a liquefaction plant where gas will be cooled and condensed to 1/600th of its previous volume.

The map shows the pipeline route from Prudhoe Bay and Livengood in the north, through Fairbanks, Anchorage, and Nikiski in the south. Key locations labeled include Prudhoe Bay, Livengood, Fairbanks, Anchorage, and Nikiski. A highway is also shown near Fairbanks.

