

Alaska LNG™

Fueling Alaska's Future



February 2016

Project Update: Alaska Forum on the Environment

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The map illustrates the proposed Trans-Alaska Pipeline Mainline, a black line running north-south through Alaska. Key facilities are marked along the route: GTP FACILITY (Gas Treatment Plant) and PRUDHOE BAY (Prudhoe Bay CGF) in the north; COLDFOOT; LIVNGOOD; FAIRBANKS; DELTA JUNCTION; TOK; TALKEETNA; ANCHORAGE; LIQUEFACTION FACILITY; and NIKISKI. The pipeline crosses major rivers including the Colville, Koyuk, Yukon, Tanana, Chena, and Copper. The Beaufort Sea is to the north, and the Gulf of Alaska is to the south. The border with Canada is shown to the east. Five inset images provide detailed views of specific facilities: Gas Treatment Plant, Prudhoe Bay CGF, Compressor Station, Liquefaction Facility, and Pt. Thomson. A north arrow is located in the top right corner. The text 'Subject to change' is at the bottom left.

Liquefaction Facility: Create, store, and load up to 20 million tons of LNG per year (15-20 LNG cargos per month)

Our Team at Work

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Safety, Health and Environment Report:

- ✧ Completed all work in 2015 incident free – continue building culture of caring

Executive Summary:

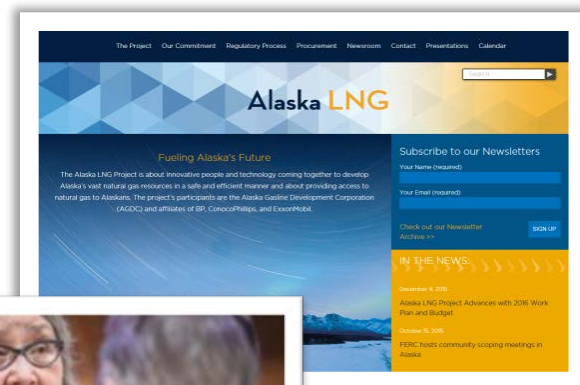
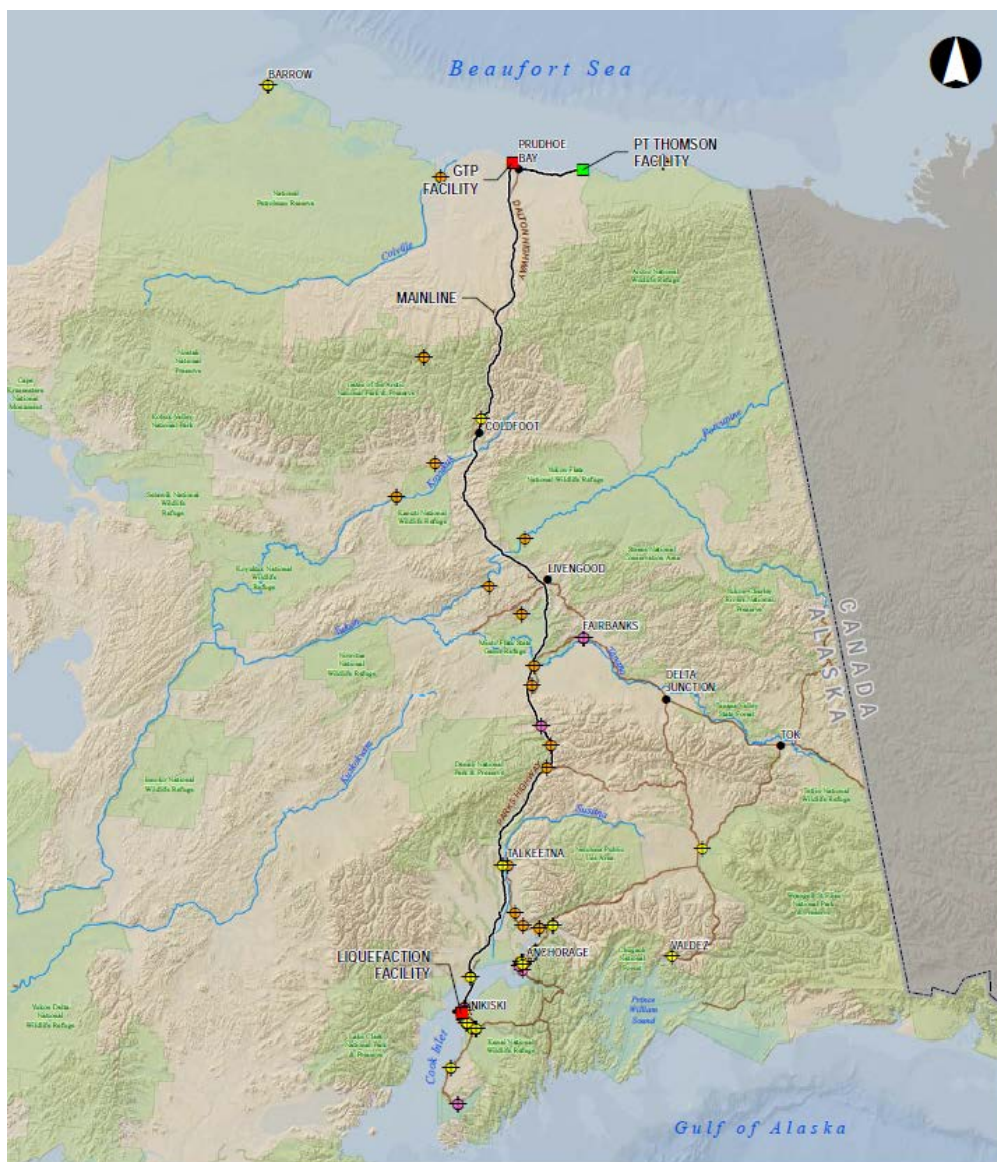
- ✧ Spend: \$370M on pre-FEED through December 2015
- ✧ Initial design scope ~85% complete
- ✧ Finalizing project design/execution basis for cost and schedule estimates

2016 Priorities - Optimize Pre-FEED, progress EIS

- ✧ Evaluate 48" pipeline option – targeting April 2016 decision
- ✧ Additional G&G and field work



Community Engagement



Project Development Phases

WE ARE HERE



12-18
Months

2-3
Years

5-6
Years



Decision by mid-year 2017

LNG Plant and Marine Terminal Update

Liquefaction Facility Overview

- ✧ Preferred site near Nikiski, adjacent to Cook Inlet
- ✧ Plant would cool gas to -260°F ; condense volume by 600 times
- ✧ Would require three modularized LNG process units to remove water & chill gas

Storage & Loading Would Require:

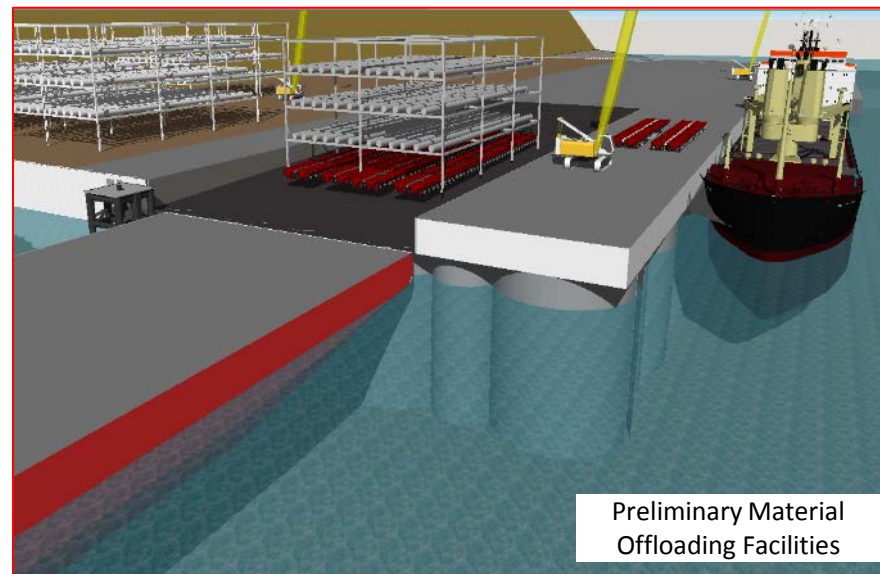
- ✧ Two LNG storage tanks
- ✧ Two marine trestles to accommodate 15-20 LNG carriers/month
- ✧ Specially designed vessels to transport chilled LNG

Recent Progress / Focus

- ✧ Acquired approximately 600 acres to date
- ✧ Progressing geotechnical, geophysical, hydrologic, air and other studies

Successful 2015 G&G Program

- ✧ Drilled 61 onshore and 25 marine boreholes, 20 monitoring wells
- ✧ ~240,000 feet of seismic (all depths)
- ✧ Completed ~60 square km of seafloor mapping / bathymetry



Alaska LNG Project - Pipeline Update

Overview of Project Requirements

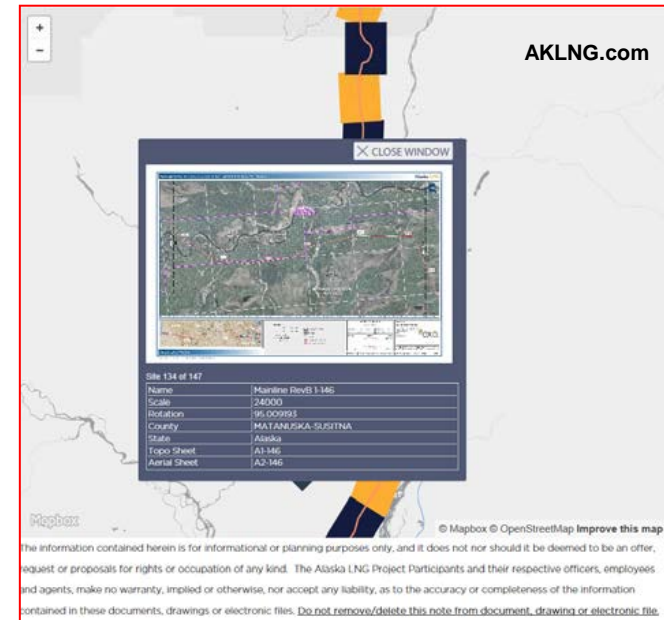
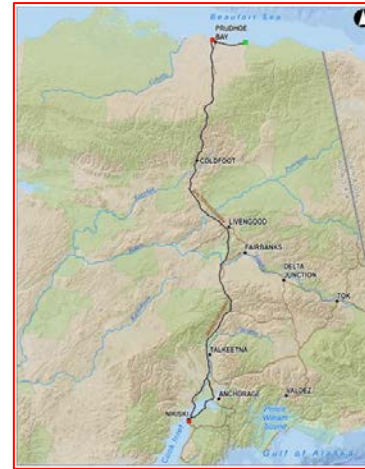
- ✦ 800-mile pipeline
- ✦ ~1.2 million tons of steel
- ✦ Compressor stations maintain pressure and temperature
- ✦ At least 5 off-take points to serve Alaska (determined by State)

Current Status

- ✦ Continuing collaboration with AGDC – aligned route
- ✦ Western route preferred Cook Inlet crossing
- ✦ Evaluating appropriate pipeline materials for each section
- ✦ Progressing work to evaluate State request for a 48" system

Forward Plans

- ✦ Gathering/evaluating geotechnical and environmental baseline data
- ✦ Working with Agencies on permitting process
- ✦ Finalizing design cost/schedule estimates



Gas Treatment Plant Update

Overview of Plant Requirements

- ✧ 3.3 BCFD peak winter rate
- ✧ 3 process trains to remove impurities
- ✧ Modularized to reduce execution risk
- ✧ ~250,000 tons of steel
- ✧ ~200 acres plant site
- ✧ CO₂ removed, captured and compressed for reinjection
- ✧ Located at Prudhoe Bay

Recent Progress / Focus

- ✧ Winter geotechnical assessment continues
- ✧ Confirming large pressure vessel fabrication and shipping capabilities
- ✧ Support regulatory process/submittals

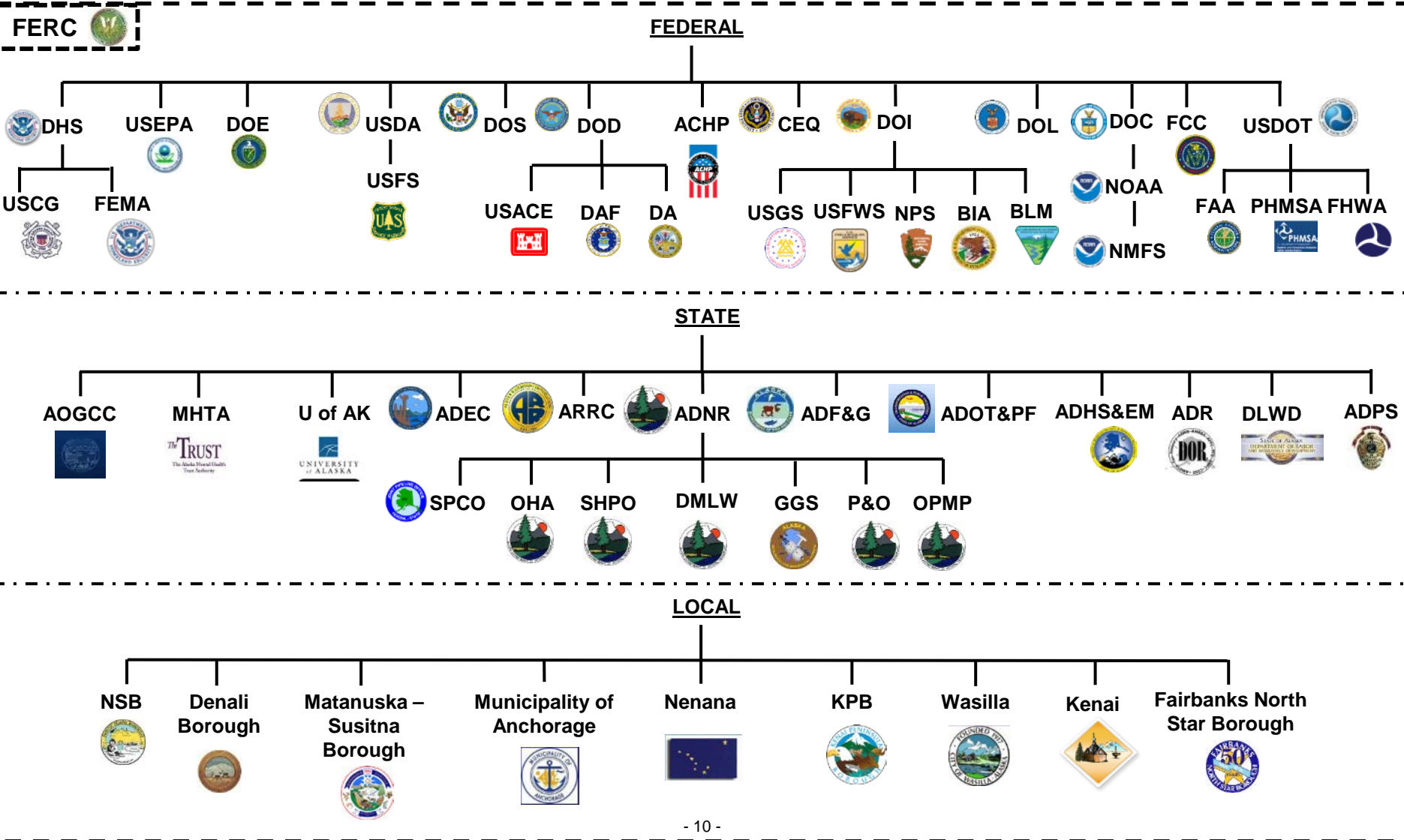


Initial GTP Layout



Regulatory Overview

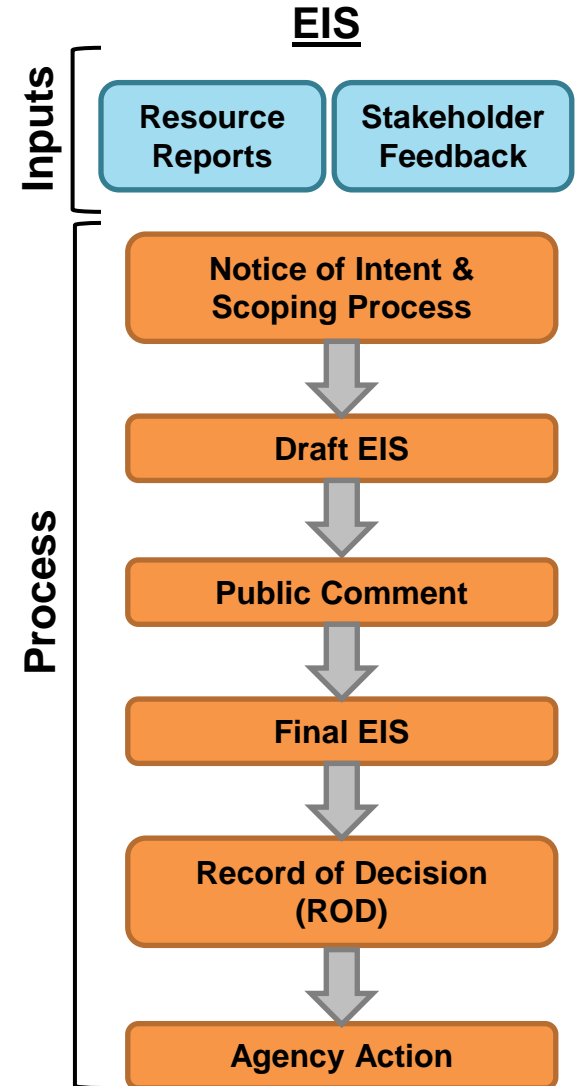
FERC leads NEPA process – umbrella for creation of all other permit applications; Requires collaboration with cooperating and reviewing federal, state, Alaska Native and local entities



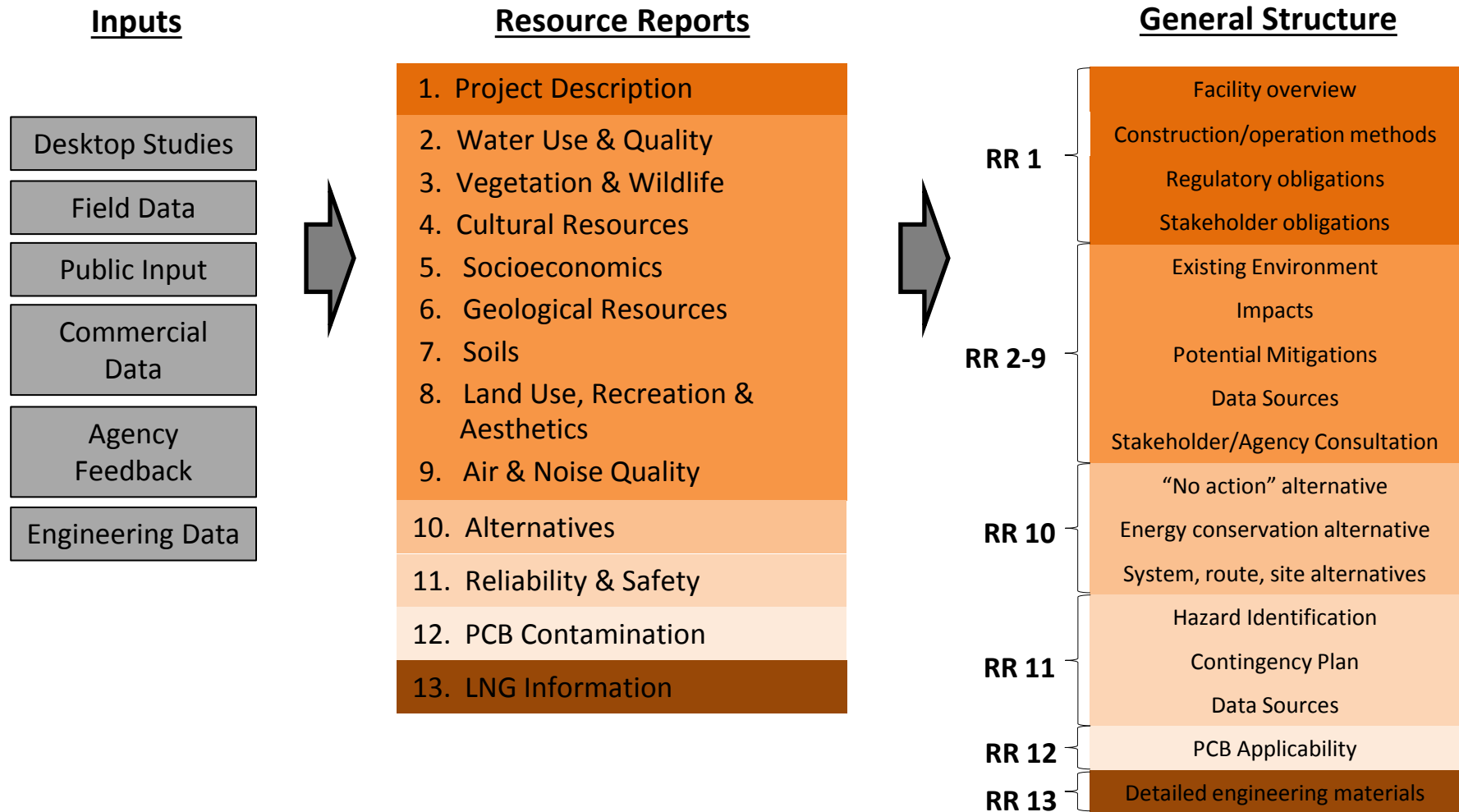
Filing

Natural Gas Act Section 3 Application

<5%	Exhibit A --	Articles of incorporation and bylaws
	Exhibit B --	Statement of corporate and financial relationships
	Exhibit C --	State authorization
	Exhibit D --	Agreement between the applicant and border facilities
<10%	Exhibit E --	Safety and reliability statement
	Exhibit E-1 --	Earthquake hazards and engineering
>80%	Exhibit F --	“Final” Resource Reports
	Exhibit G --	Location of facilities
<5%	Exhibit H --	Statement regarding additional federal authorizations



Resource Report Overview



Objectives

Collect environmental, social, and cultural data to support requisite reporting and permitting for the Project (including EIS application) and to support the routing and siting of Project facilities



Active Culture of Caring

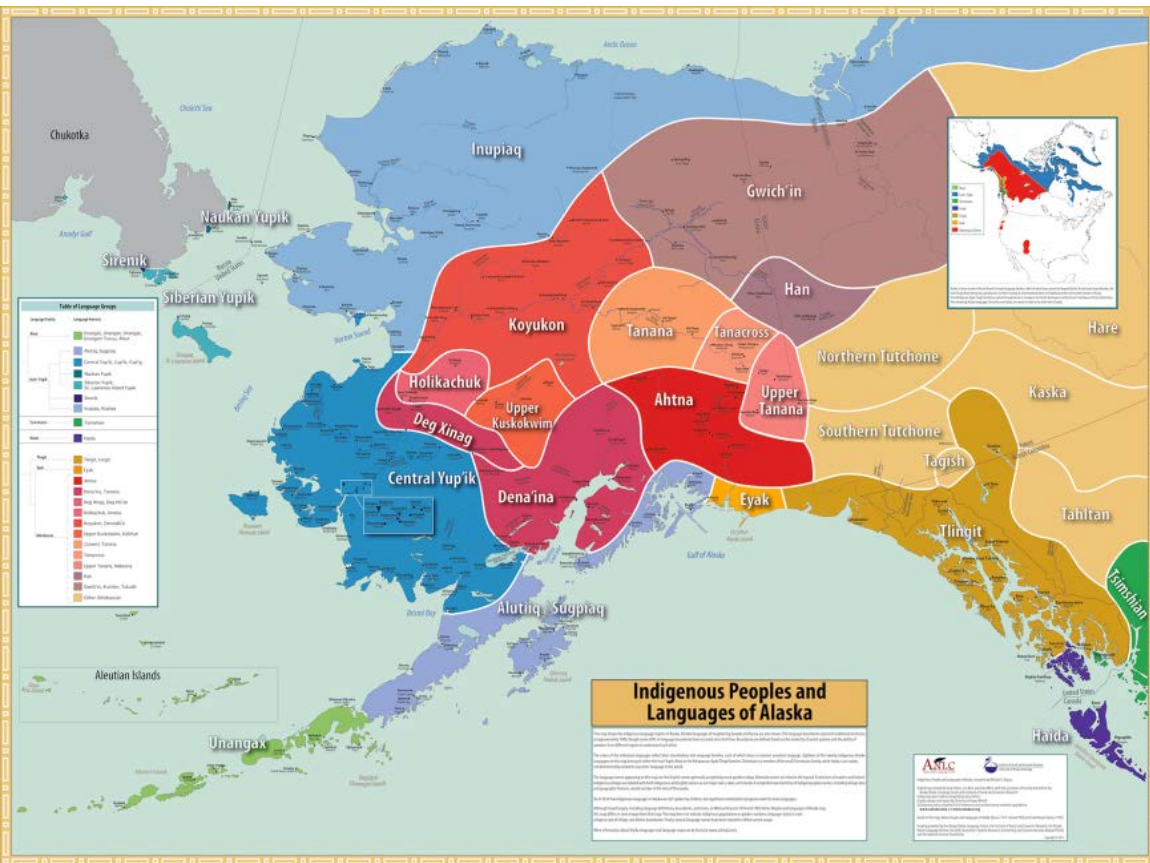
- ✧ More than 250K hours supporting EIS field programs
- ✧ Hundreds of yellow cards submitted by crew members and shared with all field teams
- ✧ SIMOPS program implemented to safely work with other Project and non-Project field crews

Field Studies

- ✧ Air monitoring
- ✧ Ambient noise monitoring
- ✧ Cultural / archaeological resources
- ✧ Stream fish (anadromous) studies
- ✧ Raptor surveys

Field Studies

- ✧ Hydrology
- ✧ Wetlands mapping & surveys
- ✧ Contaminated sites surveys
- ✧ Paleontological surveys
- ✧ Socioeconomic-related surveys



- Subsistence Surveys / Mapping
 - Evaluation of current / recent subsistence practices, rural Alaska's mixed economy, and potential Project impacts
 - Surveys completed by AK Dept. of Fish & Game; data then mapped by Project contractor
- Traditional Knowledge Surveys
- Health Impact Assessment surveys (completed by New Fields for AK Dept. of Health & Social Services)

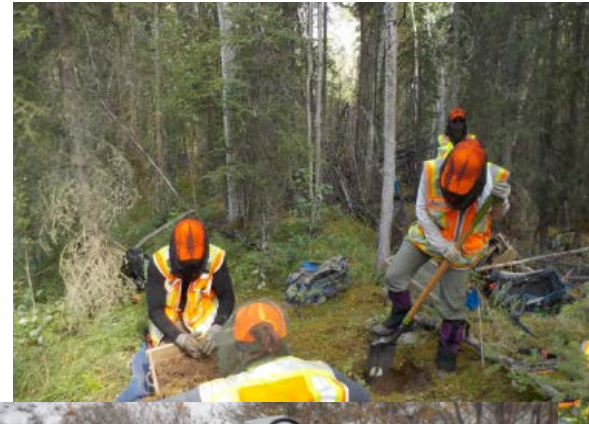
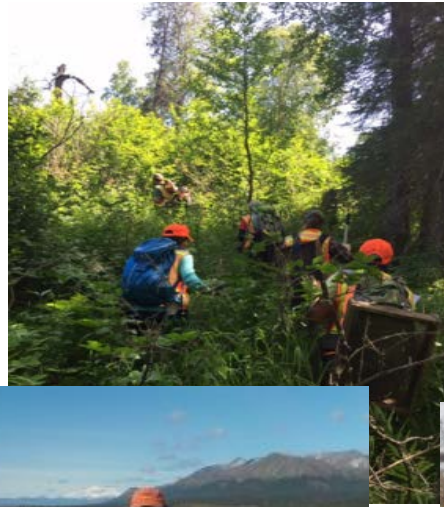
A Day in the Life of Alaska LNG

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Environmental Field Studies

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GIS Support & Stakeholder Engagement Tool Alaska LNG™



Project GIS Approach

- Web portal: one location for all of Project's GIS material

Stakeholder Engagement Tool

- Foundation for issue/comment management workflow

Webmapper Demo

Alaska LNG Project x

https://gis.exp.com/aking/

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Basemap

Immersive Video (Streaming)

MP163-MP178

03:07 | 16:57

360

Map Contents

Layer Visibility

- ☐ Alaska LNG Field Photos and Forms
- ☐ 2015 Field Program
- ☒ Project Data
 - ☐ Cultural Survey
 - ☐ Environmental Survey
 - ☒ Engineering
 - ☐ Land
 - ☐ Remote Sensing
 - ☐ Other
- ☐ Reference Data
- ☐ Contours
- ☐ Project Imagery Info. (Identify Tiles)
- ☒ Project Imagery (Cached Service)
- ☒ Project Imagery (Image Service)
- ☐ Project Elevation Info.
- ☐ Project Elevation

bing

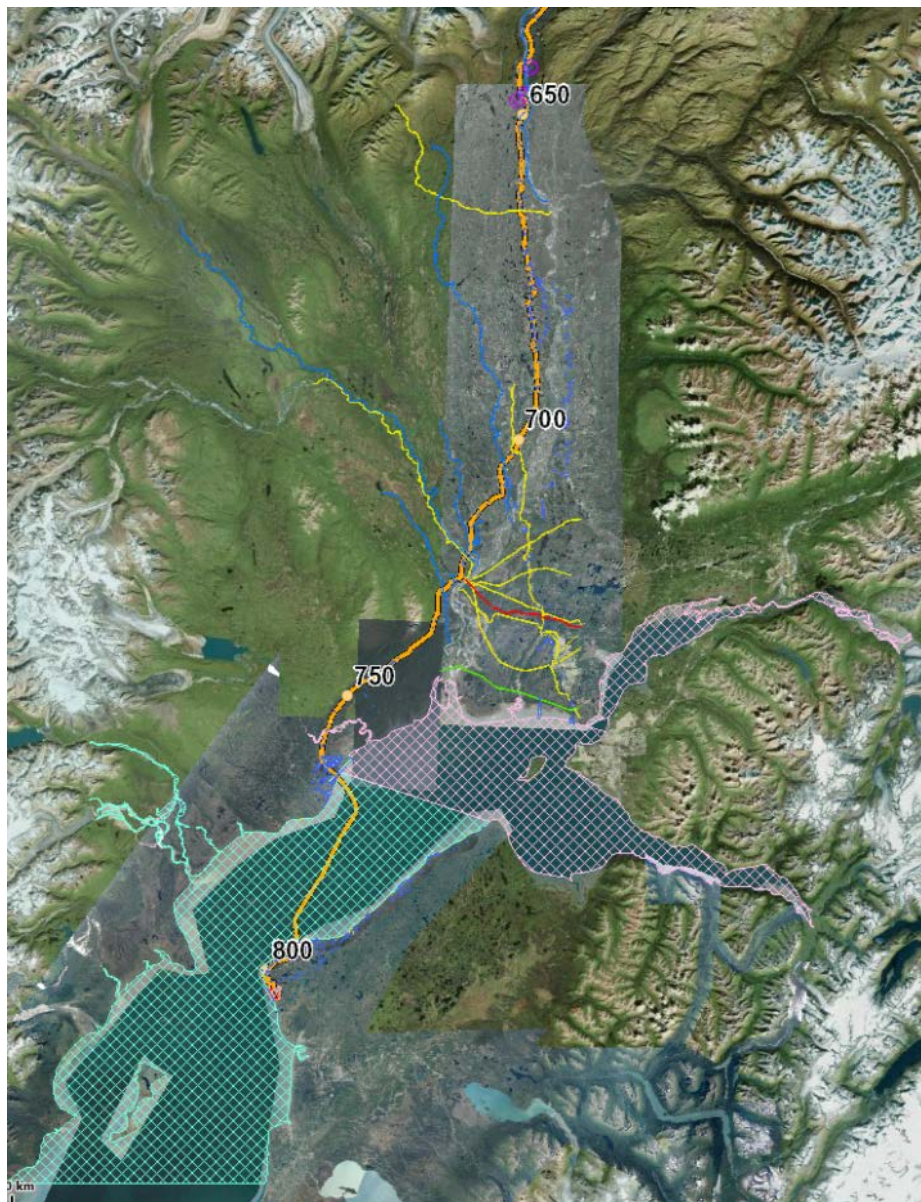
2 km

1 mi

Search Results

Latitude: 68.157874 Longitude: -149.362838

exp.



Working with Project team and agencies to mitigate impacts to environment and communities

Some of the things that E&S data informs

- Pipeline routing
- Construction laydown areas
- Seasonal construction work
- Study work planning
- Targeted stakeholder communications
- Avoidance and mitigation measures
- Regulatory process

For more information

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A world map with numerous blue location pins placed across various continents, including North America, South America, Europe, Africa, and Asia. The pins are concentrated in the United States, particularly in the West and Midwest, and also appear in Europe, Africa, and Asia. The map includes labels for major cities and countries.

**READ THE RESOURCE REPORTS:
FERC.GOV (DOCKET # PF14-21)**

CALL 855-550-5445

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