

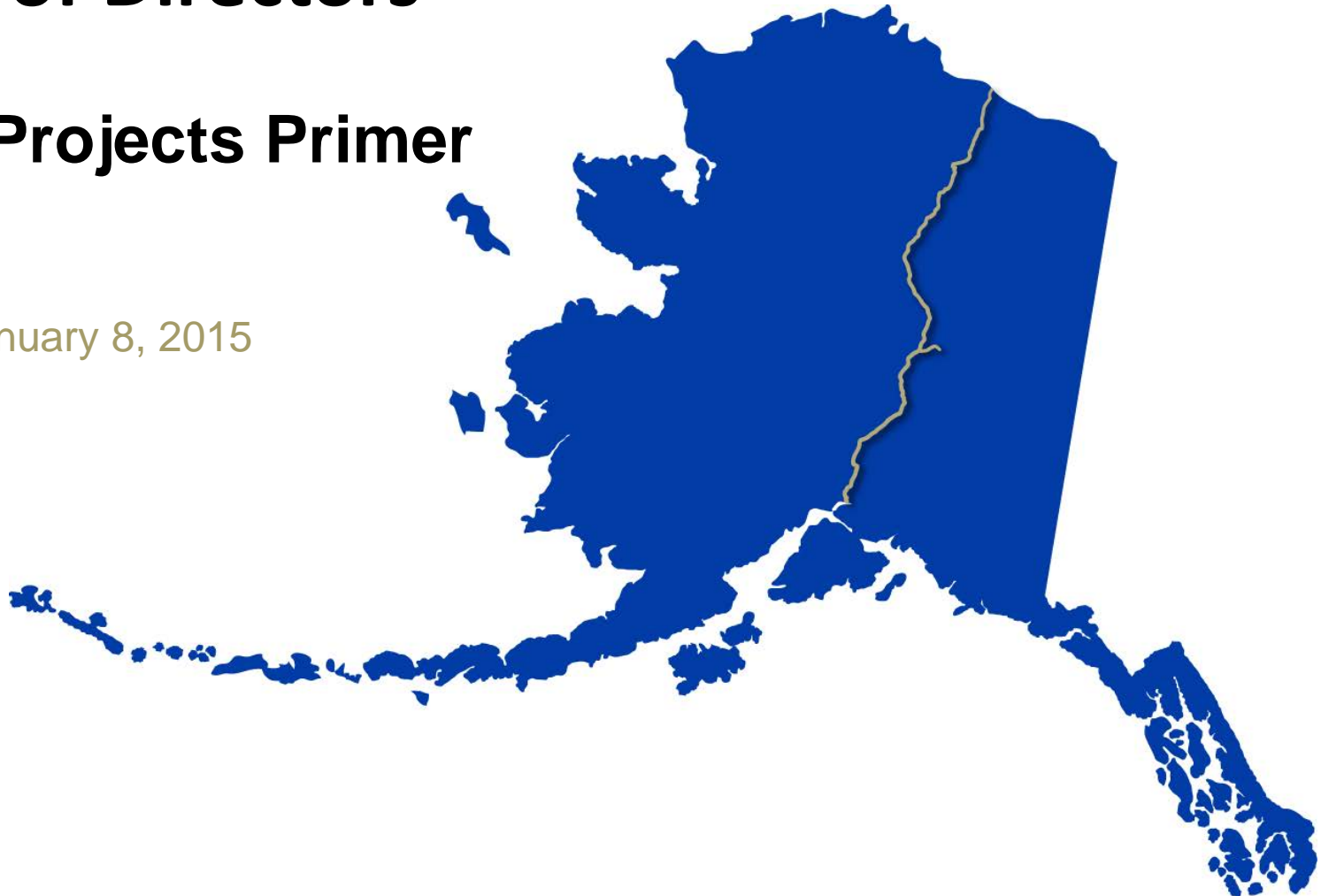


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# Board of Directors

## Gasline Projects Primer

January 8, 2015



# Corporate Initiatives

## Alaska LNG

## ASAP

<b>Project Sponsors</b>	State of Alaska (AGDC), BP, ConocoPhillips, ExxonMobil & TransCanada	State of Alaska (AGDC)
<b>Design Objective</b>	Liquefied Natural Gas (LNG) principally for export markets	Utility grade “lean” gas principally for in-state markets
<b>Facilities</b>		
Gas Treatment	<ul style="list-style-type: none"> <li>GTP at Prudhoe Bay (~200 acres)</li> <li>8 Compressor Stations (30kHP)</li> </ul>	<ul style="list-style-type: none"> <li>GCF at Prudhoe Bay (~70 acres)</li> <li>Compression at Prudhoe Bay</li> </ul>
Mainline	800 mile, 42” mainline	727 mile, 36” mainline
Lateral Line	N/A	29 mile, 12” lateral to Fairbanks
LNG Plant	LNG plant, 3 storage tanks and 2 tanker berths at Nikiski (400-500 acres)	N/A
<b>Terminus</b>	Nikiski ( <i>Kenai Peninsula</i> )	Near Big Lake ( <i>ENSTAR’s Beluga line</i> )
<b>Design Capacity</b>	~ 3.3 billion cubic feet/day at GTP ~ 2.2 billion cubic feet/day at LNG plant	500 million cubic feet/day
<b>Cost</b>	~ \$45 - \$65 bill	~ \$9.9 bill (+/- 20%)
<b>Workforce</b>	Peak: 9,000-15,000 Operations: ~1,000	Peak: 8,000 Operations: ~150
<b>Construction</b>	5-6 years ( <i>after FID in 2019</i> )	3.5 years ( <i>after sanctioning in 2016</i> )
<b>Completion</b>	2025-2026	2021

# Accumulated Corporate Assets

- State Right-of-Way - 413 miles
- Final Environmental Impact Statement (FEIS) – Oct 2012
- Supplemental Environmental Impact Statement (SEIS) initiated – Aug 2014:
  - Plan of Development (POD)
  - Environmental Evaluation Document (EED)
  - Public Scoping Report Published
- Along entire pipeline route:
  - River and stream crossings surveys and designs
  - 2-D terrain unit mapping
  - Cultural resource surveys
  - Wetlands delineation and jurisdictional determinations



# Accumulated Corporate Assets

- 400+ geotechnical boreholes drilled
- 128 material source sites identified
- Air quality monitoring data and permit for Gas Conditioning Facility
- Purchased Strain Based Design (SBD) pipe for:
  - Small and medium scale material testing
  - Automatic weld procedure validation
- Line-pipe specifications
- Safety and operational stipulations with PHMSA
- Final biologic assessment report
- Final essential fish habitat report
- Project Execution Plan (PEP) including:
  - Construction execution plan
  - Project logistics plan

# Alaska LNG Milestones

- Export Application filed with U.S. Department of Energy – Jul 21
  - DoE authorized LNG exports to Free Trade Agreement countries Nov 20
- FERC Pre-Filing Request – Sep 8
  - Prelim Draft of Resource Report #1(Project Description) submitted
  - Statewide Open Houses – Oct 28 to Nov 20
- Project briefing to Joint House & Senate Resources - Sep 29
- Media Tour in Nikiski – Oct 9
- AGDC Board Approves 2015 Budget of \$39.7 million – Oct
- 2014 LNGP site geotech and Cook Inlet marine survey programs completed
- Joint workshop with AGDC on sharing data and engineering
  - Historical data exchanged, future activities being coordinated
- Engineering contracts have been awarded and work is underway for:
  - GTP: URS (with CBI and AES) in Denver
  - Pipeline: Worley Parsons in Calgary
  - LNGP: CBI (with Chiyoda and AES) in Houston
  - Marine Facilities: CH2M Hill in Houston (and Anchorage)



# ASAP 500 MMscfd Design

- SOA issued TransCanada AGIA license AS 43.90 - Dec 2008
- AGIA statutes limited in-state pipeline capacity to 500 MMscfd
- ASAP project planning, engineering and permitting proceed with 500 MMscfd design constraint
- SOA signs MOU with TransCanada regarding Alaska LNG – Dec 2013
- Seven participating parties in Alaska LNG sign HOA establishing project framework and roadmap – Jan 2014
- Legislature authorizes State participation in Alaska LNG (SB138) – May 2014
- SOA and TransCanada agree that Alaska-Alberta project is uneconomic, abandon the project and terminate AGIA license – Jun 2014
- ASAP is no longer statutorily constrained to 500 MMscfd
- Changes could be made in compression, pipe strength and treatment capacity to improve throughput and project economics



# Alaska LNG/ASAP Coordination

All participants are interested in progressing each project in an efficient, cost effective manner and eliminate duplication of effort

## Background

- Significant amount of baseline data and engineering exists from previous pipeline projects: *TAPS*, *APP*, *Denali* and *ASAP*
- Parties have developed a framework for sharing data and coordinating work efforts going forward



## Objectives

- Maximize existing historical data and work product
  - *Geotechnical, hydrological, environmental, cultural and routing information*
- Eliminate duplication of work between the ASAP and Alaska LNG projects
- Establish common pipeline route
- Reduce cost, environmental impacts and safety risks
- Save time and advance schedules

## Coordination Activities

- ✓ Identifying existing datasets and common work product
- ✓ Establishing data sharing protocols
- ✓ Coordinating 2015 field seasons and work activities
- ✓ Conducting routing workshop to compare pipeline alignments
- ✓ Discussing joint trenching equipment testing program

# Corporate Focus – Near Term (1Q16)

- Progress both initiatives to better inform State's ultimate policy and investment decisions
- Protect the State's interest in the Alaska LNG project – LNG plant, pipeline and GTP
- Adjust work plans, budgets and timelines to bring initiatives into alignment
- Execute cooperation agreements - maximize state resources, eliminate duplication of effort, align work efforts and routing
- Develop durable work and transferable data that can be used on either project
- Maintain State's leverage and continue to build assets the State can bring to either project
- Determine in-state access needs; plan, site and develop off-takes
- Maintain viability and readiness of ASAP as an alternative