

Workforce Planning

The Alaska Department of Labor & Workforce Development (DOLWD) is currently developing a workforce plan for the AKLNG and ASAP projects. Thirty-five industry, state and education representatives attended a meeting at the Pipeline Training Center in Fairbanks on October 28, 2015 to help frame the gas pipeline workforce plan.

DOLWD will hold two public stakeholder meetings to continue planning in April 2016. The meetings will be held in Kenai and Anchorage. The draft Alaska Natural Gas Pipeline Workforce Plan will be ready in June 2016.

Strategies for Success

Support existing training programs: Alaska has significant in-state training capacity with training centers across the state and many programs focused on postsecondary vocational and technical skills, including pre-apprenticeship, apprenticeship and occupational training needed for a pipeline workforce. Support in the form of state and federal funding as well as additional incentives to employers to hire apprentices and others in these programs is critical.

Develop training for pipeline-specific positions: A top question at the October meeting focused on delivering training once jobs are certain. New technologies, equipment and work processes will be used on these megaprojects; this will require new technical training courses.

Expand career and technical education programs: The State of Alaska must continue to support career and technical education programs if we are to be successful. Employers agreed on the need for expanding career and technical programs in secondary and postsecondary schools, including pre-apprenticeship, apprenticeship and other work-based learning opportunities. We need to engage young people earlier and continue to encourage them on the path to careers in technical fields.



Develop career awareness among students, parents and school counselors: Future electricians, welders and other technical workers are not the only ones who need more exposure to opportunities in technical careers. Parents, teachers and school counselors are often the gatekeepers, and every effort is needed to educate them on these opportunities.

Expand existing partnerships between school districts and businesses: Linking career and technical education to work environments is critical not only to show why a young person should be involved, but also to start training on work ethic, skills and behaviors. Math and technical skill training in middle and high school are essential for acceptance into and success in apprenticeship and other technical programs. Work must start now to ensure that Alaska has young people who are interested and able to join these programs in four to eight years.

Focus on legacy jobs: Capturing legacy jobs for Alaskans in pipeline operations, maintenance and modernization is a high priority of the overall workforce plan. We estimate 1,000 legacy jobs for the Alaska LNG system; these are jobs that offer long-term career opportunities.

Building the Alaska Natural Gas PIPELINE WORKFORCE

Labor demand for a new natural gas pipeline project will outstrip supply.



The Projects

The Alaska Gasline Development Corporation is proposing two projects to commercialize Alaska's North Slope gas resource: The Alaska Natural Gas Pipeline (AKLNG) project and the Alaska Stand Alone Pipeline (ASAP) project. Either project is capable of delivering gas to Alaskans, but the size, scope and cost vary significantly.

AKLNG is the State's priority project. ASAP, as a back-up project, is undertaking only actions that are complementary or transferable to the AKLNG project, such as right of way permits. The workforce development strategies will prepare the State for either pipeline project. The core training and labor needs apply to both projects as each will need several thousand skilled workers.

The AKLNG project is in the investigative phase, focusing now on project cost estimates, logistics and workforce needs. The next milestone is December 2017 when a decision by AKLNG owners will be made on the technical and commercial viability of the project. A "go" decision will start the Front-End Engineering and Design (FEED) phase. Once the FEED period is over, the AKLNG project will be ready to move to the construction phase and reach another decision point on whether to pro-

MEETING ALASKA'S NEED

A successful framework for LNG pipeline project workforce development must...

PLAN

- Conduct labor market analysis on project priority occupation and training needs
- Develop and apply short- and long-term workforce development needs, goals and strategies for the pipeline projects

TRAIN

- Support industry training programs including apprenticeships
- Expand career and technical training for youth and adults
- Develop training for construction jobs and legacy positions that will remain after construction is complete

ENGAGE

- Increase career awareness among students, parents, teachers and counselors
- Connect Alaskans with gasline training and jobs



PROJECT
SNAPSHOT

Alaska LNG

ASAP

SPONSORS		State of Alaska (AGDC), BP, ConocoPhillips, and Exxon Mobil	State of Alaska (AGDC)
OBJECTIVE		Liquefied Natural Gas (LNG) principally for export markets with at least 5 in-state off-takes	Utility grade natural gas for shipping in Alaska market with pipeline access for in-state markets including Fairbanks, South-central region, and others
ESTIMATED COST		\$45 to \$65 billion	\$10 billion
CONSTRUCTION TIME		5+ years, completion in 2025 - 2026	3.5 years, completion in 2024
ESTIMATED WORKFORCE NEEDS		Peak: 9,000 to 15,000 Operations: 1,000	Peak: 8,000 Operations: 240
FACILITIES	Gas Treatment	Prudhoe Bay: Gas Treatment Plant (GTP) and 8 compressor stations	Prudhoe Bay: Gas Conditioning Facility and compression
	Pipeline	800 mile, 42" mainline to Nikiski	733 mile, 36" mainline to Big Lake 30 mile, 12" lateral to Fairbanks
	Liquefaction Plant, Storage, Terminal	Nikiski: LNG Plant, 3 storage tanks, and 2 tanker berths	N/A
TERMINUS		Nikiski (Kenai Peninsula)	Near Big Lake (ENSTAR's Beluga line)
ESTIMATED PIPELINE CAPACITY		3.3 billion cubic feet/day from GTP 2.2 billion cubic feet/day from LNG Plant	500 million cubic feet/day

ceed with the project. The project owner time and cost requirements increase significantly for each phase. (See the AKLNG Project Timeline on the next page.)

The ASAP project which started several years prior to AKLNG has completed the FEED stage and is construction ready. The project is on hold and will only proceed if a “no-go” decision is made on the AKLNG project. Both projects are completing studies on the workforce demand and timing for project-critical occupations. Preliminary estimates are being used to begin discussions.

The critical preliminary findings from AKLNG which largely apply to both pipeline projects are:

MAXIMIZE ALASKAN LABOR

- AKLNG workforce demands are expected to “outstrip” supply
- Competing labor demand from similar projects in Alaska, the Pacific Northwest, and other states during the AKLNG project timeline could challenge AKLNG labor supply
- Maximize involvement of all sources of Alaskan labor
- Maximize use of qualified Alaskan and Native Alaskan contractors without harming existing business operations

MAXIMIZE ALASKAN TRAINING USE

- Expand training opportunities for all Alaskans
- Work closely with schools, industry trainers and apprenticeship sponsors to meet demands

The preliminary labor studies for the AKLNG and ASAP projects recommend that workforce preparation begin with building on the existing career and technical education system, industry training providers, apprenticeship sponsors and other programs. Training a skilled Alaska

natural gas pipeline workforce requires on-the-job learning as a key delivery model.

The top concern among pipeline contractors is the need for continuous work until a gas pipeline project starts. Industry support contractors need projects on an ongoing basis to maintain their businesses, key employees and workforce.

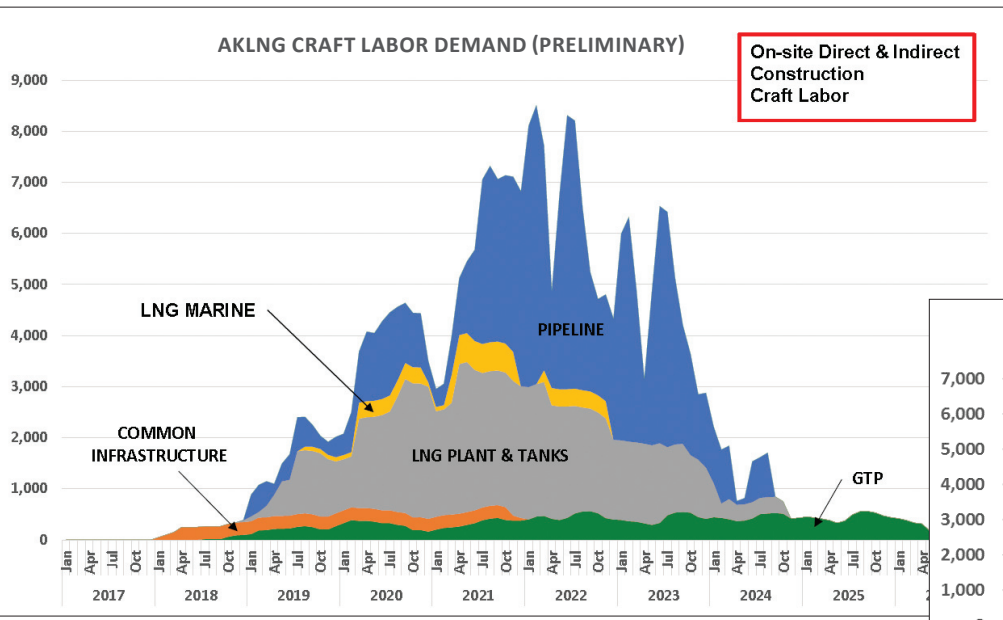
Alaska’s pipeline and construction industries have seen some steady activity recently, but the future is uncertain due to the current low price of oil and natural gas. Training workers for the AKLNG or ASAP project without having jobs in which to place them in the meantime is not a viable option for successfully training a future workforce.

As with all large pipeline projects, the core phase of the project requires a large number of craft and trades, construction, operations and logistics workers. Preliminary estimates of labor demand for both projects show the difference in start-up, peak and drawdown jobs and the number of legacy jobs that will remain after construction is complete. (See Craft Labor Demand below.)

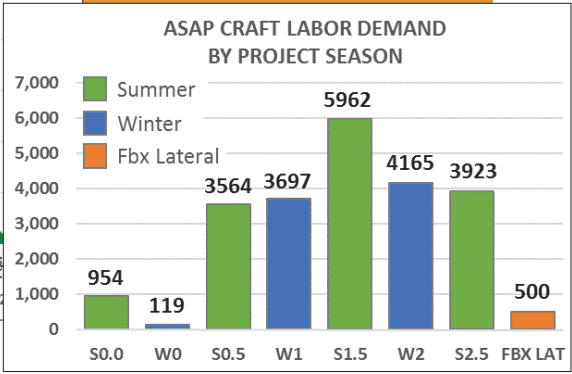


AKLNG PROJECT TIMELINE

	CONCEPT SELECTION	PRE-FEED	FRONT-END ENGINEERING & DESIGN (FEED)	ENGINEERING, PROCUREMENT & CONSTRUCTION (EPC)
	GO NO-GO	GO NO-GO	GO NO-GO	GO NO-GO
PEAK STAFFING	~200	400-500	500-1,500	9,000-15,000
COST (\$)	TENS OF MILLIONS	HUNDREDS OF MILLIONS	BILLIONS	TENS OF BILLIONS
EST. ENGINEERING/TECHNICAL DURATION*		12-18 MONTHS	2-3 YEARS	5-6 YEARS



CRAFT
LABOR
DEMAND



SOURCES: (ABOVE TOP AND LEFT) ALASKA LNG, PROJECT UPDATE (PPT), OCT. 28, 2015; (RIGHT) ALASKA GASLINE DEVELOPMENT CORPORATION (AGDC), ASAP CRAFT LABOR OVERVIEW (PPT), OCT. 28, 2015

