



Fact Sheet Trans Alaska Pipeline System

Background

The Trans Alaska Pipeline System (TAPS), built at a cost of \$8 billion in 1975-1977, carries crude oil from the North Slope to the Valdez Marine Terminal. The pipeline traverses 800 miles of rugged Alaskan mountains, rivers, and harsh terrain to the terminal at Valdez, which is the northernmost ice-free port in North America.

All along the pipeline, pump stations are strategically placed to boost the flow of oil and keep it moving smoothly. The original design called for 12 stations to be constructed – all were constructed, but PS11 was never brought into service. There are 5 pump stations currently in operations (PS 1, 3, 4, 7, & 9), each with two or three turbines-driven pumps, and employing an average 20 – 25 people. There are 5 stations (2, 6, 8, 10, & 12) off line and one pressure relief station (Pump Station 5, is a pressure relief station) .

The first pipe was laid March 27, 1975, and the final weld took place on May 31, 1977. The first oil flowed through the pipeline on June 20, 1977. TAPS delivers, approximately 17% of the U.S. domestic production.

The pipeline is one of the largest pipeline systems in the world. Its design and construction are considered one of the most difficult engineering feats of our time. Building a pipeline from the Arctic had never before been achieved, and operating it in such an isolated region poses continuing challenges.

The pipeline was designed to both endure and to protect the Alaskan environment. Permafrost posed a construction challenge. If heat from the buried pipeline were to melt the permafrost, the soil in some areas would become unstable. In those places with “thaw unstable” conditions, the pipeline was insulated, jacketed, and installed above ground, supported by Vertical Support Members (VSMs).

Source: R Black, APSC
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Wildlife that lives along the pipeline route includes moose, caribou, grizzly bears, Dall sheep, foxes, ptarmigan, wolves, polar bears, parka squirrels, wolverines, marmots, and musk oxen. Numerous wildlife studies were conducted to evaluate their populations, migratory patterns, and special needs. The pipeline was designed and constructed with those needs in mind.

TAPS Ownership:

BP Pipelines (Alaska) Inc.	46.93%
Conoco Phillips Transportation	28.29%
ExxonMobil Pipeline Co.	20.34%
Koch Alaska Pipeline L.L.C.	3.08%
Unocal Pipeline Co.	1.36%

Trans Alaska Pipeline System Fast Facts

- Built: 1975 – 77
- Cost: \$8 billion
- Length: 800 miles
- Carries: 17% of U.S. domestic oil supply
- Pipeline Diameter: 48 inches
- Crosses: 3 mountain ranges & > 800 streams
- Average Daily Throughput: 993,000 bbls
- Total Cumulative Throughput: 14.3 bbls (1/1/04)

Facts about TAPS

Throughput

- Throughput average (2003): 993,000 bbl/day or 60,833 bbl/hr or 42,583 gal/min
- Travel time: about 9 days
- Average speed: 3.7 mph
- Maximum operating pressure: 1,180 psi

Bridges

- Number of bridges: 13
- Largest bridge: A 2,295-foot orthotropic box girder bridge over the Yukon River. Officially named the E.L. Patton Yukon River Bridge

Vertical Support Members (VMS)

- Number: 78,000
- Frequencies: About every 60 feet
- Depth embedded: 15 to 60 feet (frozen in place through passive refrigeration)

Revised: August 06

Provisions for the Environment

- Special animal crossings: 554 (at least 10 feet high)
- Buried pipeline: 380 miles (4 miles refrigerated)
- Maximum earthquake strength: designed to withstand earthquakes from 5.5 to 8.5 on the Richter Scale

BP Pipelines (Alaska) Inc.

BP Pipelines (Alaska), Inc. (BPPA) has asset stewardship, and serves as a common carrier pipeline company. Pipeline interests include the Trans Alaska Pipeline System (TAPS) (47%), Kuparuk Transportation Co. (38%), Milne Point L.L.C. (100%), Northstar Pipeline System (99%) and Endicott Pipeline Co (68%). BPPA is responsible for:

- Coordination with pipeline operators
- Volume accounting
- Shipper interface

- Tariffs
- Strategy analysis
- Financial reporting
- Accounting/ control
- Management reporting
- Audit coordination
- Technical issues and reviews
- External and community affairs
- DOT coordination
- Plan forecasts
- Risk management
- Health, safety, and environmental coordination
- Common carrier and pipeline law
- Tariff protests
- Pipeline companies' secretarial function
- Regulatory issues
- Prince William Sound spill response
- Special projects
- Liaison with Alyeska and the TAPS Owners' Committee
- BPPA's ultimate responsibility is for ensuring oil is moved safely and efficiently on common carrier pipelines on the North Slope and through TAPS to the Valdez Marine Terminal