

1982-2001: The Yukon Pacific era

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March 14, 2012

Part 2 of 3 of “Searching for a market: The 40-year effort to develop an Alaska natural gas pipeline”

A new project pushed by a new company, Yukon Pacific Corp., revived interest in an Alaska gas pipeline in 1983.

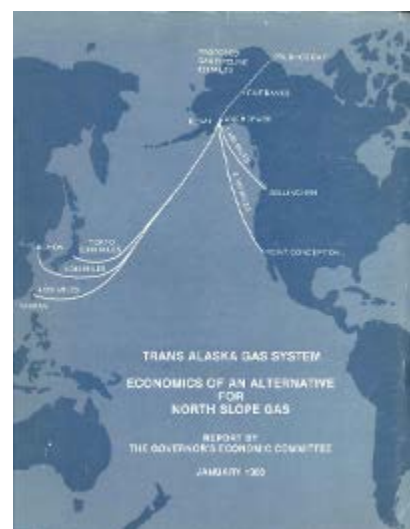
Yukon Pacific was born amid doubts among some Alaskans that the Alaskan Northwest project through Canada would ever break ground – and over their dismay that the El Paso LNG project to California got jettisoned in favor of Alaskan Northwest in 1977.

The first seeds of Yukon Pacific were planted in 1982 as Alaskan Northwest Natural Gas Transportation Co. announced the latest postponement of its pipeline project. Lame-duck Gov. Jay Hammond appointed an eight-person task force to figure out now how best to turn Prudhoe Bay gas reserves into money. North Slope oil had been flowing for five years, and Alaskans wanted to see the natural gas move, too. The co-chairmen were two ex-governors who had been fans of the El Paso LNG project: Republican Wally Hickel and Democrat Bill Egan.

In January 1983, they delivered their new road map for bringing Alaska gas to market. Not surprisingly, it called for an LNG project – a pipeline to the Gulf of Alaska coast, with exports this time to Japan, South Korea and Taiwan, and possibly the U.S. West Coast, but not exclusively the West Coast as El Paso proposed. "It is unlikely that Alaska gas will be economically competitive in a free, uncontrolled U.S. market over the long term," the report predicted.

This export-to-Asia concept dominated Alaska gas pipeline plans over the next 15 to 20 years.

With the task force's work done, Hickel quickly formed Yukon Pacific to push the project ahead. "The window is open now to the Japanese market, but it may not be open for long," Hickel said at the time, a refrain repeated over the ensuing years by LNG champions.



(Hickel held Yukon Pacific stock until 1991, shortly after he became governor again. He faced an accusation – the first ever against a governor under the state's 1987 Executive Branch Ethics Act – that he improperly promoted the LNG project as governor while he owned Yukon Pacific stock. He divested the stock and the accusation was dropped. Hickel remained a brash LNG-project cheerleader until his death in 2010, even offering spirited endorsements of Alaska gubernatorial candidates in 2006 and 2010 who embraced his LNG project while denouncing all other gas pipeline ideas.)

The hope of those who launched Yukon Pacific in the early 1980s reflected the passion some Alaskans have with the LNG idea, a love affair that began with El Paso and continues today.

During the Yukon Pacific era, their optimism pushed aside the idea's Himalayan-sized market challenges and clung to a hope that a successful LNG project could offer Alaska a powerful and lasting economic kick.

WORLD'S LARGEST LNG PLANT

As conceived, the new Yukon Pacific LNG project was similar in size to El Paso's.

The pipeline would span roughly 800 miles, cost \$14.3 billion (1982 dollars) not counting tankers, and it would carry up to 2.83 billion cubic feet a day of natural gas. It would be constructed in phases and, when fully built out, export 1.9 bcf a day (14.5 million tons a year) after consuming some gas during the liquefaction. It would be the world's largest LNG plant.

But besides targeting Asia, the original Yukon Pacific project diverged from the earlier El Paso plan in important ways:

- The pipeline would go from Prudhoe Bay to Nikiski on the Kenai Peninsula southwest of Anchorage, not to Gravina Point near Cordova. Nikiski already was home to a 14-year-old LNG export plant, the only one in the United States, but the new plant would be about 10 times larger. Within a few years, the proposal's terminus shifted eastward to Valdez, so the gas pipeline would run parallel to the trans-Alaska oil pipeline from Prudhoe Bay to tidewater.
- The pipeline could carry the full stream of Prudhoe Bay gas, not just methane but also such gas liquids as propane and butane as well as some unusual ingredients – carbon dioxide and other contaminants usually removed from pipeline gas.



Yukon Pacific at-a-glance

Project: Pipeline from Prudhoe Bay south to liquefied natural gas plant at Valdez, Alaska. LNG shipped by tanker to Asia.

Sponsors: CSX Corp. became majority owner. Other investors included Wally Hickel and Supra Corp.

Capacity: 2.3 billion cubic feet a day

Length: 797-mile Alaska pipeline

Cost estimate (1996): \$18 billion

Source: *U.S. Department of Energy; Yukon Pacific*

The gas liquids would give the pipeline something extra to sell, making it more financially viable. Although extracting gas liquids from the methane at tidewater would be expensive, the liquids could be exported, proponents said, fetching higher market prices than methane gets.

Piping contaminants from Prudhoe Bay is dicier. They're seldom found beyond trace amounts in pipeline gas. Carbon dioxide and hydrogen sulfide, both of which are present in Prudhoe gas, are called *acid* gases because they form acids or acidic solutions and can corrode a steel pipeline when water is present. Prudhoe gas is quite acidic – 12 to 13 percent of the gas is carbon dioxide.

The Alaskan Northwest pipeline project would have removed the contaminants at Prudhoe Bay, before gas enters the pipeline. So would the TransCanada/ExxonMobil gas pipeline proposal currently being worked; once removed at Prudhoe, the carbon dioxide would be injected back into the Prudhoe reservoir to help produce more oil.

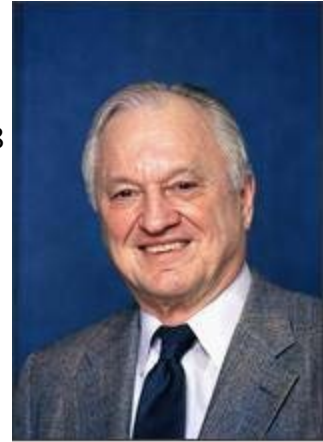
But Yukon Pacific proposed to pipe the contaminants and extract them at Nikiski, where the plant would be cheaper to build. Of course, that would leave unresolved the chore of carbon dioxide disposal. Yukon Pacific had some ideas about that: Sell it to petrochemical plants as feedstock, spike it with other hydrocarbons to produce low-grade fuel, shoot it into nearby Cook Inlet oil fields to scrub out more crude, or vent the gas into the atmosphere "in tall stacks."

PAPERWORK IN ORDER

The Yukon Pacific project percolated along through the 1980s and early 1990s.

The project design was refined somewhat. Besides moving the pipeline terminus to Valdez, Yukon Pacific decided to remove carbon dioxide and other contaminants at Prudhoe Bay after all. The company also scaled back the pipeline volume to 2.3 bcf a day - allowing export of 1.8 bcf a day on average after using some of the gas in compressors to liquefy it.

In 1986 a deep pocket became part owner with Hickel: [Texas Gas Transmission Inc.](#) a subsidiary of Lower 48 railroad and shipping giant [CSX Corp.](#) Texas Gas was quite familiar with Alaska gas pipeline efforts; it once was part of the Alaskan Northwest consortium that pushed the 1970s-era pipeline project. The company dropped out of Alaskan Northwest in 1981 and CSX bought it in 1983.



Former Gov. Wally Hickel
Source: Associated Press

Besides Hickel and CSX, another Yukon Pacific partner was Supra Corp., a venture of Robert O. Anderson, who headed Arco during the Prudhoe Bay discovery.

But Yukon Pacific really became CSX's show. The same year that CSX bought into Yukon Pacific, it also acquired Sealand, a major ocean-going cargo carrier serving Alaska that presumably would haul materials for the LNG project. By 1988, CSX was majority owner of Yukon Pacific. (CSX divested of Texas Gas in 1989 and of Sealand in 1999.)

In 1988, Yukon Pacific obtained a right of way across federal land for most of its pipeline route. That same year, President Ronald Reagan issued a needed finding that exporting North Slope gas would not hurt Lower 48 consumers. The U.S. natural gas shortages of the 1970s were gone – price and pipeline deregulation triggered drilling that found trillions of cubic feet of new gas reserves.

Alaska gas pipeline 1982-2001

1982 – Proposed Alaskan Northwest project along Alaska Highway into Canada postponed. Two former Alaska governors, Wally Hickel and Bill Egan, head state task force to find a pipeline solution.

1983 – Task force recommends 800-mile pipeline to Alaska's Pacific Coast, with LNG exports to West Coast or Asia. Hickel forms Yukon Pacific Corp. to develop this project.

1986 – Lower 48 transportation giant CSX invests in Yukon Pacific.

1988 – CSX becomes majority owner of Yukon Pacific.

1988-1989 – Yukon Pacific obtains right of way across federal land and federal export authorization. Target market is Asia.

Early 1990s – Yukon Pacific says it has tentative deals with LNG buyers in South Korea and Taiwan but never achieves final contracts.

1990s – LNG prices remain low, averaging \$3.52 per million Btu during decade in Japan, too low to make project profitable.

2001 – As three major North Slope producers look into their own pipeline project to Lower 48, Yukon Pacific slashes staff.

Between 2008 and 2011, Yukon Pacific loses bid to extend conditional right of way across state land, fails to get federal authorization extended for its Valdez LNG plant, and gives up federal-land right of way.

In 1989, the [U.S. Department of Energy authorized](#) Yukon Pacific to export of up to 14 million metric tons of LNG per year (about 1.8 bcf a day) to Japan, South Korea and Taiwan.

Both this export authorization and the presidential finding contained language that cautioned the government wasn't favoring the Yukon Pacific project over a pipeline through Canada. Officials in Canada and executives with Alaskan Northwest had expressed worry that the Yukon Pacific project might kill the Canada line. "The DOE is not dictating that a specific project should be undertaken for developing North Slope natural gas. The approval neither commits any natural gas supplies to Yukon Pacific nor creates any regulatory impediments to other North Slope natural gas projects, including ANGTS (Alaska Natural Gas Transportation System, the Alaskan Northwest-sponsored pipeline through Canada authorized in 1977). Rather, the approval is intended to spur competition to develop North Slope natural gas efficiently, with the marketplace determining the course of development," the DOE order said.

Year-by-year Yukon Pacific obtained the paperwork needed for its LNG project.

But paperwork got the company only so far. It never had gas for its pipeline to carry.

ELEPHANT IN A DOG HOUSE

Yukon Pacific executives often railed at how North Slope producers were stymieing the LNG project by not selling their gas.

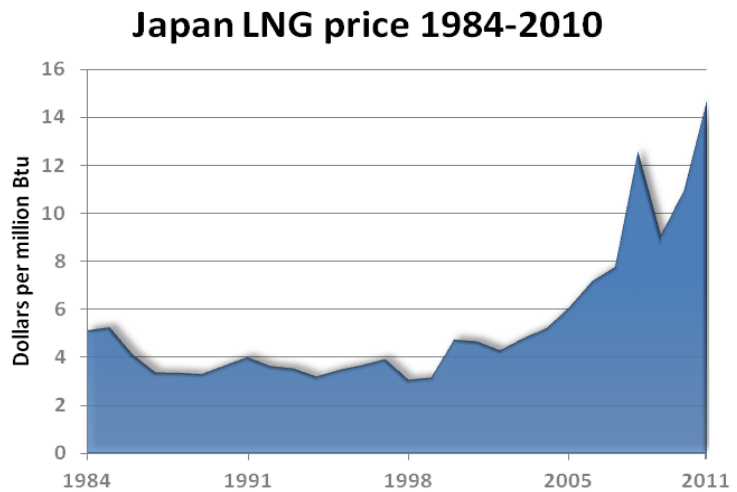
The whole story is more faceted. Natural gas does rise up wells with crude oil. But the producers injected the gas back underground to scour more oil from Prudhoe and nearby fields. This not only was prudent because the gas could be saved for later while coaxing much more valuable oil to the surface. But the practice was mandated by state regulators charged with making sure Alaskans got the highest value for their resources.

Beyond that, Yukon Pacific's project was handicapped by two fatal flaws: It would produce too much LNG and the gas would be too expensive.

Yukon Pacific's project would have exported 14 million metric tons a year of LNG. That was too much for the small but growing LNG market to absorb easily. In 1990, demand from the nine

countries worldwide that imported LNG totaled about 50 million metric tons, according to the International Gas Union. Yukon Pacific would have boosted global LNG supplies by 28 percent. Demand wasn't growing that fast, and other LNG makers were keeping pace by expanding their less-expensive production. Yukon Pacific was trying to stuff an elephant into a doghouse.

Price was another barrier. The Yukon Pacific project called for piping gas 800 miles, superchilling it into a liquid and shipping it to Asia. The Japan price for LNG topped \$5 per thousand cubic feet the year Hickel conceived Yukon Pacific. Hickel's group figured it could hold its costs to \$5.67 to \$7.16 per thousand cubic feet of gas. It forecasted LNG would be priced at \$7.89 in 1988 in Asia, with 3 percent annual price inflation after that. If Yukon Pacific could ward off big cost overruns on its project, everyone would make money.



Sources: BP Statistical Review of World Energy 2011; World Bank

But the Asian LNG price was linked to oil, not inflation. And oil prices were falling. In 1988, the average price in Japan was \$3.34, according to the 2011 BP Statistical Review of World Energy. The price didn't get much higher for a long time. From 1987 through 1999, the LNG price in Japan averaged \$3.47. Other LNG projects in Asia could hit that price and make money. With LNG sold under decades-long contracts, the price risk for buyers was too great and Yukon Pacific's project couldn't complete.

YUKON PACIFIC DREAM FADES

Still, determined optimism defined the public façade of Yukon Pacific executives.

"We agree with the view that the world is awash in natural gas," one said in 1986. "But we disagree with the view that waiting (for gas prices to strengthen) is the way to go. That won't make anything happen."

In 1987, a Yukon Pacific executive hopefully cited new forecasts that annual LNG demand in Japan, South Korea and Taiwan together would swell by 7.5 million to 8.5 million metric tons by the mid-1990s. But even if Yukon Pacific captured 100 percent of that growth, it would



Map of project Yukon Pacific put on promotional materials
Source: Yukon Pacific

have fallen far short of the 14 million tons it needed to sell.

In 1989, an executive said his company was "dealing very seriously" with a South Korea buyer that could buy 3 million tons a year. In 1990 he said he had a letter of intent – a document that precedes a contract – from a Korean buyer for 2 million tons a year with an indication the company might want an additional 2 million.

In 1992, a Yukon Pacific executive said a Taiwan purchaser had signed a "memorandum of intent" for an confidential amount of gas, adding to a tentative commitment from a South Korea buyer for 2 million to 5 million metric tons a year. But the company never could put together a solid deal.

Asian gas buyers and government officials encouraged Yukon Pacific to build the project. A more diverse set of LNG sellers could help give them the reliability of supply they desired while bringing price competition to the market. But encouraging Yukon Pacific was not the same as becoming a customer.

A 1991 article in the Anchorage Daily News outlined the problem: Yukon Pacific would need to sell 8 million tons a year to Japan – about one-seventh of that nation's expected need. "The standard contract is on a 'take or pay' basis, which means once they contract for the gas, they pay for it whether or not they need it. Business leaders here (in Japan) believe their gas market will grow rapidly over the next several years, but they're not willing to bet billions of yen on it just in case they're wrong." The reporter interviewed Tokyo Electric Power Co.'s fuel department chief, who said Japanese companies can buy more gas when they need it from Indonesia, Malaysia or elsewhere, places that can boost their LNG production quickly and cheaply. The Yukon Pacific project was burdened by the cost of building an 800-mile pipeline.

Still Yukon executives persevered. In 1996, they released a study that concluded their LNG export project, now estimated to cost \$18.4 billion, could turn a profit, pour billions in taxes and royalties into the state treasury and result in hundreds of new long-term jobs.

Not so fast, came the chilly response from North Slope producers. Look at the assumptions, they said: The project works only if it can lock in buyers for 30 years willing to pay 12 percent more than 1996 market prices, with the price escalating 3 percent a year after that. A senior Atlantic Richfield executive termed the assumptions "aggressively optimistic."

"It doesn't help the project progress if we're painting an unrealistic picture," he said.

By then, Atlantic Richfield and BP, the two companies that operated the Prudhoe Bay field, were starting to blow life into their own long-dormant hopes for a North Slope gas pipeline.

Those companies were gazing into a future where Prudhoe Bay crude production will have fallen so much that it made sense to start piping some natural gas off the North Slope instead of reinjecting it to produce more oil.

Maybe the market will be ready for a gas pipeline by 2005 or 2010, they said. Possibly it would be an LNG project, they said.

Big oil was sucking the wind out of Yukon Pacific's sails. With its momentum fading the company slashed its staff in 2001 and slowly started packing up.

In 2008, Yukon lost its conditional right-of-way that would let the pipeline cross state land. In 2010, the Federal Energy Regulatory Commission denied Yukon Pacific's request for more time to build an LNG plant. In October 2011, the company gave up its federal right-of-way grant.

Despite Yukon Pacific's demise, LNG fever held strong through the years among certain Alaska leaders.

In 1998, state legislators in Juneau passed the Stranded Gas Development Act designed to provide state incentives to boost prospects of an LNG project. But only an LNG export project; no one else need apply.

The law didn't help; no one asked to negotiate fiscal terms with the state. The LNG dream went on life-support.

But the Alaska gas pipeline project was entering a new phase. The new burst of life came courtesy of the North Slope producers and their resurrected ideas for a pipeline, and a new concern that the nation was running short of natural gas.