

C O S T C O M P A R I S O N --- In-State Pipelines From The North Slope

	A	B	C	D	E	F	G	H	I
	<u>Project</u>	<u>Diam</u>	<u>Miles</u>	<u>Partial Pipeline Cost</u>	<u>\$/in-mile</u>	<u>All-In Pipeline Costs</u>	<u>\$/in-mile</u>	<u>Pipeline Flowrate</u>	<u>Tariff Proxy</u>
		(inch)		(millions)	(k \$)	(millions)	(k \$)	(mmscfd)	(\$/mcf)
1	ASAP - Parks	24	754	\$3,929	217	\$5,618	310	250	9.24
2	ASAP - Richardson	24	845	\$4,411	218	\$6,308	311	250	10.37
3	Valdez LNG	24	815	\$4,878	249	\$6,976	357	750	3.82
4	Valdez LNG - bigger	30	815	\$6,098	249	\$8,719	357	750	4.78
5	Alaska Pipeline Project	48	815			\$10,700	274	3,000	1.47
6		48	815			\$14,000	358	3,000	1.92
7	Spur Line Added to Valdez LNG	24	+150			\$8,236	350	250	5.89

Format Revised on 03/31/10 -- Original Prepared for ANGDA by Hisey & Heinze on 03/25/10

Explanatory Notes For Cost Comparison Exhibit

(ANGDA Work Product Revised on 03/31/10)

The exhibit was prepared by ANGDA for a meeting with Mr. Swenson and the ASAP project team on March 26, 2010. The simplified calculations and format are intended to illustrate different comparative cost estimate information and to provide some insights on project cost-of-service to Cook Inlet consumer comparisons.

Note: The cost of a North Slope gas treatment facility (\$ billions and ~\$1.50/mscf) is Not Included in any of the costs reported in this exhibit.

Column D:

- Partial Pipeline Costs included delivered pipe cost, effect of terrain & construction season on labor productivity, and general contractor costs; major exclusions are compressor station costs and a contingency allowance.
- Partial Pipeline Costs on Row 1 & 2 are taken directly from the “Stand Alone Gas Pipeline Route Alternative Analysis” report of Mr. Noah dated 9/17/2009 (see page iii of Executive Summary)
- Partial Pipeline Costs on Row 3 & 4 were estimated using the segment analysis of the 9/17/09 Report – Appendix D –and- assuming that the Thompson Pass segment of a Glennallen to Valdez would be as difficult to construct as Atigun Pass in the Brooks Range.

Columns E & G:

- Index of k\$/inch-mile calculated using the Costs in Column D & F respectively. Cost is divided by the product of Diameter (B) and Miles (C).

Column F:

- All-In Pipeline Costs are an ANGDA estimated scaled up from the Partial Pipeline Costs (D) allowing for all the items not included (ie, compressor stations and contingency allowance for items not included in lower detail estimate) using confidential information provided ANGDA as a potential shipper in the All Alaska Pipeline sponsored by TransCanada & ExxonMobil (see attached public information summary from AAP draft FERC open season filing).
- The cost of North Slope gas treatment or the cost of a liquefaction plant & tanker loading in Valdez are not included.

Column H:

- The Pipeline Flowrate assumed for illustrative and comparative purposes reflects the higher probability commercially affordable consumption. In-State residential heat and light at 250 mmscfpd and Valdez export to the Pacific Rim at 750 mmscfpd (5+ mmtpa of LNG).
- While instate gas rates will be determined during an open solicitation the recent “In-State Gas Demand Study” filed by TransCanada contains extensive information on potential gas consumers.
- Flowrate assumptions twice as large would halve the tariff.

Column I:

- The Tariff Proxy is a simplified estimate of a leveled commercial based on a total annual revenue requirement of 15% of the total pipeline costs (F).

Cost/Rate Range & Fuel
Table 1*

Valdez Pipeline			Term (years)	Zone			Total Capex Range	Total PBU-Valdez (Z2+Z3)
				1 - Pt. Thomson	2 - GTP	3 - AK Section		
			In-State			Export		
	Capex Range (\$2009B)		-	0.5 - 0.6	8.6 - 11.2	10.7 - 14.0		20 - 26
Nominal - \$/MMBtu	Negotiated Rate Range	20	0.19 - 0.25	1.54 - 1.97	1.24 - 1.64	1.42 - 1.88	-	2.97 - 3.86
		21	0.19 - 0.25	1.52 - 1.94	1.22 - 1.62	1.40 - 1.85	-	2.92 - 3.79
		22	0.18 - 0.24	1.49 - 1.91	1.20 - 1.59	1.38 - 1.82	-	2.87 - 3.74
		23	0.18 - 0.24	1.47 - 1.89	1.18 - 1.57	1.36 - 1.80	-	2.83 - 3.68
		24	0.18 - 0.24	1.45 - 1.86	1.17 - 1.55	1.34 - 1.77	-	2.79 - 3.64
		25	0.18 - 0.23	1.44 - 1.84	1.15 - 1.53	1.32 - 1.75	-	2.76 - 3.59
		30***	0.18 - 0.23	1.43 - 1.83	1.15 - 1.53	1.32 - 1.75	-	2.75 - 3.58
		35***	0.18 - 0.23	1.42 - 1.83	1.15 - 1.53	1.32 - 1.75	-	2.74 - 3.58
	Recourse Rate Range	25	0.28 - 0.36	2.40 - 3.08	1.81 - 2.38	2.08 - 2.73	-	4.48 - 5.81
\$2009 - \$/MMBtu	Negotiated Rate Range	25	0.14 - 0.19	1.16 - 1.48	0.93 - 1.23	1.06 - 1.41	-	2.22 - 2.89
	Recourse Rate Range	25	0.22 - 0.29	1.93 - 2.48	1.46 - 1.91	1.67 - 2.19	-	3.60 - 4.67
	Fuel	-	0.25%	5.70%	0.40%	0.50%	-	6.20%