

Large-Capacity Trailer Pilot Project

LNG trailers currently in use in Alaska have a capacity of approximately 10,000 gallons. In order to improve the economics of LNG transport via truck, AIDEA participated in a 2015 pilot project testing a larger capacity LNG trailer provided by Western Cascade.

The maximum capacity of the Western Cascade trailer is 13,000 gallons of LNG. However, due to Maximum Gross Vehicle Weight restrictions on Alaska highways, the net capacity allowed to be transported in the trailer is approximately 12,300 gallons. Despite this weight limitation, the lower per-unit cost of delivering LNG using the larger trailer proved to be a viable option to reduce the transportation component of the IEP supply chain.

Titan purchased the trailer used for the trial and ordered three (3) additional large-capacity HEIL units to replace aging trailers in its current fleet. The new trailers were received, and have been put into service. In order to enhance future options to further reduce the cost of transporting LNG, Titan Alaska LNG has requested the new HEIL trailers be configured to facilitate pulling an additional “pup” trailer with each LNG load if this proves to be feasible.

An economic analysis of the cost savings between conventional and large-capacity trailers is as follows.

Large Capacity LNG Trailer Analysis

Assumptions

Trailer Trips Per Year (72 Hours Per Trip)	120
Interest Rate	5%
Amortization Period / Months	84
Trailer Life / Years	15

Variable Cost

	Capacity		MCF Delivered Year	Trucking Cost		Maint. Cost Year	Total Cost Year	Cost MCF
	Gallons	MCF		Round Trip	Year			
Conventional	10000	826	99,120	\$ 2,000	\$ 240,000	\$ 7,500	\$ 247,500	\$ 2.50
Large Capacity	12300	1016	121,920	\$ 2,035	\$ 244,200	\$ 9,500	\$ 253,700	\$ 2.08

Fixed Cost

	New Cost	P&I		Lifetime Fixed Cost		
		Annual	MCF	Total	Trip	MCF
Conventional Trailer	\$230,000.00	\$39,009.60	\$0.39	\$273,067.20	\$ 151.70	0.18
Large Capacity Trailer	\$330,000.00	\$55,970.28	\$0.46	\$391,791.96	\$ 217.66	0.21

Total Cost / MCF	Variable	Fixed	Total
Conventional Trailer	\$ 2.50	0.18	\$ 2.68
Large Capacity Trailer	\$ 2.08	0.21	\$ 2.30

Break Even Analysis

Large Capacity Savings / MCF	\$ 0.39
Differential Fixed Lifetime Cost	\$118,724.76
MCF Delivery Until Break Even	307,954
Round Trips - Break Even	303
Years - Break Even	2.53