

## ***AIDEA PORT OF ANCHORAGE LIQUID STORAGE FACILITY***

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The following pages will discuss benefits of the Alaska Industrial Development and Export Authority (AIDEA) building a liquid storage facility. The concept of this terminal would be that it is constructed by AIDEA and leased to a third party operator. The storage capacity would be leased to various fuel distributors, oil companies, energy trading companies, and end users.

### **OVERVIEW**

In the Attorney General's 2008 Alaska Gasoline Pricing Investigation it was found that the structural characteristics of Alaska's petroleum products market contributed to the unusually high gasoline prices relative to other parts of the country. Indeed, Alaska is very geographically isolated, even more so when it comes to energy. In other parts of the country refined petroleum products can easily move from market to market via thousands of miles of pipelines or coastwise using marine transportation. A great example of this would be putting gasoline into a pipeline in Houston, TX and receiving it in New York Harbor. In this example storage facilities in Houston and New York, as well as the pipeline between those two cities, are fairly open to parties that wish to participate in this trade. These markets would be considered to have ample liquidity. This is a stark contrast from Alaska. To ship petroleum products from Seattle to Anchorage is a difficult task. While products are fairly available in Seattle and other parts of the world, and transportation can be found, storage in Anchorage to receive the product does not exist. This forces us to be reliant upon instate refiners. And there is only one refiner that produces significant quantities of low-sulfur diesel and gasoline. The basic structural characteristic of Alaska's Petroleum Market is very different from the rest of the country.

- There is a lack of liquidity in the Alaska petroleum market.
- There is a lack of available storage and distribution infrastructure to support alternative supply.
- Changes in the maximum sulfur specification for fuels has had a significant impact on product supply.

A large bulk liquid storage facility in Anchorage would help resolve these issues.

### **HISTORY**

Alaskans use three primary sources of liquid fuels: jet fuel, diesel fuel, and gasoline. The product that has the most demand in the state is jet fuel or Jet-A. Jet-A is used for aviation, heating oil, and power generation. The majority of the jet fuel consumed in the state is done so at the Anchorage International Airport. Diesel fuel is used in vehicles, marine applications, power generation, and heating fuel. Gasoline is primarily used in cars, boats, snowmachines, and recreational vehicles.

***AIDEA PORT OF ANCHORAGE  
LIQUID STORAGE FACILITY***

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Demand for gasoline, diesel and jet from the 1990's to the early 2000's was fairly stable in the State of Alaska. The approximate demand (not including the Alaska North Slope) for these products was as follows (Barrels per Day (BPD)):

**In-State Demand**

<i>Type of Fuel</i>	<i>2000's BPD</i>	<i>1990's BPD</i>
Gas	16,000	15,500
Jet	67,000	65,000
Diesel	17,000	16,000

During the 1990's the State of Alaska was a net importer of Jet fuel and a net exporter of gasoline. During the early 2000's refining capacity was increased by all three in state refineries. This led to an in-state balance for jet fuel and additional gasoline for export. In-state production for these time periods was as follows:

**In-State Production**

<i>Type of Fuel</i>	<i>2000's BPD</i>	<i>1990's BPD</i>
Gas	20,000	18,300
Jet	67,000	46,300
Diesel	18,000	16,900

During the 1990's Anchorage International Airport used about 50,000 barrels of jet fuel per day. (The recent peak demand at the airport was over 60,000 BPD.) The balance of the state demand for jet fuel was for military jet fuel, power generation, heating oil, and vehicle use in the winter months.

During the 1990's prices in Alaska remained fairly consistent with the Pacific Northwest. Specifically, a comparison of OPIS (Oil Pricing Information Service) rack prices in Seattle versus OPIS rack prices in Anchorage would indicate a difference in cents per gallon (CPG) as follows:

**Anchorage OPIS Rack Prices – 1990's**

<i>Type of Fuel</i>	<i>CPG Difference to Seattle OPIS Rack</i>
Gas	16.5
Jet	11.3
Diesel	5.7

**AIDEA PORT OF ANCHORAGE  
LIQUID STORAGE FACILITY**

---

In addition, the price differential for jet fuel at the airport was about 5 CPG above Los Angeles in the early 1990's. After the refiner expansions that lead to an increase for in-state production of jet fuel, these differentials dropped closer to 3 CPG.

**FAST FORWARD TO TODAY**

**What has changed?**

In June of 2006 the EPA mandated a shift to lower sulfur fuels. This change effected how refiners produce gasoline and diesel fuel. To produce these new fuels most refiners needed to make significant investments in their facilities. Only one Alaska refinery received such an investment to produce the lower sulfur fuels. The changes EPA mandated in the sulfur level (parts per million (ppm)) for diesel fuel and gasoline in Alaska were as follows:

**Change in Maximum Sulfur Content**

<i>1990's</i>	<i>Max Sulfur (ppm)</i>	<i>Versus:</i>	<i>Today</i>	<i>Max Sulfur(ppm)</i>
Gas	1,000		Gas	30
Diesel	5,000		Diesel	15

These new fuels are called Ultra-Low Sulfur (ULS) fuels. This large reduction in sulfur has also created a large reduction in available in-state production. One example of lost production is that the Prudhoe Bay and Kuparuk facilities on Alaska's North Slope no longer operate at capacity. This requirement is sourced from elsewhere in the state. Presently, only one in-state refiner produces ULS diesel (ULSD). Gasoline produced in-state has also been reduced because of the sulfur mandate by about 3,000 BPD. Additionally, one refiner has discontinued production for its largest crude unit. This means a reduction of about 17,000 BPD of jet fuel produced here in the state.

The impact of lower in-state production on price differentials has been an increase in Anchorage OPIS rack prices versus Seattle OPIS rack prices. Current differentials are as follows:

**Current Anchorage OPIS Rack Prices**

<i>Type of Fuel</i>	<i>CPG Difference to Seattle OPIS Racks</i>
Gas	105
Jet	38
ULSD	110

***AIDEA PORT OF ANCHORAGE  
LIQUID STORAGE FACILITY***

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**LACK OF LIQUIDITY**

In petroleum markets that have sufficient liquidity, differentials are pegged at the transportation cost to move product from one market to another. In Alaska's case, the ability to bring product in from another market is not there as storage is unavailable to bring in a typical parcel (approximately 80 - 300,000 barrels). Storage is not available; thus, no liquidity exists. Current storage for ULSD and gasoline is owned and operated by in-state refiners. Sixty to seventy percent of the storage at the Port of Anchorage is controlled by two of Alaska's in-state refiners. The balance is used by the Airport Fueling Consortium and the United States Military.

The key to ensuring that Alaskans have sufficient energy at prices that change relative to the rest of the world is ensuring there is ample supply available. Current environment regulation mandates that imports are available to meet the demand requirements. Realistically those imports can only be facilitated by the two in-state refiners that control the storage facilities. To attract third-party imports, storage needs to be available for product to be brought in by barges or tank ships.

**SOLUTION TO CREATE LIQUIDITY**

AIDEA works with a bulk liquids terminal operator to develop construction costs and operating costs for a bulk liquids storage facility. Once construction and operating costs are identified AIDEA can go to potential users with an "Open Season" format in which to sell commitments for the facility. Once firm commitments are received AIDEA builds the facility at the Port of Anchorage. This facility would be able to receive marine or rail shipments. It would be capable of loading ships, barges, rail cars, and trucks. The facility would be leased and operated by a terminal operator for all companies willing to lease storage space. Potential candidates would include major ANS exploration companies, refiners, distributors, energy trading companies, utilities, and various other end users. Candidates would commit to storage space and sign long-term leases prior to construction. It is anticipated that the facility would have storage capacity between 500,000 barrels and 1,000,000 barrels and cost between \$50 - \$100 million. The facility would be able to handle other products like bio-diesel, methanol, and ethanol as well.

**IMPACT ON EXISTING INDUSTRY**

The AIDEA facility would allow existing refiners, distributors, end users, and others the ability to bring bulk liquids into south central for redistribution to other areas of the state. It provides access for out of state products to enter the Alaska market.

Industries that rely on diesel and gasoline for their business activities have limited options to manage their fuel costs. For the most part these companies rely on one source for their needs, as does the state. The AIDEA facility would allow for some options to meet these requirements.

***AIDEA PORT OF ANCHORAGE  
LIQUID STORAGE FACILITY***

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**SUMMARY**

An AIDEA supported bulk liquid storage facility would change the basic structural characteristic of Alaska's Petroleum Market to be more in line with the rest of the country. This additional storage in Anchorage will facilitate a re-balancing of supply and demand as was the case in the early 2000's. The project as a whole will also increase the liquidity in the Alaskan petroleum products market and lead to Seattle - Alaska rack pricing being more in line with the historical averages