

# GETTING FUEL FROM THERE TO HERE.

**The challenges. The costs.**



**CROWLEY®**

# Up to the Challenge.

For more than 50 years, Crowley has been responsible for delivering millions of gallons of fuel to Western Alaska communities on an annual basis. Each year Crowley is challenged with orchestrating one of the most complicated fuel delivery systems in the nation. These locations are a long way off the Alaska road system, situated on the coast or on inland rivers and lakes. The challenges vary from site to site. It is a capital-intensive business with a short delivery season dictated by the constraints of bad weather and a harsh operating environment.

In the best of times, there is a four-month delivery season for Western Alaska starting in Bristol Bay and working north. The Arctic season is even shorter. Typically Crowley is able to transfer about 45 million gallons of fuel to its own terminals and its customers' tanks before ice shuts the barging operations down. The goal is to put enough fuel into inventory to last until the next spring or summer. This is a sizable investment with a carrying cost to Crowley as the fuel product is sold throughout the winter months.

While the initial fuel cost is based on the wholesale market price on the date the fuel is purchased from the refinery, there are additional factors that impact the cost of getting the fuel to rural Alaska markets. Ultimately, it is the sum total of raw product and refining costs; local fees, taxes and regulatory costs; storage costs; overhead and marketing costs; and transportation and distribution costs that impact the final price of fuel to our customer.

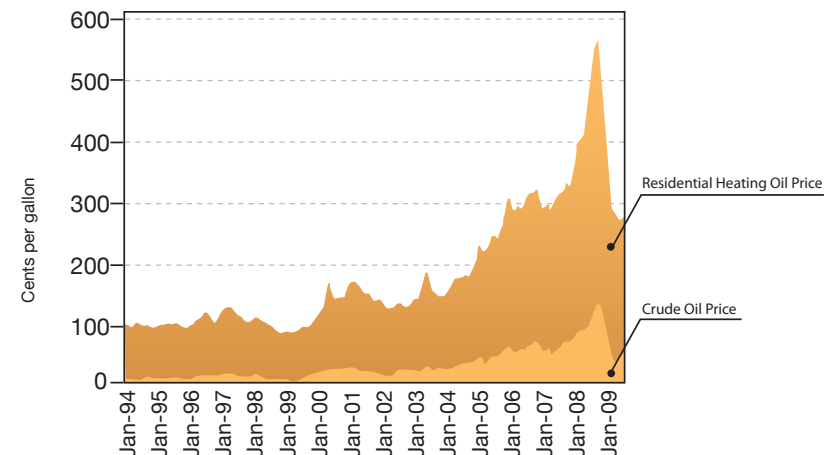
This brochure addresses the challenges and costs of delivering fuel in Western Alaska. It explains the many variables that go into distribution, fuel cost and the structure of the market. At Crowley, we believe it is important that our customers are knowledgeable about the fuel distribution process and hope that this overview is helpful.



## Why Heating Oil Prices Fluctuate

- Wholesale market price changes daily determined by worldwide supply and demand.
- Crowley's cost of the fuel is based on the wholesale market price on the date the barge loads at the refinery.
- Transportation costs vary by region. It usually costs more the farther a delivery location is from Cook Inlet, where most barges load. Deliveries to inland river points require transfer of fuel to a smaller barge for the final delivery, adding more cost. Some locations have difficult barge landings affected by tide that simply take longer, affecting cost.
- Taxes and fees vary by community.
- Weather affects accessibility. When low river water levels prevent barge deliveries, fuel may have to be flown into a community, usually at a much higher cost than barge delivery.

Heating Oil Prices Follow Crude Oil Prices, 1994-2009



Source: Energy Information Administration, *Petroleum Marketing Monthly* (January 1995 to present).



# Western Alaska FUEL Logistics

## Refining

Refiners create refined products such as heating fuel from crude oil.

## Purchasing

Crowley purchases fuel from the refineries at the current wholesale market price. Wholesale purchases are indexed to major markets such as Seattle and Los Angeles.

## Storage

Fuel is put into a tank farm at the regional terminals or fuel hubs. Crowley carries the cost for the stored fuel until the customer pays for it.



## Transportation/Distribution

Crowley transports fuel from refineries in Cook Inlet or other sources to Western Alaska via linehaul barges (large ocean-going barges) and then transfers the fuel onto shallow draft lighterage barges (small coastal barges) for final delivery to regional terminals or fuel hubs.



## Transportation/Distribution to Villages

Fuel is transported by small shallow draft tugs and barges to community tanks and tank farms. The majority of villages do not have docks and to make the delivery the fuel barges must be grounded on the beach. Sometimes villages do not have fuel headers at the beach and a truck must be used to transport the fuel from the barge to the communities' tanks.



## Sale

Local tank farms/terminals sell to their customers.



# HEATING OIL COSTS

Heating oil costs are determined by many factors such as the cost of the raw material (crude), how much it costs to refine, taxes, and transportation just to name a few. Costs are broken down by percentage below:

## Overhead Costs – 9%

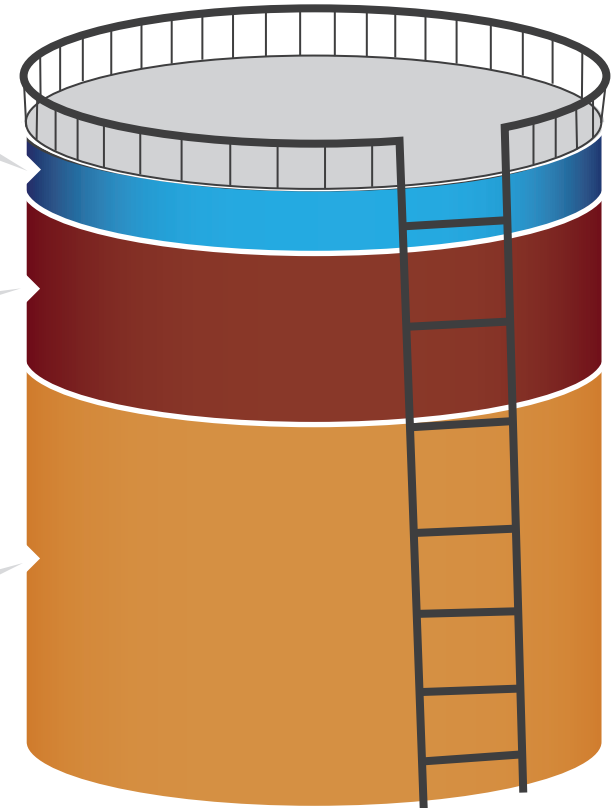
Overhead and marketing costs include indirect costs such as utilities, payroll, employee health benefits, etc., as well as a margin of profit. Fees include sales, dock and throughput fees. These additional costs generate income for the communities that are serviced. Each community has a different fee structure that impacts the price of heating oil. Other costs that fit into this category are taxes and regulatory compliance costs associated with the Alaska Department of Environmental Conservation (ADEC), Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Department of Transportation (DOT), and United States Coast Guard (USCG).

## Distribution Costs – 29%

Transportation and distribution costs increase the farther the community is from the refinery, which is one reason delivered prices vary so much in Western Alaska. The shallow water locations of Western Alaska require transportation with specially designed shallow-draft vessels. Insufficient or non-existent docking and off-loading facilities increase time, safety and environmental risks, which increase costs as well. And, inventory carrying costs are incurred by holding the inventory in storage tanks over the winter season or until sold.

## Product Costs – 62%

Crude oil prices are determined by worldwide supply and demand. Changes in the price of crude oil affect the price of heating oil. Refineries separate the crude oil into useful substances (gasoline, gas oil, kerosene, jet fuel, etc.). Costs incurred at refineries include equipment, maintenance, labor, fees, etc. These costs are passed along to companies (like Crowley) who purchase the products.



## Ways to Limit Fuel Costs

Many of the options listed are directly related to saving time during the delivery process. The longer Crowley spends at a location and the more times the fuel is transferred, the more costly it can become. Crowley is doing everything it can to create a more efficient fuel distribution network, including investing in new tugs and double-hull barges specially designed for Alaska work. Investment in port or community infrastructure, and improving ports, harbors and river routes by federal, state or local government agencies would help reduce costs further. For example:

- **Dredging:** In select locations, dredging would permit barges to carry more fuel, resulting in fewer trips and/or less time waiting for tides. Crowley could get the work done faster and more efficiently, reducing cost.
- **Port development:** Building docks or beach tie up points would increase efficiency and reduce risk.
- **Community tank farms:** Consolidating fuel deliveries with a common transfer header would increase efficiency by eliminating multiple deliveries within the same village.
- **Timely applications:** The sooner that customers book their fuel orders, the more efficiently Crowley can plan its work. Many communities participate in bulk fuel loan programs, or other government assistance programs, in order to be able to finance their large once-a-year fuel purchases. Streamlined application procedures and a consolidated application process for all agencies would expedite approvals and allow Crowley to create a more efficient delivery system.



## Crowley Services

We understand the importance of fuel to our customers and we try to assist in any way we are able to help cut down on costs, expedite the application process and protect the environment.

Some of the things we are doing to help:

Facilitating bulk fuel loans and educating customers about the loan process

Administering the Energy Assistance program and CITCO Energy Assistance program

Replacing the Western Alaska fleet with double-hull barges. This is above and beyond current regulations as it's the right thing to do for the safety of the environment and to protect the way of life in the communities we serve

For more information, call 1.800.977.9771.