Alaska Rural Communities
ADEC Draft Recommendation for a Transition Plan to Ultra Low Sulfur Diesel

The Alaska Department of Environmental Conservation (ADEC) recommends rural Alaska transition to ultra low sulfur diesel through a market-based approach. This recommendation is for the areas of Alaska not accessible by the Federal Aid Highway System. The area includes portions of the state not connected by road to the Lower 48 through Canada, nor port communities with drive on/drive off Alaska Marine Highway service.

A resident of this area of Alaska will be responsible for obtaining ultra low sulfur diesel if they buy a 2007 and later model year diesel truck or bus. ADEC may recommend a different approach if a study shows a health impact to rural Alaskans from exposure to diesel exhaust concentrations found in villages. The ADEC plans to assist in a health study and economic analysis over the next three to four years.

A market-based approach includes the following elements:

- The need to buy ultra-low sulfur diesel would only occur when a 2007 or later model year diesel truck or bus is brought into a community.
- There is no deadline to convert all diesel powered vehicles to ultra-low sulfur diesel.
- At a point in the future, the cost of ultra-low sulfur diesel should be competitive with higher sulfur diesel fuel, allowing an easier transition.
- Maximum flexibility for rural communities and Tribes to comply with the fuel rule as dictated by the community's own priorities, concerns and economics.
- Documentation of fuel shipments of ultra low sulfur diesel to rural Alaska will be necessary so that consumers can verify they are getting the fuel needed for proper operation of their vehicle.

Appendix – Supplemental Information

Ultra low sulfur diesel rule implications on the rural Alaska diesel market

Alaska refiners rely on the jet fuel market. The motor fuel market in Alaska is only about 5% of the total diesel fuel market. Consequently, there is little incentive to convert Alaska refineries to produce the new cleaner diesel fuel. By comparison, refiners in the lower 48 states will convert their refineries to make the ultra low sulfur diesel because the motor fuel market is as much as 45-50% of their diesel market.

Further, fuel storage and barge infrastructure in rural Alaska are currently designed for one grade of diesel fuel. Jet fuel is distributed, downgraded, sold, and used as diesel #1 because it meets arctic specifications. The efficiency and cost effectiveness of this system is further disincentive to introduce a small volume of a specialty fuel.

However, unless a rural community prohibits new diesel vehicles, a market demand for the cleaner diesel fuel will be created. The market demand will be small, as there are only a few diesel vehicles in rural Alaskan communities. By comparison, diesel used for electrical power generation and heating is probably 98+% of community demand. Some argue that, even with the small demand, distributors will eschew modifying barges or adding tanks and will switch the diesel fuel stream entirely to ultra low sulfur diesel. If so, all sources in the village would burn ultra low sulfur diesel. This scenario would be true in some villages, but not all. Many villages would still have to import Jet A for use in airplanes.

Lower 48 and Alaskan refiners will still make jet fuel for the aviation market. There is and will be a strong demand for aviation jet fuel in Alaska – primarily in Anchorage and Fairbanks, but also in rural hub communities with jet service. Consequently, jet fuel serving the non-aviation market as diesel #1 and the new ultra low sulfur diesel will be available to meet market demands for vehicles, power generation and space heating.

Therefore, it is not a forgone conclusion that ultra low sulfur diesel fuel will be the only diesel fuel available in Alaska in the future. For this reason, conducting health and

economic analyses will be important fact finding efforts related to diesel fuel choice for each of the uses of diesel fuel.

Community choice

Because more than one fuel will be available, communities and fuel distributors are going to have to make a choice. Will the community import one or two grades of diesel fuel? Communities with jet aircraft service and on-highway diesel trucks will have to handle at least two grades of diesel fuel. However, a community without a need for jet aircraft fuel may choose to use only one fuel type – the ultra low diesel must be used for new vehicles and could be used for all other diesel fuel fired equipment. A market-based approach allows a community to bring in the fuel as soon, or as late, as dictated by local priorities, concerns, and logistics. Private citizen acquisition of year 2007 and newer vehicles will likely be the initial and most immediate cause for market demand of the new ultra low diesel fuel.

To make the decision between one or two grades of diesel, communities will likely need a cost assessment for new infrastructure of a two tank system, and indication from marine based fuel distributors about shipping costs for one versus a two fuel option and assess the actual fuel cost differential between current grade diesel fuel and the new cleaner diesel. If DEC's health assessment work indicates a health impact for continuing the existing grade fuel for power generation, then health impact costs should also be considered in the decision.

Researching diesel impacts on health

An economic analysis alone is not enough. Communities need to know if there are possible health impacts that may result from burning higher sulfur fuel. Health studies should be considered in rural Alaska decisions about what fuel should be used in power plants and other applications. The availability of ultra low sulfur diesel may be considered in permit decisions regarding stationary sources. ADEC supports and is seeking funds to perform a health study.