

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION
OFFICE OF THE COMMISSIONER

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Environmental Protection Agency
Mailcode: 6102T
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Washington, DC 20460

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Comments to EPA re: NSPS for Diesel Engines - FR 70(131)

The Alaska Department of Environmental Conservation (ADEC) appreciates the opportunity to provide comments on the Environmental Protection Agency's (EPA) proposed New Source Performance Standard (NSPS) Rule for compression ignition, internal combustion engines. In recognition of Alaska's unique fuel distribution circumstances, EPA's past mobile source rule makings have provided necessary flexibility for Alaska to transition to ultra low sulfur diesel. We trust the same consideration will be given to Alaska's diesel fuel distribution and use characteristics (enclosure) as these new federal NSPS diesel rules are developed.

Alaska supports the use of cleaner burning diesel fuel. However, as noted in our comments and recommendations which follow, the proposed rule may significantly and disproportionately increase the cost of power in rural Alaska and possibly also increase home heating fuel cost. While EPA's cost benefit analysis indicated superior health benefits for converting on-highway vehicles to cleaner diesel fuel and the associated pollution cutting technology, we believe there are several factors unique to rural Alaska that warrant a localized assessment of costs and benefits prior to moving forward with final rules affecting stationary diesel fired sources. We request you perform additional Alaska specific research and analysis before adopting a rule that will affect hundreds of rural Alaska native villages and rural hub communities.

RECOMMENDATIONS:

1) One Step Transition for Rural Alaska in 2010.

ADEC requests that EPA eliminate the requirement to use 500 ppm sulfur diesel fuel between October 2007 and October 2010 in rural Alaska. This change would dovetail with a one step transition to the ultra low sulfur diesel in 2010 that is currently underway for on-road and non-road diesel equipment. Phasing

fuel in different stages, as currently proposed, would create an unnecessary logistical and financial hardship for rural Alaska communities for a relatively small environmental gain. A one step transition to the ultra low sulfur diesel in 2010 will reduce adverse affects to Alaska and provide the following benefits:

- Eliminates the very significant costs and fuel distribution problems resulting from quickly forcing rural communities to switch its infrastructure from a single diesel fuel distribution network, to a multi-fuel system;
- Allows affected communities, fuel distributors, and utilities adequate time to plan, design, fund and upgrade fuel distribution and storage facilities for their community after considering whether to retain an infrastructure based on one grade of diesel fuel (ULSD in the future) or the appropriate design for a two grade fuel system (traditional grade diesel for heat and some power engines with ULSD for affected stationary power engines, mobile and non-road engines);
- Allows adequate time for the fuel market to resolve costs differentials for ultra low sulfur diesel and thereby become more price competitive for rural Alaska communities where diesel fuel costs are already at nationally high levels and are the limiting factor governing individual, community and business economic prosperity;

2) EPA needs to perform Alaska specific cost benefit analysis and participate in a rural diesel health assessment.

Alaska is supportive of efforts that provide for cleaner air for our citizens. However, the substantive air quality benefits of this proposed rule will not be realized for decades since it relies on diesel engine turnover and newer engines being equipped with post-combustion pollution controls. Due to uncertain cost and health concerns, Alaska cannot support the proposed rule without additional Alaska specific cost benefit analyses. The daily well being of rural residents and rural communities relies directly on the ability to generate heat and electricity from hundreds of continuously operating diesel engines. We believe this rule should consider the specific costs and health benefits for rural Alaska. Performing this analysis for Alaska is consistent with Section 111(a) of the Act whereby the Administrator is obligated to determine the best demonstrated technology "taking into account the cost of achieving such [emission] reduction and any nonair quality health and environmental impact and energy requirements." A fundamental and yet unanswered question is whether the existing diesel engines and fuel use in rural Alaska are presenting a health risk due to toxic fine particle emissions from these engines.

While the rule would create slow and steady turnover to superior low emitting diesel engines in rural communities, adoption of the rule will also create an immediate impact on community leaders, fuel shippers, refiners and utilities that must make fuel shipment and storage decisions in the next 2 to 4 years. These community and business leaders will be forced to make fuel grade choices for anticipated community needs 10 to 20 years from now. We believe two types of assessments will be necessary for rural communities to make decisions on fuel choices, storage tanks and marine transport of those fuels. These are: 1) an

economic assessment of the fuel cost differential for ULSD as delivered to rural communities including amortized infrastructure improvement costs, and 2) whether emissions from existing technology engines and fuels cause significant health risks for rural residents.

ADEC requests that EPA:

- Assist ADEC in researching health impacts from diesel exposure in rural areas. EPA has previously provided scientific guidance, but this research will not commence past the pilot stage without substantial new assistance from EPA.
- Perform a cost benefit analysis that considers Alaska's unique situation. This should include a cost assessment for the new infrastructure of a two tank distribution system and the shipping costs for one fuel versus a two fuel option. This cost benefit analysis will be essential for communities to make the decision between procuring one or two grades of diesel.
- In performing cost benefit assessment it will be essential to research and consider Alaskan refinery capacity and the Alaska fuel market conditions for arctic grade ultra low sulfur diesel fuel that is necessary for Alaska's winter conditions.

Health Risk Assessment

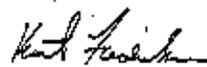
We recognize and appreciate that EPA's past regulatory actions for diesel engines are based largely on reducing urban exposure health risks nearby major highways and school zones where diesel sources are prevalent. We understand the associated health risk is primarily caused by fine particle emissions that have toxic characteristics. Since diesel engines are very prevalent in rural Alaska communities and those exhaust stacks are close to the ground and close to residential dwellings, DEC has a compelling need to learn what the public health risk is to rural Alaskans from this unique exposure profile. We can not simply adjust the results of urban based health studies to our situation. If some action is needed, we believe it would be irresponsible to wait one or two decades for a natural turnover of the engines used in rural power generation. Mandating a quick changeover to retrofit existing engines with pollution control systems may be appropriate if health risks are evident, yet such a change would be a substantive cost impact for most communities. DEC would be quite reluctant to mandate an accelerated technology changeover or suggest that EPA do so without clear medical evidence to warrant this action especially considering that rural communities are already facing the highest electricity rates in the nation.

While DEC has accepted the responsibility to get the answers to this health risk question, we also believe it is within EPA's public health mandate to assist us in applying the best medical science to get answers to these questions for thousands of rural Alaska residents. We are currently executing a pilot study to test scientific methods that may be appropriate for small population based studies. To date, EPA Region 10, via the Section 105 grant funds, has supported our initial phases of this work. Yet, the funding needs for the full study are well beyond current 105 grant fund amounts. We have sought

congressional "earmark" funds for this work through support from our House and Senate delegation, but without success. We request and believe it is EPA's responsibility to do more about this serious and compelling public health issue. Alaska request that EPA secure adequate funds and dedicate its best medical and scientific experts to help Alaska complete this rural Alaska health assessment.

We appreciate your consideration of our comments. Tom Chapple, Alaska's Air Quality Director can assist your staff in further understanding these comments and assist in launching our mutual efforts on the supporting analyses we are requesting.

Sincerely,



Kurt Fredriksson
Commissioner

cc (with enclosure):

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Enclosure

Alaska's Unique Diesel Fuel Distribution, Storage and Use Characteristics

Who's affected in Alaska?

Rural hub communities such as Bethel, Dillingham, Nome, Barrow and others with populations ranging from 1 to 8 thousand residents use large diesel engines to provide local electric power needs. Alaska's 200+ native/rural villages spread over a vast geography use sets of smaller engines, many of which are similar in size to on-road and non-road engines. Rural Alaska villages have populations that typically range from 25 to 400 people. An estimated 500 diesel generators serve rural Alaskan villages.

Alaska's large resource development industries including remote mines, seafood processors, and oil and gas operations also use large and small engines on a routine operational basis for electric power needs. Many smaller generators provide electric power service for remote hunting and fishing lodges, remote B&B lodges, remote camps for timber harvest, and exploration camps for minerals or oil and gas. The U.S. military bases also rely strongly on diesel engines for power in rural and remote site operations.

All of Alaska's diesel fuel users located north of the Gulf of Alaska rely upon seasonal barge service to deliver that fuel once or twice during a summer season. Consequently, they each have very high fuel storage tank capacities to accommodate fuel volumes used from October through May. A typical diesel electric generator set can have an active life of 15 to 30 years if it is routinely maintained and overhauled every several years. Unlike diesel engines used in most states, in Alaska, diesel engines provide mainline service operating continuously every day.

Fuel distribution in rural Alaska

There are limited or no options to rural communities for competitive fuel markets. Fuel distribution in Alaska is controlled by a limited number of suppliers, over an extensive geographic distance, serving many small markets dependent on seasonally restricted barge fuel delivery. Generally, only one grade of fuel is distributed to rural communities or villages once or twice a year, when weather allows. Distributing specialty fuel in small volumes may impact the efficiency and cost effectiveness of this system. Fuel distributors will likely have to determine if they will deliver divided fuel streams or will just distribute one fuel type. Diesel use for power and heating is about 95% of the diesel fuel demand.

Fuel storage and barge infrastructure in rural Alaska is designed to transport and store one grade of diesel. Village residents use fuel from the same tank to run their power generators and heat their homes. Downgraded jet fuel is sold as diesel #1 because it meets arctic grade specifications. There are few diesel trucks in rural Alaska and some villages have none. If this rule were to be adopted, the demand for ULSD will increase over time and may have the

consequence of triggering fuel distributors to switch entirely to ultra low sulfur diesel in 2010 or shortly after. Whichever way distributors or utilities choose, fuel costs will increase due to costs to modify the distribution system or through fuel cost increases at the refinery.

Refinery cost & capacity

Alaska has two refineries that primarily produce jet fuel for use in jet aircraft, on-highway vehicles, non-road, and stationary sources in rural Alaska. There is and will continue to be a strong demand for jet fuel in the Alaska aviation sector. Currently, Alaskan refineries have had little incentive to produce ultra low sulfur diesel for the motor fuel market. How the Alaska refiners will choose to satisfy the demand for ultra- low diesel fuel is still uncertain. There is a potential for a monopoly on ultra low sulfur diesel where one refinery makes the arctic grade ultra low sulfur diesel and sells it to competitors.

Alaskan refiners may choose to leave the motor fuel market, import ULSD, or produce ULSD in-state. The following list identifies several refinery cost and capacity considerations that we believe EPA should consider before adopting a final rule:

- The motor fuel market in Alaska is only about 5% of the total diesel fuel volume;
- Refiners have no incentive to desulfurize Jet A – the primary diesel fuel used in rural Alaska - as requirements to lower jet fuel sulfur content do not appear on the horizon;
- All Alaska communities north of the Gulf of Alaska require arctic grade fuel for winter conditions;
- Following a One Step conversion in 2010, we anticipate that rural diesel demands will be fulfilled by a combination of jet fuel serving the non-aviation market as diesel #1 and ultra low sulfur diesel available to meet the needs of affected sources; and
- If EPA decides to adopt this rule it will significantly change long term volume demands for ULSD which may affect pending decisions by local refiners on how to best meet the Alaska ULSD demands.

Fuel Choice and Availability

If communities and/or fuel distributors/barge lines decide to make a full conversion to ULSD, it will be the only fuel available to use in sources not subject to the proposed rule; unmodified power generators and home heaters. Community residents would likely incur increased heating costs in addition to those incurred through electricity rate changes.

Power Cost and Market Considerations

Power costs in rural Alaska are the highest in the nation. Power in a typical remote village costs an average of 38 cents a kilowatt-hour after state and federal subsidy, according to Alaska's Energy Authority. By comparison, power cost in Anchorage averages 10 cents a kilowatt-hour. The cost of fuel is the dominant factor governing electric utility rates in rural communities. During the

past several years, state financial assistance to rural power utilities via the Power Cost Equalization program has been decreasing while overall fuel costs have been rising dramatically of late. To partially counteract these cost increases, rural utilities and other fuel users have aggregated their fuel needs when seeking bids for fuel delivery. In some cases numerous communities buy fuel in large lots to obtain competitive price quotes.

Whereas we are ill equipped to predict the amount of the cost increase for ULSD in comparison to the traditional diesel fuel used in rural Alaska, we believe the following factors will affect the price of ULSD and request EPA to consider these factors in its cost benefit assessment.

- The benefits of cost leveraging made possible through community procurement aggregations may be lost or dramatically decreased due to the demand for arctic grade ULSD as only a few suppliers may be able to supply the needed fuel.
- Marine shipping and land based storage infrastructure changes will likely result in additional costs increase in comparison to other areas of the country.
- The resulting monopoly over arctic grade diesel could result in lower competition from suppliers and elevated costs.
- Fuel costs will likely increase due to cost increases at the refineries to produce relatively small volumes of arctic grade ULSD.
- If rural Alaska communities make an across the board decision to retain a one fuel infrastructure – converting entirely to ULSD – cost increases may be partially mitigated due to volume increases and limited changes to infrastructure.