HJR

47

Alaska State Legislature

HOUSE COMMITTEE ON COMMUNITY AND REGIONAL AFFAIRS

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House Joint Resolution 47
Sponsor Statement

The Environmental Protection Agency (EPA) recently established a rule, effective in 2006, to reduce air pollution and related health and air quality impacts from large trucks and buses. In 2006, diesel trucks and buses must use diesel fuel containing 15 parts per million (or less) sulfur. Model year 2007 diesel trucks will require new emissions control equipment specifically designed to use only this type of fuel. This means most road diesel fuel used in Alaska in the future will, by rule, be ultra low sulfur diesel.

The financial and logistical consequence to rural Alaskans is significant with this change of diesel fuel types. An increase of 20 to 45 cents per gallon is expected. A greater fuel requirement is necessary with a decrease in fuel efficiency or fewer BTU's generated.

The effects extend to the Alaska trucking industry, whereby freight transport costs will rise.

Electrical companies testified that varying grades of diesel fuel would become increasingly difficult to obtain for existing systems.

Fuel transportation, delivery and storage systems in rural Alaska are generally capable of handling no more than one discrete diesel fuel type. Barges will need retrofitting and tanks in fuel farms cleaned.

One Alaska refiner expected a retrofit to cost $100 million to produce the new fuel. The cost associated with this retrofit is not financially feasible when only 5% of the diesel refined in Alaska is used on the road. Thus, production of ultra low sulfur diesel fuel is not likely in Alaska. Any ultra low sulfur diesel fuel used in Alaska will, by necessity, be imported from lower 48 refineries.

While the federal rule is designed to address environmental health and air quality issues in urban and populated areas, it has severe economic implications in rural Alaska. Most of those testifying acknowledged ultra low sulfur diesel fuel will eventually be used throughout Alaska, but believe implementing the rule in 2006 is onerous.

The House Community and Regional Affairs Committee introduced HJR 47 to address Alaska's concerns with the effective date of this new federal rule. It asks EPA and the Department of Environmental Conservation to give Alaska maximum flexibility in implementing the new rule.

Alaska Department of Environmental Conservation

Press release

April 1, 2002

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Ultra low sulfur diesel fuel

DEC announces it will follow "national plan" for transition to ultra-low sulfur diesel fuel for heavy-duty trucks and buses in urban Alaska.

Alaska Department of Environmental Conservation Commissioner Michele Brown today announced that Alaska will follow the national plan proposed by the U.S. Environmental Protection Agency for the transition to ultra-low sulfur diesel fuel for heavy-duty trucks and buses in urban Alaska. DEC will request an extension to June 13, 2003, to submit recommendations to EPA on how best to transition to the fuel in rural Alaska in order to hear from more people in rural Alaskan communities. Alaska has not and will not ask for an exemption from the 15 parts per million (ppm) sulfur standard for road use diesel fuel.

In December 2000, EPA finalized a rule reducing sulfur emissions of diesel to no more than 15 ppm for heavy-duty trucks and buses. DEC's decision for urban Alaska means that between 2006 and 2010, at least 80% of the diesel Alaska refineries or importers produce or import for road use must be ultra-low sulfur (15 ppm) and the remaining 20% must be 500 ppm or less. By 2010, 100% of the diesel for road use must be ultra-low sulfur fuel.

Alaska had the option of developing its own plan to meet the 15 ppm standard, including extending the date, but chose the national plan for communities on the Alaska road system connected to the contiguous states and the larger communities on the marine highway system in order to improve air quality.

Use of lower sulfur diesel fuel will have important health benefits by significantly reducing emissions of fine particulate matter and other pollutants. The emission controls in new vehicles will reduce particulate matter and nitrogen oxide gas emissions by up to 90%.

New medical research shows convincing links between health and pollution exposure from diesel vehicles. Diesel engines are a significant source of nitrogen oxides (NOx). Exposure from diesel exhaust can cause human respiratory problems, haze, and nitrate deposits that upset the fragile nutrient balance in lakes and rivers. Particulate matter, particularly from fuel combustion, is linked with many significant health problems, from aggravation of asthma to premature death. Recent studies also indicate diesel particulate as a potential cancer risk.

"Although we have fewer large trucks and buses in urban Alaska than in other areas in the U.S., these trucks still rumble down our roads, and children still ride on school buses," said Commissioner Brown. "Using ultra-low sulfur diesel will reduce air pollution from large diesel trucks and buses, and consequently reduce the risk of cancer, asthma, and respiratory illnesses."

The federal rule requires new emission control equipment in model year 2007 heavy-duty diesel trucks and buses with a gross vehicle weight rating greater than 8500 pounds. Ultra-low sulfur diesel is necessary for the operation of the new emission controls. Engine manufacturers have decided to configure all diesel vehicles, regardless of size, to run on ultra-low sulfur diesel. Using fuel with a higher sulfur content could cause engine damage, loss of warranty, and federal penalties. Following the national plan in urban Alaska will ensure the fuel these vehicles need is available. Older diesel vehicles should not be adversely effected by using the new fuel, although vehicles made before 1990 may need fuel additives to run efficiently.

Rural communities, tribal leaders, and others in rural Alaska have asked for more time to develop an implementation strategy that addresses emissions for non-road sources and protects rural communities from higher home heating costs. Many Alaskan villages are dependent on diesel for power generation and home heating, which are not addressed in the national rule. The additional time will allow rural communities and Tribes to evaluate village infrastructure to accommodate the new fuel, subsidies and incentives, power generation facility upgrades, and health risks from exposure to diesel power generation. DEC is committed to providing maximum flexibility for Tribes and rural communities to comply with the new fuel rule or to work toward converting to 15 ppm earlier than the rest of the nation, if they choose.

More information is available on our website at
http://www.state.ak.us/dec/dawq/aqi/ultralowsulfur.htm

You can also contact Clint Farr, at 907-465-5127.

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We welcome your comments: Tell us how DEC is doing
AND tell us about this website (website@envircon.state.ak.us)

STATE OF ALASKA

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DEPT. OF ENVIRONMENTAL CONSERVATION

OFFICE OF THE COMMISSIONER

April 1, 2002

Jeffrey R. Holmstead, Assistant Administrator
Office of Air & Radiation
U.S. Environmental Protection Agency
Ariel Rios North Bldg. MC 6101A
1200 Pennsylvania Ave., NW
Washington, DC 20460

Dear Mr. Holmstead:

On behalf of Alaska Governor Tony Knowles, I enclose Alaska's Transition Plan for Ultra Low Sulfur Diesel Fuel developed pursuant to 40 CFR Part 69.51.

Alaska is a unique state. Our fuel distribution system and small number of on-highway sources make transition to ultra low sulfur diesel fuel more complicated than in other parts of the United States. We appreciate EPA recognizing this and offering the opportunity to develop a plan that works for all Alaskans.

Development of this plan included a number of meetings with road system, rural, and Tribal stakeholders. We believe we were able to interact with a good cross section of people and interests. However, we also believe that more time is needed to hear from Tribes and rural Alaskans.

We are proposing adherence to EPA's "National Plan" for areas of the state on the contiguous road system connected to Canada, and those communities on the Alaska Marine Highway System that have regular drive on and off service. Health based considerations tip the scale in favor of adopting this plan.

For Tribes and rural Alaska communities outside the road and marine highway system, preliminary indications suggest support for a market driven approach. We have undertaken an extensive outreach effort to rural communities, but it is a lengthy process due to seasonal and cultural considerations and logistical challenges. Despite our efforts, we have not yet completed our consultation. Tribal and community representatives have stressed the need for more time to review the rule and its potential impacts. Further, some Tribes believe there was not sufficient consultation with the EPA during the rulemaking process. Consequently, our proposed plan includes additional time to consult and address the factors unique to rural

Alaska. In consideration of these concerns from Tribes and other rural residents and our unique fuel distribution system in rural Alaska, we request EPA work with the state in consultation with Tribes over the next year or so to finalize the details in Alaska's transition plan for rural Alaska.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Michele Brown
Commissioner

Enclosures: State of Alaska Transition Plan to Ultra Low Sulfur Diesel

cc: Richard Babst, U.S. EPA
Paul Machiele, U.S. EPA

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

1. **Rule Development and Health Based Justification**
   - In December 2000, EPA finalized a rule reducing emissions of particulate matter (PM) and nitrogen oxides (NOx) from 2007 and newer large trucks and buses.
   - To achieve these reductions, manufacturers must install after treatment devices that require use of ultra low sulfur diesel fuel (15 parts per million (ppm) or less sulfur).
   - Operators of heavy-duty diesel trucks and buses will have to use ultra-low sulfur diesel or risk engine damage, loss of warranty, and federal penalties.
   - Why this rule? There will be improved air quality with use of the new fuel - the new vehicles will have up to a 90% reduction in PM and NOx emissions.
   - Particulate matter may exacerbate asthma, cause lung cancer, or increased mortality.
   - Nitrogen oxides are an ozone precursor. Ozone is implicated in respiratory illness.
   - Particulate matter and nitrogen oxides contribute to haze formation.

2. **Economic/Distribution Impacts**
   - Fuel will cost more.
   - EPA estimates ultra-low sulfur fuel to cost $0.05 more in the lower-48. Costs to Alaskans –especially rural Alaskans - will likely be higher due to distribution logistics. **Note:** Fuel may have to be imported due to high costs of in-state production. May be difficult to find 15 ppm sulfur diesel meeting arctic grade fuel specifications.
   - Tankage systems to separate 15 ppm sulfur diesel from other fuels may be expensive.
   - 15 ppm sulfur will have approximately 3% less energy (BTU's) per gallon, leading to a loss of efficiency (this is especially important if used in power generation).
   - If this fuel is used universally, costs also will increase for such things as home heating or power generation.
   - Use of 15 ppm sulfur diesel in 2006 and older vehicles should not cause impact. However, some indications that 1990 and earlier vehicles may need additives to avoid leaking pumps and lubricity problems.

3. **Options to Transition to Ultra Low Sulfur Diesel Fuel**
   - Only 5% of diesel fuel used in Alaska is destined for on-highway vehicles compared to approximately 40% in lower-48.
   - Due to unique environmental, geographical and economic costs documented in exemption to previous fuel regulations, EPA approved flexibility for Alaska to develop a transition plan specific to Alaska for the new 15 ppm fuel.

   ➢ **National Plan**
   - At least 80% of on-highway diesel as 15 PPM sulfur and no more than 20% on-highway diesel as higher sulfur.
   - 100% 15 PPM sulfur diesel by 2010.

   ➢ **Market Based Phase-in Plan**
   - Fuel provided based on market demand – lower percentage of the fuel in the early years (2007, 2008).
   - In state refiners may not be able to provide the fuel.
   - The percent 15 PPM diesel increases each year.
   - Timeline for 100% 15 PPM sulfur diesel may extend past 2010.
   - There would be a goal of 2010 to transition diesel vehicle fuel supply to ultra low sulfur diesel.

   ➢ **Buy the Truck – Buy the Fuel Market Based Approach – Rural only (off the contiguous road system)**
   - Allow community to use uncontrolled (>500 PPM) diesel until:
     - A 2007 or later diesel vehicle is imported, and 15 PPM diesel fuel must be imported for that vehicle.
   - Community and community members can decide if:
     - They will buy a 2007 model year diesel vehicle.
     - They will switch all diesel vehicles to the new fuel regardless of model year.
     - The entire community will switch to the new fuel, including power generation.
   - There would be a goal of 2010 to transition diesel vehicle fuel supply to ultra low sulfur diesel.

   ➢ **Mandate for All Fuels**
   - Require all diesel fuel not destined for aircraft to switch to 15 PPM sulfur diesel.
   - This is a regulatory process and may also require legislative action.
   - Retailers/Distributors/Refiners responsible for providing fuel.
   - Cost impacts - incentives and assistance in changeover costs may have to be considered and may also require legislative action.

4. **Status**
   - We have held 3 workshops in Anchorage between April and July to discuss options.
     - Most participants were from urban Alaska.
     - Consensus was not reached.
     - A little over half chose the national plan or something more stringent.
     - Refineries indicated that they would not refine the ultra low sulfur fuel initially.
   - We are currently visiting rural hub communities (e.g., Nome, Kotzebue, Barrow, Kodiak, Dillingham, Bethel, Unalaska/Dutch Harbor)
     - No consensus at this time.

5. **Actions Taken or To Be Taken**
   - On April 1, 2002, we submitted plan to EPA that splits Urban and Rural areas.
     - Urban Alaska - We are recommending areas connected to the contiguous 48 states and major hubs on the ferry system to be subject to the National Plan.
     - Rural Alaska - We are recommending an extra year to further explore the impacts of the new fuel on areas not considered "urban". We express a goal of having rural Alaska transitioned to ultra low sulfur diesel by 2010.
   - Working with the Alaska Native Health Board (ANHB) and the Institute of Circumpolar Health at UAA to develop a low dose exposure study to particulate matter and subsequent health impacts from diesel fuel use in rural Alaska.

6. **Future Impacts**
   - Sulfur must be reduced in gasoline by 2007.
   - EPA is developing sulfur fuel requirements for non-road engines (e.g., road construction equipment, farm tractors, etc.).
   - Vehicle and engine manufacturers indicate that light duty diesel cars and trucks will also need the ultra low sulfur fuel by 2006/2007.

Alaska's Transition Plan to Ultra Low Sulfur Diesel

Summary

Under Federal Regulation (40 CFR Part 80), Alaska may develop and submit for EPA approval an alternative transition plan for implementing the ultra-low sulfur standard. The deadline for submitting an alternative plan is April 1, 2002. The State of Alaska, Department of Environmental Conservation, asks for the incorporation into the federal register of the following components of a transition plan to 15 ppm sulfur diesel for Alaska.

Alaska is a large and expansive state. For this particular issue, Alaskans would be best served by categorizing Alaskan communities into two groups: 1) Communities on the road contiguous with Canada and the Lower 48, and communities regularly serviced by the Alaska Marine Highway System ferry system; and 2) Communities not on the contiguous road or receive limited ferry service.:

- The portions of Alaska serviced by the contiguous road system connected to Canada and the Lower 48 states, and portions of the Alaska Marine Highway System with regular drive-on, drive-off vehicle service on ferries (i.e. Kodiak, Ketchikan, Juneau, Sitka, Haines, Skagway, Petersburg, Wrangell, and Cordova) will be subject to the National Plan.

- For areas not covered by the above description, preliminary indications favor a market-based approach. We are still in the process of gathering input from rural and Tribal communities. We request an extension to June 13, 2003 to consider Tribal and rural recommendations and develop all the components of a rural plan.

- We recommend EPA allow PetroStar refinery fall under the general flexibilities listed in 40 CFR 80.552. We recommend modifications of 40 CFR 80.550 to qualify PetroStar as a small refiner.

- Additionally, we request EPA provide an additional 75 days for Alaska, refiners, and others, to explore flexibilities offered in 40 CFR 80.540.

Urban Program – National Plan:

At this time, Alaska is submitting a plan for the communities of Alaska serviced directly by the road system connected to Canada (and the rest of the US), and the Alaska Marine Highway (i.e. Kodiak, Ketchikan, Juneau, Sitka, Haines, Skagway, Petersburg, Wrangell, and Cordova). The State of Alaska recommends those communities on the connected road system or served by the Alaska State ferry system as identified above will follow the nationwide requirements as laid out in 66 FR 5002.

Rural Program – Unique challenges:

The communities not on the contiguous road system or with periodic and minimal ferry service not identified above may be subject to an alternative plan. This is still under discussion with rural communities.

This past summer the State of Alaska held three public workgroup meetings in Anchorage to discuss transitioning to 15 ppm sulfur diesel. Involvement from Tribes and rural Alaska was low. Our entreaties to join the workshops were not successful. Tribe members and rural Alaskans live a true subsistence lifestyle. The summer is dedicated to harvesting traditional foods, which make up the bulk of Tribal diets. These activities are necessary for survival in terms of nourishment and culture.

To increase involvement of tribal members and rural Alaskans, the State embarked on a series of fall and winter meetings to inform and solicit recommendations about the 15 ppm sulfur diesel requirements and its potential impacts on rural Alaska. The first step occurred at the Bureau of Indian Affairs Providers conference in Anchorage, in October 2001, and at the Forum for the Environment, also in Anchorage, during the week of February 4, 2002. Through these meetings, we established necessary contacts to make travel to the Tribes and rural Alaska a reality.

At this time, we have held meetings with community members in six hub communities in rural Alaska, including Kotzebue, Unalakleet, Nome, Barrow, Kodiak, and Dutch Harbor/Unalaska. Where possible we are tying in smaller villages by teleconference. It is anticipated that those who participate in these hub community meetings will spread the word to additional rural communitie . Idea. y, we would have the time and budget to establish communications and travel to smaller villages.

Rural Alaska posed unique challenges. It is impossible to address mobile sources in rural Alaska without addressing stationary sources. The two sources share a fuel distribution system that has evolved to be as cost effective and efficient as possible. For non-aviation uses, one grade of fuel is distributed to rural Alaska, once or twice a year when weather allows. Village residents use fuel from the same tank to run their power generators, to heat their homes, as well as to run their trucks. There are few diesel trucks in rural Alaska. Some villages do not even have diesel trucks. Modifying the distribution system to accommodate a small amount of 15 ppm sulfur diesel for highway purposes may impact fuel costs for all uses.

Most of the community members express concern with the cost impacts from converting to 15 ppm sulfur diesel. Fuel costs in rural Alaska are already the highest in the country and many believed costs will increase significantly due to distribution logistics. Specific concerns follow:

- Increased costs for fuel segregation - river barges, fuel planes, fuel retailers, and tank farm operators may have to dedicate a tank for 15 ppm sulfur diesel separate from those used to store fuel for home heating and electrical generation.
- A full conversion to 15 ppm sulfur diesel, to avoid fuel segregation costs, may cause operational problems, and may increase costs with home heating and power generation sources because of the price of the fuel and the fact that the ultra-low sulfur fuel produces less energy.

- There are very few diesel trucks and buses in rural Alaska. The health risks and exposures from diesel use in power generation is not known and needs to be evaluated. Without that data, it is impossible to compare the potential cost impacts with the potential health risk from diesel vehicles, which this rule addresses, or from power generation sources.

Initial comments indicate that rural communities and villages tend to favor a market-based approach, which builds upon local choices. Components of a market based approach include:

- The need to buy 15 ppm sulfur diesel fuel for a vehicle would only occur when a 2007 or later model year diesel truck or bus is introduced to the community.
- The goal for the deadline to convert all diesel powered vehicles to 15 ppm sulfur diesel in rural Alaska is 2010.
- At some point, enough sources will need 15 ppm sulfur diesel that a demand will be in place allowing distributors to cost effectively bring only the new fuel into the villages.
- This option offers maximum flexibility for Tribes and rural communities to comply with the fuel rule as dictated by the communities own priorities, concerns and economics. Villages can be more or less stringent than the national plan as they deem appropriate.
- Enforcement can occur with chain of custody documents that will follow shipments of 15 ppm fuel to off-road Alaska. Fuel may be tested at all points along the distribution system.

However, the rural communities do have other options to choose from when deciding how to best switch over to the 15 ppm sulfur fuel. These include the national plan outlined in 66 FR 5002, or a switch of all sources to15 ppm sulfur fuel at once. Additional options may be developed if given additional time.

Extended deadline for Native Alaskan Tribe and Rural Community comments - We need more time to consult with local residents and tribes:

Efforts to consult with and develop a plan for Tribes and rural Alaska communities are still taking place. Distance, inclement weather, and cultural considerations make this a lengthy process.

The villages contacted thus far have expressed an acute need to review the information and further think about the impacts and ramifications of importing 15 ppm sulfur diesel into their community. To date we have received no formal comments on this issue.

For these reasons, we would like additional time to build a solid and appropriate rural transition plan. Under our proposal, the recommendation by the villages will not be requested until May 15, 2003. Therefore, we are requesting an extension to June 13, 2003 to develop and submit to EPA a Rural Plan.

The following subjects should be addressed over the extended submission deadline:

- Explore use of alternative power generation to avoid diesel impacts on power generation in terms of cost and operational characteristics.
- Availability of subsidies to assist in updating village infrastructure to accommodate the new fuel. This may include new tanks, cleaning of existing tanks, barge modifications, engine overhauls, and others.
- Availability of funding to develop projects running 15 ppm sulfur diesel through power generators and other potentially impacted sources in winter weather to determine operating characteristics.
- Possibility of incentives for production of Arctic grade ultra-low sulfur fuel to encourage production and price stability.
- Health studies are necessary to determine if a health threat is present before investing in the new fuel. Rural Alaska residents stated they do realize there are potential health effects from diesel combustion and would like to someday reap the benefits from 15 ppm sulfur diesel, but believe they need more information to evaluate this issue.

- Explore options for a time-certain conversion to 15 ppm sulfur diesel for all diesel vehicles.

Provisions for Small Refiner Flexibility:

The ADEC supports PetroStar's application to be considered a small refiner, as defined in 40 CFR 80.550. We believe PetroStar should be subject to the provisions given qualified small refiners in the national rule. PetroStar operates small refineries in North Pole and Valdez. Its size puts it at a cost disadvantage to larger refiners in modifying their facilities with current desulfurization technologies. However, under 40 CFR 80.550, PetroStar may not qualify as a small refiner due to the number of employees in its parent company. The parent company is the Arctic Slope Regional Corporation which has diversified holdings, most of which are unrelated to oil refining. PetroStar has taken the initiative to explore less costly desulfurization technologies than those currently available. In consideration of its size and current efforts to advance desulfurization technologies, the ADEC believes PetroStar should receive the flexibility available under the national rule for similar operations.

The State of Alaska recommends EPA allow PetroStar the general flexibilities listed in 40 CFR 80.552. We recommend modifications of small refiner qualifications discussed in 66 FR 5074-5075 to allow PetroStar's inclusion into small refiner status:
- Extend to December 31, 2002 the deadline to apply for small refiner status.
- Modify refiner size criteria to consider the size of PetroStar's parent company, or exclude PetroStar's parent company from small refiner size qualifications.

Provision for an additional 75 days for Alaska, refiners, and others, to explore the refiner flexibility offered in 40 CFR 80.540:

The EPA established the Geographic Phase-in Area (GPA) to allow for less stringent standards for gasoline sold in parts of the Western United States and Alaska (40 CFR 80.215). Alaskan refiners fall within the GPA. There are refiner flexibilities offered in 40 CFR 80.540 that will allow qualified refiners to put off gasoline sulfur standards

from 2007 to 2009 if the refiner produces 100% 15 part per million sulfur diesel in June 1, 2006.

As Alaska's transition plan is written, Alaskan refiners indicate there will be no in-state production of diesel for on-highway use. Alaskan refiners have not been able to evaluate the flexibility for GPA qualified refiners due to the development of this Alaskan transition plan. Now that the State of Alaska's transition plan has been determined, Alaska refiners are able to and need to prepare their plans on the basis of this transition plan.

Therefore, we request EPA provide an additic al 75 days from April 1, 2002 for Alaska to explore this flexibility with the Alaskan refiners and others. After these additional days, a final decision will be made whether the State of Alaska should incorporate these flexibilities into a final Alaska transition plan.