



ALASKA ENERGY AUTHORITY

May 8, 2018

## ATTACHMENT D

Jennifer Keller, Director  
Legacy Fleet and Assessment Center  
Office of Transportation and Air Quality  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., NW  
Washington, DC 20460

### **Re: State of Alaska DERA Implementation Plan, Waiver Request**

Dear Ms. Keller,

The Alaska Energy Authority (AEA) requests the Environmental Protection Agency's (EPA) Diesel Emission Reduction Act (DERA) Program provide waivers for the following items:

1. Reduced mandatory cost-share using 2017 Tribal DERA cost-share requirements for projects benefiting rural Alaska Tribes
2. Replace stationary prime power Nonroad Engines and Equipment with certified Tier 2 & Tier 3 marine engines and low-emission Nonroad engines
3. Provide DERA Program flexibility to reflect unique circumstances for rural Alaska prime power applications
4. Horsepower increases greater than 25% with prior approval from EPA
5. Exceed administrative cost cap due to Alaska's unique logistic and technical support requirements

These requests and Alaska's FY 2018 State DERA work plan comply with 40 CFR 60.4200, New Source Performance Standards (NSPS) for non-emergency stationary diesel engines located in remote areas of Alaska. Our 2018 work plan is similar to the plan approved by EPA for the FFY16 & FFY17 State Clean Diesel program.

Subject to funding levels, AEA will replace up to six diesel engines in power plants in rural Alaska communities not connected to the electrical grid. Small diesel power plants are used for this purpose and many power plants rely on older, higher emitting diesel engines. These programmatic waivers will benefit small, rural Alaska tribal communities.

- 1. Reduced mandatory cost-share using 2017 Tribal DERA 80/20 cost-share requirements for projects benefiting remote areas of Alaska, which are mostly Tribal**

EPA has previously approved using the Tribal DERA cost-share requirements under the 2016 and 2017 Alaska Workplans. AEA requests EPA apply the 2018 Tribal DERA 80/20

cost-share requirement for engine and engine-generator replacement under the FY 2018 State Clean Diesel Grant program for projects in remote Alaska communities for prime power applications.

## **2. Replace stationary prime power Nonroad Engines and Equipment with certified Tier 2 & Tier 3 marine engines and low-emission Nonroad engines**

Rural Alaska communities rely on diesel engines for 24-hour, 365-day per year prime power. Reliability is the first priority in selecting an engine. The diesel engine-generators (gensets) must provide reliable and consistent power to ensure residents health and welfare. Certified Tier 2 & Tier 3 marine engines are reliable, cleaner and provide a significant improvement in fuel economy and reduction in PM emissions compared to older Nonroad engines.

**AEA requests EPA approve the following DERA engine replacements:**

- Cleaner Tier 2 marine engines will replace non-certified, Tier 1 & Tier 2 Nonroad engines.
- Cleaner Tier 3 marine engines will replace non-certified, Tier 1, Tier 2 & Tier 3 Nonroad engines, and Tier 2 marine engines.

AEA also requests EPA approve engine replacements using other Nonroad engines based on a Best Achievable Technology review. These Nonroad engines will be selected based on emissions reductions calculated by comparing the replacement engine manufacturer's published emissions data to the existing engine emissions standard.

## **3. Provide DERA Program flexibility to reflect unique circumstances for rural Alaska prime power applications**

The DERA Program requires eligible engines to:

- i. operate more than 500-hours/year, not be scheduled for replacement within 3-years
- ii. be in service

### ***i. AEA requests EPA approve replacing engines that operate 500-hours per year with a projected remaining service life of 1500-hours***

The DERA program requires an eligible engine to operate more than 500-hours per year and generally not be scheduled for replacement within 3-years. An engine that operates 500-hours per year would operate at least 1500-hours within the required 3-year period. Few small, community owned rural Alaska utilities schedule engine replacements. Rather, engines are operated either until failure or the rebuild cost approaches the replacement cost.

In a prime power application operating 24-hours per day, 1500-hours equates to two-months of runtime (about 62-days). In 2-months of operation, a prime power engine produces the equivalent emissions of a mobile source engine that operates 500-hours per year for 3-years. While the 500-hour per year operating requirement is reasonable for both mobile and stationary sources, the 3-year scheduled replacement is unduly restrictive for a prime power engine. A 1500-hour service life requirement is appropriate for a prime power application and fulfills the emission reduction intent of the DERA program.

**ii. AEA requests EPA approve replacing engines temporarily not in service**

The DERA Program requires an eligible engine to be “in service”. Unlike mobile sources which have only one engine, a prime power diesel plant typically contains 3 or 4 diesel engines. When a mobile source engine is not in service, the mobile source does not produce emissions. However, in a stationary prime power application, an engine is running and producing emissions 24-hours a day, 365-days per year – or the lights are out!

It is not uncommon for one or more power plant engines to be temporarily out of service due to needed maintenance or repair. Under the DERA program, an engine that is not “in service” is not eligible for replacement.

Due to limited funds utilities frequently rebuild an engine or replace it with another non-certified engine. In doing so emissions reductions are not achieved. It is less costly for a utility to rebuild or install a non-certified engine than to upgrade the plant to incorporate a cleaner, more reliable, certified, electronically controlled engine.

The DERA program pays for improvements required to integrate a certified engine into a power plant that otherwise would not occur. The DERA program benefits rural Alaska tribal communities by delivering emissions reductions, in addition to improved plant efficiency and reliability.

Supporting replacement of engines temporarily not in service provides small utilities the funding and incentive necessary to install cleaner, certified engines rather than incur the cost of rebuilding the dirtier engines. It also saves utilities from unnecessarily expending limited resources on an existing engine that will be replaced and destroyed under the DERA program.

**4. Horsepower increases greater than 25% with prior approval from EPA**

EPA has previously approved allowing greater than a 25% horse power increase under the 2016 and 2017 Alaska Work plans. Repowered and replaced gensets will continue to perform the same function as the engines replaced. Certified electronically controlled engines generally have more horsepower per liter than the engine replaced. The DERA replacement engines selected provide the optimum reliability and fuel economy for the prime power application. AEA requests EPA approve horsepower increases greater than 25%.

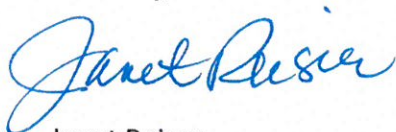
**5. Exceed administrative cost cap due to Alaska's unique logistic and technical support requirements.**

EPA has previously recognized Personnel, Fringe Benefits and Travel costs in Alaska are higher than in the continental U.S. Alaska DERA project sites are rural and accessible only by air or sometimes chartered boat. Staff travel consists of multiple air carriers to get to the project site. One carrier from Anchorage to a smaller hub community, then a much smaller single engine or twin engine commuter carrier to the project community. Once in the community local lodging and transportation are noncompetitive and subject to availability and rates set within the community. Due to these reasons, AEA again requests EPA approve Personnel, Fringe Benefits and Travel costs that exceed the 15% cap.

Implementing our State DERA FFY18 work plan will result in significant emissions reductions and assist financially struggling tribal communities to ensure safe, reliable and cleaner power.

We thank you for your time and consideration.

Sincerely,



Janet Reiser  
AEA Executive Director

Cc: Jason Wilcox, EPA HQ, DERA State Program Lead  
Faye Swift, EPA HQ, DERA National Grant Program Coordinator  
Lucita Valiere, EPA Region 10, Project Officer