

May 26, 2016

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) is requesting the Environmental Protection Agency's (EPA) Diesel Emission Reduction Act (DERA) Program consideration on the following items:

1. Replacement (repower) of non-road engines with certified Tier 2 & Tier 3 marine engines for stationary power generation in conformance with EPA's New Source Performance Standards for Alaska [40 CFR 60.4201 (f)(1)].
2. Horsepower increases greater than 25% with prior approval from EPA.
3. Use of reduced mandatory cost-share requirement from the 40%-EPA, 60%-State, to 75%-EPA, 25%-State, for projects benefiting rural Alaska Tribal people.
4. Use of certified marine Tier 2 engines prior to 2013 for replacement of non-certified or Tier 0 non-road engines.
5. Exceed administrative cost cap because of Alaska's unique logistics.

These requests and Alaska's FY 2016 State DERA work plan are in compliance with 40 CFR 60.4200, New Source Performance Standards (NSPS) for non-emergency stationary diesel engines located in areas of Alaska not accessible by the Federal Aid Highway System.

Our 2016 work plan is similar to the plan approved by EPA, which was submitted by the Alaska Department of Environmental Conservation (ADEC) for last year's FY 2015 State Clean Diesel program.

AEA, as the lead granting authority for Alaska to administer funds from the DERA program for fiscal year 2016, submits our FY 2016 State of Alaska Clean Diesel DERA Implementation Plan in conformance with the FY 2014 - 2016 State Clean Diesel Grant program Information Guide. AEA will administer the State DERA program and utilize the funds the State is entitled to receive under Title VII, Subtitle G, Section 793 of the Diesel Emissions Reduction Program (DERA) in the Energy Policy Act of 2005 (codified at 42 U.S.C. 16133).

AEA will collaborate with ADEC on “electric generator repower” projects that will replace four diesel engines in power plants in the two rural Alaska communities of Golovin and Hughes. Rural communities in Alaska are not connected to the electrical grid and must generate their own electricity. Small diesel power plants are used for this purpose and many of the power plants in these communities currently rely on old technology, high emitting, non-certified diesel engines.

1. Replacement (repower) of non-road engines with certified Tier 2 & Tier 3 marine engines for stationary power generation in conformance with EPA’s New Source Performance Standards for remote areas of Alaska [40 CFR 60.4201 (f)(1)].

The EPA State DERA funds allocated to Alaska will be used to fund replacement of four non-certified engines with Tier 2 and Tier 3 marine engines. Each engine selection is based on the existing application and availability of suitable replacement engines, and complies with NSPS IIII, 40 CFR 60.4200.

Rural Alaska communities rely on diesel engines for 24-hour, 365-day prime power. Reliability is the first priority in selecting an engine. The diesel engine generator sets (gensets) must provide reliable and consistent power to ensure residents health and welfare. Certified Tier 2 & Tier 3 marine engines have proven reliability and performance, and provide a significant improvement in fuel economy and reduction in PM emissions compared to non-certified engines. Installation of certified marine engines with DERA funds will be in accordance with DERA and NSPS requirements.

Following is a proposed narrative for the State of Alaska work plan to address the FY 2014 – 2016 State Clean Diesel Grant Information Guide on *Page 10, VIII. Scope of Work, section C., 6.*

AEA will use DERA funds to repower existing non-certified diesel engines with newer, cleaner engines. The engine repowers will replace antiquated mechanically governed prime power diesel genset engines with newer, more fuel efficient Tier 2 and Tier 3 marine engines. Tier 2 and Tier 3 marine engines are equipped with electronically controlled governors and high pressure common rail fuel systems, which improves performance and reduces emissions. In accordance with DERA cost-share requirements, DERA funds will be used to purchase engines and associated equipment. Equipment includes freight, labor engineering and materials needed to install the cleaner engines and implement required upgrades to interface the engines with the existing power plants cooling, fuel, switchgear and exhaust systems. Where

remanufactured or rebuilt engines are used they will be “certified Tier compliant” by conformance with 40 CFR 1068.120 as explained in the EPA-420-F-12-052 document.

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

Following is a proposed narrative for the State of Alaska work plan to address the FY 2014 – 2016 State Clean Diesel Grant Information Guide on *Page 15, IX. Use of Funds Restrictions, C. Fleet Expansion, 1. and 2.*

AEA requests EPA allow greater than 25% horsepower increase. The repowered gensets will continue to perform the same function as the existing non-certified engines. Due to manufacturer technological improvements such as electronically controlled governors, high pressure fuel system, variable valve timing, higher compression ratios, and multiple valves per cylinder, Tier 2 and Tier 3 marine engines have more horsepower than non-certified engines of the same displacement. The repower engines selected provide the optimum reliability and fuel economy for the prime power application.

3. Use of reduced mandatory cost-share requirement from the 40%-EPA, 60%-State, to 75%-EPA, 25%-State, for projects benefiting rural Alaska Tribal people.

Following is a proposed narrative for the State of Alaska work plan to address the FY 2014 – 2016 State Clean Diesel Grant Information Guide on *Page 10, VIII. Scope of Work, section C., 6.*

The AEA work plan requests to use a reduced mandatory cost-share requirement from the 40%-EPA, 60%-State, to 75%-EPA, 25%-State, for projects benefiting rural Alaska Tribal people. FY 2014 – 2016 State Clean Diesel Grant Information Guide on Page 10, VIII. Scope of Work, section C., 6. specifies a mandatory cost-share requirement of 60 percent for engine repower projects. However, there is precedent of EPA covering more of the cost for tribal projects under the Clean Diesel Tribal Grants Program and last year’s FY2015 state allocation to Alaska. Specifically, the previous Tribal RFP EPA-OAR-OTAQ-15-06 Section III.B specifies a mandatory cost-share of 25 percent for engine repowers under the FY15 Tribal Program. AEA is using the state DERA funds to assist with engine repowers in rural communities in Alaska that are federally recognized Alaskan Native Tribes, AEA intends to use the more appropriate tribal cost cost-share requirement of the previous

Tribal RFP (EPA-OAR-OTAQ-15-06) rather than share specified in the FY 2014 – 2016 State Clean Diesel Grant Information Guide.

4. Use of Certified marine engines prior to model year 2013 for replacement of non-certified or Tier 0 engines.

Table 3 on page 19 of the FY 2014 – 2016 State Clean Diesel Grant Information Guide was changed for FY 2016 by adding “Repowered or Replaced 2013 or Newer Certified Engine”. This change effectively restricts Alaska’s DERA program to using Category 1, marine Tier 3 engines with displacements greater than or equal to 0.9 l/cyl and less than 1.2 l/cyl (Table 1 to 40 CFR 1042.101).

In accordance with EPA’s NSPS rule for remote areas of Alaska, 2014 and newer Tier 3 marine engines require an exhaust diesel particulate filter (DPF). Tier 3 marine engines are not equipped with OEM DPFs. The only Tier 3 marine engine used in rural Alaska prime power applications available in 2013 was the 100 kW John Deere 4045 Tier 3 marine engine. For Alaska rural power plants this effectively limits the availability of these desirable engines to model year 2013. AEA is already having difficulty finding these engines for sale anywhere in the US.

Exhaust after treatment is not yet practicable for rural Alaska prime power applications since:

- Marine engine diesel particulate filters are not available from OEM manufacturers.
- The unproven reliability, high cost, local serviceability, and complexity of aftermarket particulate filters make them unusable in rural Alaska.
- AEA and its contracted professional engineering firms are reluctant to design and install an aftermarket particulate filter that has a very high probability of being circumvented by local operators when it needs service. This would be a violation of EPA regulations and subject those involved to substantial fines and penalties.

Marine Tier 2 engines are available in a wide range of models and horsepower configurations. Emissions from Tier 2 marine engines are the same as non-road Tier 3 engines. Use of both Tier 2 and Tier 3 marine engines meet the intent of the DERA program and comply with EPA’s NSPS rule for remote areas of Alaska.

If DERA funding is not permitted to be used to purchase Tier 2 marine engines, which are prior to model year 2013, many rural Alaska power plants with non-

certified or Tier 0 engines will continue to rebuild their dirty, high emitting engines. They will keep them in service as long as possible by rebuilding with readily available replacement parts before ever considering using the newer model engines with exhaust after treatment.

Following is a proposed narrative for the State of Alaska work plan to address the FY 2014 – 2016 State Clean Diesel Grant Information Guide on Page 19, IX. Use of Funds Restrictions, T. Nonroad Repower/Replacement.

The AEA work plan proposes to use Tier 2 and Tier 3 certified marine engines to replace model year 2003 and 2004 non-certified engines in Golovin and Hughes.

5. Exceed administrative cost cap because of Alaska's unique logistics and technical support.

Following is a proposed narrative for the State of Alaska work plan to address the FY 2014 – 2016 State Clean Diesel Grant Information Guide on Page 17, IX. Use of Funds Restrictions, J. Administrative Cost Cap.

Personnel, Fringe Benefits and Travel exceed the 15% cap by a small margin. They are currently estimated at 16.4% of the project budget. Travel and logistics within the Alaska are unlike other States. The 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. Additionally, AEA's Rural Electric Utility Worker and Warehouse Coordinator estimated hours provide direct support to the sub grants and are not administrative in nature. These positions will be providing skilled technical and logistical support directly in support of the repower project.

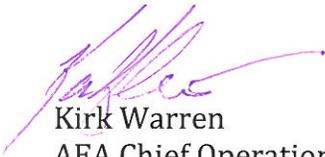
As demonstrated in Alaska's work plan, this repower program results in significant emission reductions. The AEA considers these repower projects to be a priority for the State DERA funding. Power generation in rural Alaska depends on diesel engines, often operating in the center of a village, close to homes, workplaces, and the school. The proximity of power plants to these buildings may pose a health risk to the health of the community and replacing the engines in these facilities with ones that meet more stringent emission requirements will reduce emissions. In addition, improved efficiency will require less fuel, again reducing emissions, and with the added benefit of lowered costs. Use of Tier

2 and Tier 3 marine engines will increase available recovered heat and reduce community space heating fuel consumption and associated emissions. In rural communities, diesel fuel can retail for up to \$10 a gallon. Any savings on fuel is a significant cost savings.

AEA and ADEC believe carrying out the State of Alaska DERA implementation plan will result in significant emissions reductions and assist financially struggling tribal communities to ensure safe, reliable and less polluting power.

We thank you for your time and consideration.

Sincerely,



Kirk Warren

AEA Chief Operations Officer and Project Implementation Director

Cc: Cindy Huang, EPA HQ, DERA State Program Lead
Faye Swift, EPA HQ, DERA National Grant Program Coordinator
Lucita Valiere, EPA Region 10, Project Officer
Cindy Heil, ADEC, Program Manager