

Programmatic Environmental Assessment Diesel Emissions Reduction Act (DERA) Grants Program

Introduction and Background

More than 11 million diesel engines in operation today do not meet the Environmental Protection Agency's (EPA's) new clean diesel standards, yet these engines can continue to operate for 20 to 30 years. Even with EPA's more stringent heavy-duty highway and non-road engine standards taking effect over the next decade, millions of diesel engines already in use will continue to emit large amounts of nitrogen oxides, particulate matter, and air toxics. These emissions are linked to premature deaths, asthma attacks, lost work days, and other health impacts every year.

The Diesel Emissions Reduction Act (DERA), Title VII, Subtitle G (Sections 791 to 797), which was included in the Energy Policy Act of 2005 (EPAct), provides new diesel emissions reduction grant authority for EPA. This funding is used to achieve significant reductions in diesel emissions that improve air quality and protect public health. In response to DERA, EPA created grant and funding programs under the National Clean Diesel Campaign (NCDC) to build on the success of its regulatory and voluntary efforts to reduce emissions from diesel engines. Through this effort, EPA is working to reduce the pollution emitted from the existing fleet by promoting a variety of cost-effective and innovative emission reduction strategies.

The National Clean Diesel Campaign (NCDC) was originally funded under the Clean Air Act (CAA); EPA actions under the CAA are exempt from the National Environmental Policy Act (NEPA). However, since the EPAct does not contain a similar exemption, EPA must now ensure that the continuing action is subject to an appropriate NEPA environmental review. This Programmatic Environmental Assessment (PEA) evaluates the potential impacts of the proposed action and alternatives on the quality of the human environment.

Purpose and Need for the Proposed Action

The purpose of this action is to reduce current diesel emissions which have adverse impacts to air quality and public health. The DERA provides new diesel emissions reduction grant authority for EPA and authorizes priority implementation of projects that accomplish the following:

- Maximize public health benefits
- Are the most cost effective
- Serve areas with highest population density; that are in poor air quality areas, including
 - – nonattainment and maintenance areas, Federal Class I Areas
 - – areas with toxic pollutant concerns

- – areas receiving a disproportionate quantity of air pollution from diesel fleets including truck stops, ports, rail yards, terminals and distribution centers
- – areas that use a community-based multi-stakeholder collaborative process to reduce toxics emissions
- Maximize the useful life of any certified engine configuration, verified technology, or emerging technology
- Conserve diesel fuel
- Use diesel fuel with a sulfur content of less than or equal to 15 ppm (for nonroad engines)

Through the programs established by implementing the Diesel Emissions Reduction Act, EPA will continue to award grants and loans to assist its eligible partners in building diesel emission reduction programs across the country to achieve public health goals. Retrofitting diesel engines currently in use will allow significant and immediate emission reductions from diesel engines that would not otherwise be addressed.

Description of Proposed Action

The DERA outlined two main components of the program that became part of the NCDC: a National component and a State component. A brief description is provided below.

National Component: Within the National component, 70 percent of the funds are made available on a competitive basis to provide grants and low-cost revolving loans to eligible entities for the deployment of verified and certified technologies to reduce diesel emissions. This program has three separate competitions:

1. National Clean Diesel Funding Assistance Program: A competitive grant program for the deployment of EPA and/or California Air Resources Board (CARB) certified and/or verified clean diesel technologies and verified idle reduction technologies, The National Clean Diesel Funding Assistance Program provides funding to reduce emissions from existing diesel engines through a variety of strategies, including but not limited to: add-on emission control retrofit technologies; idle reduction technologies; cleaner fuel use; engine repowers; engine upgrades; and/or vehicle or equipment replacement; and the creation of innovative finance programs to fund diesel emissions reduction projects. Under this grant program, funding is restricted to the use of EPA and CARB verified and certified diesel emission reduction technologies.
2. National Clean Diesel Finance Program: A competitive grant program for innovative finance mechanisms such as national low-cost revolving loans. The SmartWay Clean Diesel Finance Program uses cooperative agreements to establish innovative finance programs for buyers of eligible diesel vehicles and equipment. Innovative finance projects include those where the loan

recipient receives a unique financial incentive (i.e., greater than regular market rates or conditions) for the purchase of eligible vehicles or equipment. Particular emphasis is on establishing low cost loan programs for the retrofit of used pre-2007 highway vehicles and new or used pieces of nonroad equipment with EPA or California Air Resources Board verified emission control technologies.

3. Clean Diesel Emerging Technologies Program: A competitive grant program to deploy emerging technologies not yet verified but for which an approvable application for verification and test plan are received by EPA. The Clean Diesel Emerging Technologies Program is an opportunity to advance new cutting edge technologies to reduce diesel emissions from the existing fleet. EPA is providing funding assistance to eligible entities to deploy diesel emission reduction technologies which are not yet verified or certified by the EPA or the CARB. To qualify as an emerging technology, the manufacturer of the technology must be in the initial stages of the verification process with EPA or CARB and listed on EPA's Emerging Technology List.

State Program: The second component is the State Clean Diesel Grant Program. With this component, 30% of the funds are made available through an allocation to States. EPA's State Grant Program allocates funds to participating states to implement grant and loan programs for clean diesel projects. Any state wishing to participate receives funding with an approved work plan. To support states in the development of clean diesel programs, EPA has developed a toolkit for state and local governments. States, as eligible entities, may apply to all three of the competitions above, in addition to the State Clean Diesel Grant Program.

Evaluation of Alternatives

Alternative 1 – No action alternative: Under the “no action” EPA would not offer grants and funding through the four programs developed under the DERA to eligible organizations and entities to reduce diesel emissions. Although “no action” does not meet the purpose and need of the project, to reduce current diesel emissions which have adverse impacts to air quality and public health, it is evaluated to help discern the environmental benefits and disadvantages between the alternatives carried forth for detailed analysis in the EA. Thus, the “no action alternative” will be used as a baseline for analysis.

Alternative 2 – Proposed Action: EPA followed the formula of the legislation, in that the National Program was competitive and received 70% of the funding, while the State program was an allocation program and received 30% of the funding. To implement this, EPA developed four programs under the NCDC, which provided funding to eligible entities to reduce diesel emissions from engines. This action meets the purpose and need of the project to reduce current diesel emissions which have adverse impacts to air quality and public health.

Pursuant to Section 102(2)(E) of NEPA and EPA's regulations implementing NEPA (40 CFR 6.205), EPA has determined that there are no "unresolved conflicts concerning alternative uses of available resources" with regard to proceeding with its proposed alternative. Accordingly, the analysis of alternative was limited to no action and proposed action.

Environmental Consequences

In this section, the proposed continued action was analyzed to identify potential environmental effects to resources. Based on the initial analysis to resources, the proposed action was determined to only have potential impacts to air quality and EJ communities. Accordingly, the analysis of environmental effects was limited to these two areas.

Air Quality

Reducing emissions from diesel engines is one of the most important air quality challenges facing the country. Emissions from these engines, especially particulate matter (PM), nitrogen oxides (NOx) and sulfur oxides (SOx), contribute to serious health problems, including asthma, lung cancer and various other cardiac and respiratory diseases. These problems result in thousands of premature deaths, millions of lost work days, and numerous other negative health and economic outcomes every year.

In addition, NOx contribute to ozone, which can aggravate asthma and other respiratory diseases, leading to more asthma attacks, the use of additional medication, more severe symptoms that require a doctor's attention, more visits to the emergency room, increased hospitalizations, and even premature mortality. Ozone can inflame and damage the lining of the lungs, which can lead to permanent changes in lung tissue, irreversible reductions in lung function if the inflammation occurs repeatedly over a long time period, and a lower quality of life. Children, outdoor workers, people with heart and lung disease, and the elderly are most at risk.

Harmful diesel emissions contribute to poor air quality in many areas of the country. Areas designated as "nonattainment" do not meet the health-based National Ambient Air Quality Standards. About 141 million Americans live in areas that are designated as nonattainment with the 8-hour ozone standard and/or the PM2.5 standard. EPA and states are working aggressively to reduce air pollution in these areas to protect the health of all Americans. Reducing diesel emissions is vital to achieving clean air.

Diesel retrofit technologies reduce pollution from the existing diesel engine fleet by up to 90% for particulate matter (PM), up to 50% for nitrogen oxides, and up to 90% for volatile organic compounds (EPA, 2006). Lifetime air quality benefits were estimated for the State and National Program (all three sub-programs), for the four criteria pollutants and also for CO2. Over the lifetime of the Diesel Emissions Reduction Program, approximately 46,000 tons of NOx and 2,200 tons of PM will be reduced through FY2008 program funding. These emission reductions translate into a significant public

health benefit of approximately \$580 million to \$1.4 billion in quantifiable PM-related health benefits.

Due to the established purpose and need of the project to reduce current diesel emissions, no significant adverse impacts to air quality will occur as a result of the continued action. There are anticipated long-term beneficial impacts of improved air quality resulting from the reduction of PM, NO_x, and SO_x.

Environmental Justice

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", directs federal agencies to consider any disproportionately high and adverse human health or environmental effects of their actions, programs or policies on minority and low-income populations. Due to the beneficial impacts to air quality and associated public health improvements resulting from reduced diesel emissions, the proposed continued action would have no disproportionately high and adverse effect on minority and/or low-income communities.

Entities Consulted

In the beginning stages of this program, EPA began its Voluntary Diesel Retrofit Program, by working through its Regional offices. EPA partnered with State and local environmental agencies, manufacturers and other partners to demonstrate the emissions reduction technologies. EPA's Regions also began organizing Regional Diesel Collaboratives with their States, local non-profit organizations, private industry and municipalities. By tying into a network of regional stakeholders, this collaborative structure is ideal for achieving significant emissions reductions across a large geographic area. Members of these collaboratives have agreed to collectively leverage additional funds and take a local approach to diesel emissions mitigation.