Regulatory Announcement

EPA Sets Standards for Diesel Fluid Systems; Adopts Relief Measures for Nonroad Equipment

The U.S. Environmental Protection Agency (EPA) has established minimum refill intervals for the diesel exhaust fluid (DEF) used in selective catalyst systems to reduce nitrogen oxides (NOx) from diesel engines. EPA has also adopted regulatory flexibility for nonroad equipment that can be used during emergency responses.

Selective Catalytic Reduction Maintenance

Why is EPA Taking This Action?

Selective Catalytic Reduction (SCR) is now a common technology in the transportation sector. This technology requires use of a diesel exhaust fluid that reacts in the system, is consumed, and must be periodically refilled to sustain control of the nitrogen oxides (NOx) emissions. Until now, EPA has been relying on a case-by-case approval of refill intervals – regulated as scheduled emission-related maintenance. This final rule improves the clarity and transparency of EPA's requirements, by adding diesel exhaust fluid replenishment to the required emission-related maintenance and setting minimum refill intervals.

What Revisions is EPA Adopting?

EPA is setting a minimum fluid refill interval of 4,000 miles for light-duty vehicles and light-duty trucks that use SCR.[1] For example, a vehicle with a 400 mile fuel range would need to refill the DEF tank no more frequently than every tenth fuel fill-up. For operators who change oil every 7,500 miles and fill the DEF tank at the time of the oil change, no more than one DEF refill would be needed between oil changes. This is a shorter interval than we proposed, because oil change intervals are generally lengthening, there are trade-offs with the weight of over-sized DEF tanks, and DEF is becoming more available to consumers.

[1] Such as a half-ton diesel pickup truck or a diesel SUV

EPA United States Environmental Protection Agency

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For all heavy-duty engines, EPA is setting a fluid refill interval at least as far (in miles or hours) as the vehicle's fuel capacity. This means the DEF refill must have, at a minimum, a 1:1 ratio with the distance between fuel refills. This is the same interval we proposed for engines in centrally-fueled vocational trucks, but it is shorter than the 2:1 ratio we proposed for engines in long-haul trucks.

For SCR-equipped nonroad diesel engines, EPA is finalizing a DEF refill interval at least as long (in engine-hours) as the vehicle's fuel capacity, which is unchanged from the proposal.

Nonroad Engines in Temporary Emergency Situations

Why is EPA Taking This Action?

Diesel engines in most modern nonroad equipment are subject to EPA's technology-forcing standards, phasing in through 2015. When routine emission-control maintenance (such as DEF refill) does not occur as designed, many engines are set to reduce power to prevent excess emissions. For nonroad equipment, this final action allows temporary relief from performance-related emission control protections, when such equipment is needed to respond to an emergency. This will facilitate the use of a variety of nonroad equipment in performing life-saving work during rescue and recovery from accidents, floods, hurricanes, and other emergency situations.

What Revisions is EPA Adopting?

EPA is adopting revisions that allow manufacturers of nonroad engines to request and EPA to approve a new kind of auxiliary emission control device (AECD) as part of the engine certification process. This flexibility is intended primarily for new engines used in construction equipment and portable equipment used for temporary power generation and flood control. Manufacturers will be responsible for activation of any such AECD as well as providing reports to EPA on use of these AECD's.

Expansion of Emergency Vehicle Provisions

In June 2012, EPA adopted regulatory flexibility for fire trucks and ambulances, to prevent emission-related power loss on these emergency vehicles. On diesel-powered vehicles, when emission-related maintenance does not occur as designed, many engines are set to cut power to prevent abnormal conditions from causing damage or excess emissions. However, EPA's 2012 rule finalized a new kind of AECD so engine manufacturers can have the flexibility to avoid such abnormal conditions and avoid reduced performance for fire trucks and ambulances.

In today's final action, EPA is expanding the application of this AECD to allow case-by-case approval for engines used in other types of emergency vehicles. The intent is to cover vehicles that are regularly used in emergency situations, and where the functioning or malfunctioning of the standard emission control system may prevent the vehicle from performing as necessary when the vehicle is needed to perform work related to reducing risk to human life.

Benefits and Costs of the Rule

In this action, EPA is providing regulatory certainty that will allow affected manufacturers to plan their future product development. The amendments in this action would only have a small cost impact for those manufacturers who elect to develop and deploy upgrades to nonroad engines as allowed by this rule. EPA does not expect these regulatory changes to have an environmental impact.

For More Information

You can access the final rule, regulations, and related documents on EPA's Office of Transportation and Air Quality (OTAQ) Web site at:

www.epa.gov/otaq/hd-hwy.htm

For more information on this and related rules, please contact the U.S. Environmental Protection Agency, Office of Transportation and Air Quality at:

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