UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 25 2009

OFFICE OF
AIR AND RADIATION

Mr. Kevin Brown
Marketing & Regulatory Affairs Manager
Engine Control Systems Limited
83 Commerce Valley Drive East
Thornhill, Ontario
Canada, L3T 7T3

Dear Mr. Brown:

The U.S. Environmental Protection Agency (EPA) has reviewed your request for verification of the Engine Control Systems (ECS) Purifilter Plus diesel particulate filter system for EGR equipped highway Heavy Duty (HD) diesel engines. This technology incorporates a catalyzed silicon carbide wall-flow filter with both passive and active regeneration capabilities. The Purifilter Plus system includes the diesel particulate filter with electric heating elements, an electronic logger to monitor exhaust backpressure and temperature, and a regeneration panel that may be shared among other vehicles with Purifilter Plus systems. Based on our evaluation of the verification application and test data, EPA hereby conditionally verifies that this technology reduces emissions of certain criteria pollutants by the percentages shown in the table. In addition, EPA verifies that this product meets the 2009 NO_2 emission limits. This conditional verification is for the purposes of EPA's National Clean Diesel Campaign.

Based on the testing and other data provided EPA is issuing this verification with specific conditions to address the need for ECS to conduct additional testing and further demonstrate emissions durability as listed in the attached Terms and Conditions. This requirement will be noted on our web site pending final approval. The assigned verification levels listed below may be adjusted based on the results of this testing. ECS must comply with the conditions specified in the attachment to this letter or this conditional verification will be automatically terminated.

This technology combination is approved for use on the following categories of engines and/or vehicles, provided all of the required operating criteria are met as described below:

All 4-cycle EGR equipped; Urban Bus; highway; light-, medium-, and heavy- heavy duty diesel engines including turbo-charged or naturally aspirated, mechanically or electronically injected, and originally manufactured from 1994 through 2006 model years.

Technology	Fuel (sulfur content)	Particulate Matter (PM) %	Carbon Monoxide (CO) %	Hydrocarbons (HC) %	Oxide of Nitrogen (NOx) %
Purifilter Plus (Diesel particulate filter on the engine, electrical panel for active regeneration at the garage/maintenance yard)	≤ 15 ppm	90	75	85	n/a

The following criteria must be met in order for appropriately retrofitted engines to achieve the aforementioned emissions reductions:

1. As there may be variations from application to application, data-logging and a review of actual vehicle operating conditions is required to ensure Purifilter Plus compatibility. ECS will provide a recommended schedule for active regeneration of the device.
2. In most applications, the Purifilter Plus must be periodically actively regenerated with the off-board regeneration control panel. The frequency of active regeneration will vary based on vehicle use or other conditions.
3. The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer. Lubricating oil may not be mixed with engine fuel with this technology.
4. ECS installs the Back-Pressure Monitor and Logger unit and the Remote Driver Display on all vehicles equipped with a Purifilter Plus.
5. The engine must be operated with a fuel that contains a sulfur content of no more than 15 parts per million (ppm).

Information on the Purifilter Plus technology, percent reductions, applicable engines, and in-use testing program will be posted on the EPA's National Clean Diesel Campaign/Diesel Retrofit Verification website (http://www.epa.gov/retrofit/verif-list.htm). As you know, ECS will be responsible for completing the required in-use testing program and for submitting all in-use testing data to EPA along with the conditional program testing previously mentioned.

Thank you for participating in EPA's National Clean Diesel Campaign. If you have any questions or comments, please contact Carl Wick, of my staff, at 202-343-9331.

Sincerely,

Jim Blubaugh

Jim Blubaugh, Manager
Innovative Strategies Group
Office of Transportation and Air Quality

Attachment

Engine Control System's (ECS) Purifilter Plus System Conditional Verification Terms and Conditions:

1. ECS must complete a successful Purifilter Plus standard test program on a 2004 to 2006 Class 8 EGR (not Cummins or International) truck engine and submit those test results to EPA within one year of the date of this letter.
2. If ECS cannot complete the required testing within the one-year period, the conditional verification expires and the technology will longer be verified by EPA. Upon expiration of this conditional verification, ECS is responsible for working with customers who purchased the "conditionally verified" product to arrive at a timely, valid solution.
3. ECS must submit a verification testing plan to EPA within two months of the date of this letter. The plan must detail the steps and milestones necessary for the successful completion of this testing. ECS must report the progress of this testing program to EPA at an interval no greater than every three months. The plan must be similar to the ETV testing protocol of the verification program and satisfy the requirements of the NCDC. The plan and the progress reports must provide details on the equipment, devices, dates, test labs, and all other aspects of the testing program. Upon successful completion of this testing, EPA may reevaluate and revise the emission reduction rates assigned to this technology and update this conditional verification to full verification.
4. An in-use test plan must be submitted as soon as 500 units have been sold. For the purposes of in-use testing, systems sold under this conditional verification count toward the 500 units sales threshold.