



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

DEC 23 2008

OFFICE OF
AIR AND RADIATION

Mr. Jim Hale
Retrofit Business Manager, NA
Johnson Matthey
Environmental Catalysts and Technologies
380 Lapp Road
Malvern, Pennsylvania 19355

Dear Mr. Hale:

The U.S. Environmental Protection Agency (EPA) has reviewed your request for verification of the Johnson Matthey Inc. (JM) reformulated Continuously Regenerating Technology (CRT₃) system. This technology incorporates a catalyst module, a filter module and a data monitoring device to monitor the backpressure and temperature of the CRT₃ filter. Based on our evaluation of the verification application and corresponding test data, EPA hereby verifies that this technology reduces emissions of certain criteria pollutants by the percentages described in the table below. In addition EPA verifies the CRT₃ meets the new 2009 NO₂ emission limits. This verification is for the purposes of EPA's National Clean Diesel Campaign.

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, non-EGR, highway, medium-heavy 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 (NO _x) %
Continuously Regenerating Technology ₃ (CRT ₃)	≤ 15 ppm	90	72	93	n/a

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

1. The engine exhaust temperature must be at least 240° C for approximately 40 to 50 percent of the duty cycle. As there may be variations from application to application, data-logging and a review of actual vehicle operating conditions is required to ensure CRT₃ compatibility.
2. The engine's exhaust must produce a NOx/PM ratio of at least 8, with an optimum ratio approaching 20. JM will make an assessment of the suitability of candidate engines, based upon certification emission levels or emission test data.
3. The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer;
4. Johnson Matthey installs a backpressure monitor and high pressure indicator light on all vehicles equipped with a CRT.
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 CRT₃ technology, percent reductions, applicable engines, and in-use testing program will be posted on the EPA's National Clean Diesel Campaign website (<http://www.epa.gov/cleandiesel>). As you know, JM will be responsible for completing the required in-use testing program and for submitting all in-use testing data to EPA.

Thank you for participating in EPA's National Clean Diesel Campaign. If you have any questions or comments, please contact Arman Tanman, of my staff, at (202) 343-9326.

Sincerely,



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