



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

JUN 4 2007

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. Partial Continuously Regenerating Technology₂ (PCRT₂) system. This technology incorporates a diesel oxidation catalyst (DOC) with a flow-through partial filter and utilizes ultra low sulfur diesel (ULSD) fuel. Based on our evaluation of the verification application and corresponding test data, EPA hereby conditionally verifies that this technology reduces emissions of certain criteria pollutants by the percentages described in the table below subject to the terms and conditions specified in the attachment. This verification is for the purposes of EPA's National Clean Diesel Campaign.

Based on the testing data and other data provided, EPA is issuing this verification with specific conditions to address the need for Johnson Matthey (JM) to conduct additional testing and further demonstrate emissions durability as listed in the attached Terms and Conditions. This 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. JM 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 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 1988 through 1993 model years except urban bus engines or engines that were originally certified with a diesel oxidation catalyst. This verification only applies to the PCRT₂ system that includes a DOC and flow-through partial filter.

Technology	Fuel (sulfur content)	Particulate Matter (PM) %	Carbon Monoxide (CO) %	Hydrocarbons (HC) %	Oxide of Nitrogen (NOx) %
PCRT ₂ System	≤ 15 ppm	50	60	80	n/a

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

1. The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
2. The engine must be operated with a fuel that contains a sulfur content of no more than 15 ppm.
3. The engine exhaust temperature must be at least 240 degrees C for 40% of the duty cycle at the PCRT₂ inlet. As there may be variations from application to application, data-logging and a review of vehicle operating conditions is required prior to retrofitting a vehicle to ensure PCRT₂ compatibility.
4. Backpressure readings must be taken after initial installation of the PCRT₂ System and recorded on the Record of Installation card for warranty purposes. To assess the performance of the technology and to avoid engine damage backpressure readings must be performed every six months. Results must not exceed 75 inches H₂O (5.5 inches Hg). An alternative would be to install a backpressure monitoring system with a driver warning light to alert the operator if these specifications are exceeded.
5. The engine's exhaust must produce a NO_x/PM ratio of at least 20. JM will make an assessment of the suitability of candidate engines based upon the certification emission levels or emission test data.
6. Blending of lube oil with fuel is prohibited with this product.
7. Certain oil additives contain elements that can damage the PCRT₂ system and must be approved by JM prior to use.

Information on the PCRT₂ 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. JM will also provide additional testing data and information to support this verification as indicated by JM in a letter to EPA dated May 29, 2007.

Thank you for participating in EPA's National Clean Diesel Campaign. If you have any questions or comments, please contact Steve Albrink, of my staff, at (202) 343-9671.

Sincerely,



for Merrylin Zaw-Mon, Director
Transportation and Regional Programs Division
Office of Transportation and Air Quality

Attachment

Attachment:

Johnson Matthey's Partial Continuously Regenerating Technology₂ (PCRT₂) System Conditional Verification Terms and Conditions:

1. Johnson Matthey (JM) has conducted initial testing and reported results that demonstrate emissions reductions on a degreened and aged PCRT₂ system on a 1991 model year medium, heavy-duty engine. JM must coordinate with the National Clean Diesel Campaign (NCDC) and complete verification testing by participating in EPA's Environmental Technology Verification (ETV) program to support and/or extend this verification. Data generated during this testing program must be submitted to EPA within one year from the date of this letter. Upon approval of EPA, the emissions reduction rates may be reevaluated based on the newly available data.
2. If JM cannot complete the required testing within the one-year period, the conditional verification expires and the technology may no longer be verified by EPA. Upon expiration of this conditional verification, JM is responsible for working with customers who purchased the "conditionally verified" product to arrive at a timely, valid solution.
3. JM 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 ETV testing. JM must report the progress of this testing program to EPA in an interval agreed upon by both JM and EPA. The plan must comply with the ETV testing protocol of the verification program and satisfy the requirements of the NCDC. 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 sales threshold.