



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
Washington, DC 20460

MAY 23 2014

OFFICE OF  
AIR AND RADIATION

Mr. Kevin Brown  
Clean Diesel Technologies Inc.  
83 Commerce Valley Drive East  
Thornhill, Ontario L3T 7V1

Dear Mr. Brown:

The U.S. Environmental Protection Agency (EPA) Technology Assessment Center has reviewed your request for modification to the verification of Clean Diesel Technologies, Inc. (CDTi) Purifilter Plus M diesel particulate filter. This technology incorporates a catalyzed silicon carbide wall-flow filter with passive regeneration capabilities and an electrical heating panel for periodic active regeneration while parked. The Purifilter Plus M also includes an electronic logger to monitor exhaust backpressure and temperature with an alarm system that alerts fleet operators when active regeneration is needed or when the filter must be cleaned.

EPA approves the inclusion of two additional engine family names: YMKXH11.9H56 and 2CEXH0661MAT for federally certified heavy-duty applications. An amended Table A accompanies this letter.

Based on our evaluation of the verification application, test data, and additional information provided, EPA hereby modifies this verification. The technology is approved for use on the following engines and/or vehicles provided all of the operating criteria are met as described below, for the engine families enclosed in Table A.

Technology	Engine Model/Application	Fuel, Max Sulfur (ppm)	Reductions (%)			
			PM	NO <sub>x</sub>	HC	CO
Purifilter Plus M – diesel particulate filter on the engine, electrical panel for active regeneration at the garage/maintenance yard	Highway; light, medium, and heavy heavy-duty EGR and non-EGR engines, not originally certified or equipped with DPF, originally manufactured from 1994-2010 and listed in Table A	15	90	N/A	0* 70**	75

\*HC Emission reduction level for DOC equipped engines

\*\*HC Emission reduction level for non-DOC equipped engines

This technology is approved for use on the engines and/or vehicles detailed in the enclosure provided all of the operating criteria are met as described below:

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 M compatibility. The installer must provide the fleet owners and/or operators with a copy of the pre- and

post-installation checklists, as well as copies of the data logging results and recommended regeneration schedules. Fleet owners/operators are responsible for adhering to the recommended regeneration schedule. At a minimum, CDTi recommends that all fleets proactively regenerate the Purifilter Plus M every 4 to 6 weeks.

2. The engine must be operated on ultra-low sulfur diesel fuel (ULSD) of 15 ppm or less.
3. The engine must be in proper operating condition, well maintained, and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
4. The vehicle may not be equipped with an oil burning system and lube oil or other oils may not be mixed with the fuel.
5. CDTi installs a back-pressure monitor and logger unit and the remote driver display on all vehicles equipped with a Purifilter Plus M.

EPA estimates that this device will incur no discernable fuel economy penalty when used in a compatible application.

If the Purifilter Plus M is modified from the application description provided to EPA and representative of products tested, you must notify EPA immediately. This verification does not automatically confer to modified devices or devices that are similar to this original verification.

Information on CDTi's Purifilter Plus M percent reduction and applicable engines will be posted on the EPA's Verified Technology List website at:

<http://www.epa.gov/cleandiesel/verification/verif-list.htm> . As you know, CDTi will be responsible for completing the required in-use testing program and for submitting all in-use testing data to EPA as outlined in EPA's in-use test methods.

Thank you for participating in EPA's Technology Assessment Center Verification Program. If you have any questions or comments, please contact Britney J. McCoy, of my staff, at 202-343-9218.

Sincerely,



Karl Simon, Division Director  
Transportation and Climate Division  
Office of Transportation and Air Quality