OFFICE OF
AIR AND RADIATION

DEC - 5 2013

Mr. Gary Simons
Donaldson Company, Inc.
1400 West 94th Street
Minneapolis, MN 55431

Dear Mr. Simons:

The U.S. Environmental Protection Agency (EPA) has reviewed your request for verification of the Donaldson Company, Inc. (Donaldson) Low NO_2 Diesel Particulate Filter for Non-Road Applications (NR-LNF DPF) System. Based on our evaluation of the verification application, the test data, and additional information provided, EPA hereby grants 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:

Technology	Engine Model/Application	Fuel, Max Sulfur (ppm)	Reductions (%)			
			PM	NO_x	HC	CO
Low NO_2 Diesel Particulate Filter for Non-Road Applications (NR-LNF DPF) System	Non-road, Tier 1 or Tier 2 diesel engines certified with a maximum PM level of 0.25 g/bhp-hr with power rating $75 \le$ Kilowatts < 450 ($100.6 \le$ Horsepower < 603.4)	15	90	N/A	95	90

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

1. The engine must be operated on ultra-low sulfur diesel fuel (ULSD) of 15 ppm or less.

2. The NR-LNF DPF System requires an exhaust temperature profile sufficient for regeneration. For engines with certification levels of 3.0 to 8.0 g/bhp-hr NO_x and 0.01 to 0.11 g/bhp-hr PM, a duty cycle with a Weighted Average Temperature (WAT) at or above 250°C or at least 40% above 245°C (Category 1). For the engine group with emission certification of 5.0 to 8.0 g/bhp-hr NO_x and 0.11 to 0.25 g/bhp-hr PM, a duty cycle with a WAT at or above 320°C or at least 40% above 320°C (Category 2). For the engine group with emission certification of 3.0 to 4.99 g/bhp-hr NO_x and 0.11 to 0.25 g/bhp-hr PM, a duty cycle with a WAT at or above 362°C or at least 40% above 372°C (Category 3).

3. Donaldson approved dealer shall perform an engine pre-assessment that assures the engine is at a minimum operating condition to prevent excess soot build up and that checks the maximum flow rate necessary for installation. The dealer will provide the owner with a copy of the pre-assessment.

4. Donaldson approved dealer will install the Donaldson Emissions Device Monitor with the NR-LNF DPF System to constantly monitor backpressure and temperature on all vehicles equipped with this diesel particulate filter.

5. The NR-LNF DPF System can be applied to engines with a maximum PM certification level of 0.25 g/bhp-hr.

6. The engine must be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.

7. The vehicle may not be equipped with an oil burning system and lube oil or other oils may not be mixed with the fuel.

8. The engine must not have been originally certified or equipped with a diesel particulate filter.

Donaldson estimates that this device will incur no discernible fuel economy penalty when used in a compatible application. If Donaldson's NR-LNF DPF System 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 Donaldson's NR-LNF DPF System, 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. Donaldson will be responsible for completing the required in-use testing program and for submitting all in-use testing data to EPA as outlined in EPAs 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,
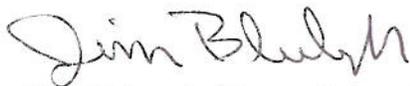
Jim Blubaugh, Deputy Director
Transportation and Climate Division
Office of Transportation and Air Quality