State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER DE-14-006

Pursuant to the authority vested in the California Air Resources Board (ARB) by Health and Safety Code, Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39616 and Executive Order G-14-012;

This action relates to Verification under Sections 2700 through 2711 of title 13 of the California Code of Regulations

Caterpillar Emissions Solutions, Inc.
Caterpillar DPF for Stationary

ARB has reviewed Caterpillar Emissions Solutions' request to rename the CleanAIR Systems, Inc. PERMIT™ diesel particulate filter (DPF) verification to the Caterpillar DPF for Stationary. Based on an evaluation of the data provided from CleanAIR Systems, Inc. for the original PERMIT™ verification, and pursuant to the terms and conditions specified below, the Executive Officer of ARB hereby finds that the Caterpillar DPF for Stationary reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions) (title 13 California Code of Regulations (CCR) Sections 2702 (f) and (g) and Section 2708) and complies with the ARB January 1, 2009, NO_2 limit (CCR, title 13, Section 2702 (f) and section 2706 (a)). Accordingly, the Executive Officer determines that the system merits continued verification with a new owner and, subject to the terms and conditions specified below, classifies the Caterpillar DPF for Stationary as a Level 3 Plus system, for use with stationary prime and emergency standby generators using the engine families listed in Attachment 1.

This verification is subject to the following terms and conditions:

- The engine must be used in a stationary application associated with prime or emergency standby generators.
- The engine must be certified for use in California or certified by the United States Environmental Protection Agency.
- The engines are model years 1996 or newer, certified to nonroad or stationary diesel engine emission standards Tier 1, Tier 2, Tier 3, Tier 4i with a rated horsepower between 50 and 75 or over 750, or Tier 4 Alt 20% NOx and PM off-road engine and having the engine family names listed in Attachment 1.
- The engine must be a certified off-road engine meeting 0.2 grams per brake horsepower hour (g/bhp-hr) diesel particulate matter (PM) or less based on certification or in-use emissions testing (as tested on an appropriate steady-

state certification cycle outlined in the ARB off-road regulations – similar to ISO 8178 D2)

- The engine must be in their original certified configuration.
- The engine must not employ exhaust gas recirculation.
- The engine must not have a pre-existing oxidation catalyst.
- The engine must not have a pre-existing diesel particulate filter.
- The engine must not have a pre-existing selective catalytic reduction.
- The engine must be four-stroke.
- The engine can be turbocharged or naturally-aspirated.
- Caterpillar Emissions Solutions, Inc. must review actual operating conditions (duty cycle, baseline emissions, exhaust temperature profiles, and engine backpressure) prior to retrofitting an engine with the Caterpillar DPF for Stationary to ensure compatibility.
- The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
- The product must not be operated with fuel additives, as defined in section 2701 of title 13, of the CCR, unless explicitly verified for use with fuel additive(s).
- The other terms and conditions specified below.

Table 1: Conditions for the Caterpillar DPF for Stationary	
Parameter	**Value**
Application	Stationary Prime and Emergency Standby Power Generation
Engine Type	Diesel, with or without turbocharger, without Exhaust-Gas Recirculation (EGR), mechanically or electronically controlled, certified Tier 1, Tier 2, Tier 3, Tier 4i with a rated horsepower between 50 and 75 or over 750, or Tier 4 Alt 20% NOx and PM off-road engines that have particulate matter (PM) emissions of less than or equal to 0.2 g/bhp-hr.
Maximum consecutive minutes at idle	240 minutes
Number of 10 minute idle sessions before regeneration is required	Regeneration recommended after 12 consecutive sessions; required after 24
Minimum temperature/load/time requirements for regeneration in 4-stroke engine	300° Celsius for 30% of operating time or 2 hours, whichever is longer. For most engines, 40% load results in temperature of at least 300° Celsius. **For 2010 and newer Caterpillar engines listed in Attachment 1, the engine operating parameters (minimum load and exhaust temperature) must be met for 30% of operating time or 2 hours, whichever is longer.**
Number of hours of operation before cleaning/disposal of filter	5000 hours under normal operating conditions
Fuel	California diesel fuel with less than or equal to15 ppm sulfur or a biodiesel blend provided that the biodiesel portion of the blend complies with ASTM D6751 (15 ppm sulfur), the diesel portion of the blend complies with title 13 (CCR), sections 2281 and 2282 and the blend contains no more than 20 percent biodiesel by volume.
PM Verification Level	Level 3 Plus Verification: • PM – at least 85% reduction • NO_2 – meets January 2009 limit

IT IS ALSO ORDERED AND RESOLVED: That installation of the Caterpillar DPF for Stationary, manufactured by Caterpillar Emissions Solutions, Inc., P.O. Box 600, Mossville, Illinois 61552, has been found not to reduce the effectiveness of the applicable engine pollution control system.

The Caterpillar DPF for Stationary consists of a catalyzed passive diesel particulate filter and an exhaust backpressure monitoring system.

This Executive Order is valid provided that installation instructions for Caterpillar DPF for Stationary do not recommend tuning the engine to specifications different from those of the engine manufacturer. The product must not be used with any other systems or engine modifications without ARB and manufacturer approval.

Changes made to the design or operating conditions of Caterpillar DPF for Stationary, as exempted by ARB, which adversely affect the performance of the engine's pollution control system, shall invalidate this Executive Order.

No changes are permitted to the device. ARB must be notified in writing of any changes to any part of Caterpillar DPF for Stationary. Any changes to the device must be evaluated and approved by ARB. Failure to do so shall invalidate this Executive Order.

Marketing of the Caterpillar DPF for Stationary using identification other than that shown in this Executive Order or for an application other than that listed in this Executive Order shall be prohibited unless prior approval is obtained from ARB.

As specified in the Diesel Emission Control Strategy Verification Procedure (title 13 CCR Section 2706 (j)), the ARB assigns each Diesel Emission Control Strategy a family name. The Caterpillar Emissions Solutions' Caterpillar DPF for Stationary designated family name for the verification as outlined above is:

CA/CAT/2014/PM3+/N00/ST/DPF01

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Caterpillar Emissions Solutions, Inc. is responsible for honoring their warranty (CCR, title 13, section 2707) and conducting in-use compliance testing (section 2709) including previous installations of PERMIT™ DPF manufactured by CleanAIR Systems, Inc. under Executive Order DE-05-002-03.

In addition to the foregoing, ARB reserves the right in the future to review this Executive Order and the exemption and verification provided herein to assure that the exempted and verified add-on or modified part continues to meet the standards and procedures of CCR, title 13, section 2222, et seq and CCR, title 13, sections 2700 through 2711.

Systems verified under this Executive Order shall conform to all applicable California emissions regulations. This Executive Order does not release Caterpillar Emissions Solutions, Inc. from complying with all other applicable regulations.

Violation of any of the above conditions shall be grounds for revocation of this Executive Order.

Executive Order DE-05-002-03 is hereby superseded and is of no further force and effect.

Executed at Sacramento, California, this 24th day of October 2014.

Richard W. Corey
Executive Officer
by

Cynthia Marvin, Chief
Transportation and Toxics Division

Attachment 1: Verified for Stationary Diesel Engines Caterpillar DPF for Stationary Off-Road Certified Engine Family List (0 ≤ 0.2 g/bhp-hr PM)