

**State of California
AIR RESOURCES BOARD**

EXECUTIVE ORDER DE-13-003

The diesel emission control strategy described herein qualifies as a potential compliance option for the Air Resources Board's (ARB) in-use diesel fleet rules.

Pursuant to the authority vested in the 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 39516 and Executive Order G-02-003;

Relating to Exemptions under Section 38395 of the *Vehicle Code* and Verification under Sections 2700 through 2711 of Title 13 of the *California Code of Regulations (CCR)*:

Proventia Emission Control Oy (Proventia)
Electrically-Heated Diesel Particulate Filter (EHDPF)

ARB has reviewed Proventia's request for verification of the EHDPF system. Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of ARB hereby finds that the EHDPF system reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions) (Title 13 CCR, Sections 2702 (f) and 2708) and is compliant with the 2009 nitrogen dioxide emissions limit. Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the EHDPF system as a Level 3 Plus system for use only with Thermo King TriPac auxiliary power units (APU). Engines for which the EHDPF system is verified, the verified parts list, the verified labels, swapping and re-designation information, and other product information can be found here:

<http://www.arb.ca.gov/diesel/verdev/companies/proventia/ehdpf.htm>

The aforementioned verification is subject to the following terms and conditions:

- The engine must be installed in a Thermo King TriPac APU and have an engine family name listed on the website above.
- The engine must be manufactured by Yanmar and have the model name TK270M or TK270VFM.
- The engine must be certified to a PM emissions level of 0.2 grams per kilowatt-hour or less.
- The engine must be rated to 10 horsepower or less.
- The engine must not have exhaust gas recirculation.

- The engine must have a four-stroke combustion cycle.
- The engine must not be certified with a diesel particulate filter.
- The engine must not be certified with a diesel oxidation catalyst.
- The engine must be mechanically governed.
- The engine must be naturally aspirated.
- The engine must be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
- Lube oil, or other oil, must not be mixed with the fuel.
- The system must not be operated with fuel additives, as defined in Section 2701 of Title 13, CCR, unless explicitly verified for use with the fuel additive(s).
- The product must not be used with any other systems or engine modifications without ARB and manufacturer approval.
- The other terms and conditions specified below.

IT IS ALSO ORDERED AND RESOLVED: That installation of the Proventia EHDPF, manufactured by Proventia Emission Control Oy, Tietotie 1, Oulunsalo, Finland 90460, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the eDPF system is exempt from the prohibitions in Sections 38390 and 38391 of the *Vehicle Code* for installation on APUs that meet the terms and conditions of this Executive Order. This exemption is only valid provided the engines meet the aforementioned conditions.

The Proventia EHDPF consists of a DPF, two backpressure switches, an electronic control unit, and a remote display module. The major components of the EHDPF system are identified in the parts list. The parts list and schematics of the approved product and engine labels are available on the website shown above.

This Executive Order is valid provided that installation instructions for the EHDPF system do not recommend tuning the APU engine to specifications different from those of the APU engine manufacturer.

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

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

Proventia must ensure that the installation of the EHDPF system conforms to all applicable industrial safety requirements.

Marketing of the EHDPF system 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 written approval is obtained from ARB.

Identification must include both device and engine labels consistent with the requirements of Title 13, CCR, Section 2706, and the label information on the website shown above. Changes or modifications to the label or label placement are prohibited without prior written approval from ARB.

ARB estimates that the usage of the Proventia EHDPF could incur a fuel economy penalty of up to 5 percent depending on the application.

This Executive Order does not apply to any EHDPF system installed on an APU prior to sale or lease to an ultimate purchaser.

As specified in Section 2706(j) (Title 13, CCR) of the *Verification Procedure, Warranty, and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (Procedure), ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is:

CA/PEC/2012/PM3+/N00/AP/DPF01

Additionally, as stated in the Procedure, Proventia is responsible for recordkeeping requirements (Section 2702), honoring the required warranty (Section 2707), and conducting in-use compliance testing (Section 2709).

This Executive Order is valid provided that the diesel fuel used in conjunction with the device complies with Title 13, CCR, Sections 2281 and 2282, and if biodiesel is used, the biodiesel blend shall be 20 percent or less subject to the following conditions:

- The biodiesel portion of the blend complies with the American Society for Testing and Materials specification D6751 applicable for 15 parts per million sulfur content;
- The diesel fuel portion of the blend complies with Title 13, CCR, Sections 2281 and 2282.

Other alternative diesel fuels such as, but not limited to, ethanol diesel blends and water emulsified diesel fuel are excluded from this Executive Order.

Proper engine maintenance is critical for the proper functioning of the diesel emission control strategy. The owner of the vehicle on which the diesel emission control strategy is installed is strongly advised to adhere to all good maintenance practices. Failure to document proper engine maintenance, including keeping records of the engine's oil consumption, may be grounds for denial of a warranty claim.

Use of system parts or replacement parts not authorized by Proventia may be grounds for denial of a warranty claim.

A copy of this Executive Order must be provided to the ultimate purchaser at the time of sale.

The terms and conditions of this Executive Order must be satisfied regardless of where the system is sold in order for the system to be considered verified.

Systems sold as verified, or which carry the ARB-approved label, must satisfy all the terms and conditions of this Executive Order.

Systems verified under this Executive Order shall conform to all applicable California emissions regulations.

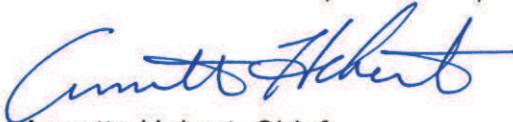
This Executive Order does not release Proventia from complying with all other applicable regulations.

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

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

This Executive Order hereby supersedes the conditional verification letter 12-661-1072 (dated March 22, 2012).

Executed at El Monte, California, and effective this third day of April 2013.



Annette Hebert, Chief
Mobile Source Control Division