



Air Resources Board



Linda S. Adams
Secretary for
Environmental Protection

Mary D. Nichols, Chairman
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Arnold Schwarzenegger
Governor

September 28, 2009

Mr. Tom Sem
North American Representative
Proventia Emission Control
9400 Old Cedar Avenue South, Suite 311
Minneapolis, Minnesota 55432

Reference 09-661-069

Dear Mr. Sem:

Using the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (Procedure), Air Resources Board (ARB) staff reviewed your application for conditional verification of the Proventia Emission Control's (Proventia) Proventia EHDPF for use only with Thermo King Tripac auxiliary power units (APU). Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, ARB hereby finds that the Proventia EHDPF reduces emissions of diesel particulate matter (PM) consistent with a Level 3 plus device (greater than or equal to an 85 percent reduction and compliant with the 2009 nitrogen dioxide standard). ARB also finds that the Proventia EHDPF satisfactorily completed at least 33 percent of the durability demonstration period for APU applications. Accordingly, ARB determines that the system merits conditional verification and, subject to the terms and conditions specified below, classifies the Proventia EHDPF as a Level 3 plus system for Thermo King Tripac APU applications that use diesel engines from the engine families listed in Attachment 1.

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

- The Proventia EHDPF is conditionally verified for a period not to exceed one year from the date of this letter.
- For the Proventia EHDPF to be considered for full verification, Proventia must complete all remaining requirements, as specified in letter 09-661-070, within one year of the date of this letter.
- Conditional verification is equivalent to verification for the purposes of satisfying the requirements of in-use emission control regulations.
- The verification is restricted to only those engine families and models listed in Attachment 1 used in APU applications.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

- The engine must be a Tier 2 or Tier 4 Yanmar TK270M, model year 2007 to 2009.
- The engine must be certified to 0.2 grams per kilowatt hour (g/kW-hr) PM or less.
- The engine must have a maximum power output rating of less than 11 horsepower.
- The application must be for Thermo King Tripac APU applications.
- The engine must be four-stroke.
- The engine must not employ exhaust gas recirculation.
- The engine must not have a pre-existing diesel particulate filter from the original equipment manufacturer.
- 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.
- Lubricating oil, or other oil, must not be mixed with the fuel.
- The product must not be operated with fuel additives, as defined in section 2701 of Title 13, of the California Code of Regulations (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 written approval.
- The other terms and conditions specified below.

It is also ordered and resolved that installation of the Proventia EHDPF, manufactured by Proventia Group, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the Proventia EHDPF is exempt from the prohibitions in section 27156 of the Vehicle Code for installation on off-road equipment using engines from the families listed in Attachment 1.

This exemption is only valid provided the engines meet the aforementioned conditions.

ARB reserves the right in the future to review this conditional verification letter 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 2710, of the CCR.

The Proventia EHDPF consists of a diesel particulate filter, two backpressure switches, an electronic control unit and a remote display module. The major components of the Proventia EHDPF are identified in Attachment 2. An illustration of the engine label is shown in Attachment 3.

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

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

Marketing of the Proventia EHDPF using identification other than that shown in this conditional verification letter, or for an application other than that listed in this conditional verification letter, shall be prohibited unless prior written approval is obtained from ARB.

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

As specified in the Procedure, ARB assigns each diesel emission control strategy a family name. The designated family name for the conditional verification as outlined above is:

CA/PEC/2009/PM3+/N00/OF/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 conditional verification 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 ppm sulfur content; and
- The diesel fuel portion of the blend complies with Title 13, CCR, sections 2281 and 2282.
- The use of biodiesel applies to devices conditionally verified to reduce only diesel PM.

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

Mr. Tom Sem
September 28, 2009
Page 4

Systems conditionally verified in this letter shall conform to all applicable California emissions regulations.

This conditional verification 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 conditional verification.

Thank you for participating in ARB's diesel emission control strategy verification program. If you have any questions or comments, please contact Ms. Shawn Daley, Manager, at (626) 575-6972, or by e-mail to sdaley@arb.ca.gov.

Sincerely,



Robert H. Cross, Chief
Mobile Source Control Division

- Attachment 1: ARB-Approved Engine Families for the Proventia EHDPF
- Attachment 2: Parts List for the Proventia EHDPF
- Attachment 3: Label for the Proventia EHDPF