

**State of California
AIR RESOURCES BOARD**

EXECUTIVE ORDER DE-05-013-01

Pursuant to the authority vested in the Air Resources Board 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 Section 39515 and 39616 and Executive Order G-02-003;

Relating to Verification under Sections 2700 through 2710 of Title 13 of the California Code of Regulations

Rypos, Inc.
Active Diesel Particulate Filter (ADPF)

The California Air Resources Board (ARB) staff has reviewed Rypos' request for verification of their active diesel particulate filter (Rypos ADPF). Based on an evaluation of the data provided, and pursuant to the terms and conditions specified below, the Executive Officer of the ARB hereby finds that the Rypos ADPF reduces emissions of diesel particulate matter (PM) consistent with a Level 2 device (greater than or equal to 50 percent reductions) (Title 13 California Code of Regulations (CCR) Sections 2702 (f) and (g) and Section 2708) and complies with the CARB January 1, 2009, nitrogen dioxide (NO₂) limit (CCR, Title 13, Section 2702 (f) and section 2706 (a)). Accordingly, the Executive Officer determines that the system merits verification for stationary emergency standby generators, subject to the terms and conditions specified below and classifies the Rypos ADPF as a Level 2 Plus system, for use with stationary emergency standby generators using the engine families listed in Attachment 1 and meeting Tier 1, 2, or 3 PM certification levels.

This verification is subject to the following terms and conditions:

- The engine must be used in a stationary application associated with emergency standby generators.
- The engines are model years 1996 through 2008 having the engine family names listed in Attachment 1 and certified to Tier 1, 2, or 3 PM emission level.
- The engine must be in its 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 can be a two or four-stroke.
- The engine can be turbocharged or naturally-aspirated.
- The engine must be certified for use in California.
- The engine must be a certified off-road engine meeting 0.4 grams per brake horsepower hour (g/bhp-hr) diesel 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).

- Rypos must review actual operating conditions (duty cycle, baseline emissions, exhaust temperature profiles, and engine backpressure) prior to retrofitting an engine with the Rypos ADPF 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 other terms and conditions specified below.

Table 1: Conditions for the Rypos ADPF

Parameter	Value
Application	Emergency Standby Stationary Power Generation
Engine Type	Diesel, with or without turbocharger, certified off-road engines meeting 0.4 g/bhp-hr diesel PM or less based on certification or in-use emissions testing
Minimum Exhaust Temperature for Filter Regeneration	NA. Active system.
Maximum Consecutive Minutes at idle	NA. Active system.
Number of Cold Start and 30 Minute Idle Sessions Before Regeneration Required	NA. Active system.
Number of Hours of Operation Before Cleaning of Filter Required	NA. Active system with a flow through mesh filter. Should not require cleaning.
Fuel	California diesel fuel with less than or equal to 15 ppm sulfur or a biodiesel blend provided that the biodiesel portion of the blend complies with ASTM D6751, 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.
Verification Level	Level 2 Plus Verification: At least 50% reduction of PM and meets January 2009 NO ₂ limit.

The Rypos ADPF consists of a filter housing, electrical control circuit, and filter cartridges made of sintered metal fibers, referred to as an active sintered metal diesel particulate filter.

This Executive Order is valid provided that installation instructions for Rypos ADPF do not recommend tuning the engine to specifications different from those specified by the engine manufacturer.

Changes made to the design or operating conditions of the Rypos ADPF which adversely affect the performance of the engine's pollution control system shall invalidate this Executive Order.

Changes to the Rypos ADPF are not permitted without ARB approval. ARB must be notified in writing of any changes to any part of Rypos ADPF. Any changes to the device must be evaluated and approved by ARB. Failure to do so shall invalidate this Executive Order.

Marketing of the Rypos ADPF 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.

This Executive Order shall not apply to any Rypos ADPF advertised, offered for sale, sold with, or installed on a new engine.

As specified in the Diesel Emission Control Strategy Verification Procedure (Title 13 CCR Section 2706 (g)), the ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is: **CA/RYP/2005/PM2+/N00/ST/DPF01**

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Rypos, Inc., is responsible for honoring their warranty (Section 2707) and conducting in-use compliance testing (Section 2709).

In addition to the foregoing, ARB reserves the right in the future to review this Executive Order and the verification provided herein to assure that the verified add-on or modified part continues to meet the standards and procedures of California Code of Regulations, Title 13, Sections 2700 through 2710.

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

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

Executive Order DE-05-013 is hereby superseded and is of no further force and effect.

Executed at Sacramento, California, this 18th day of December, 2008.

James N. Goldstene
Executive Officer
by

/s/

Robert Fletcher, Chief
Stationary Source Division

Attachment 1: Rypos ADPF Active Diesel Particulate FilterOff- Road Certified Engine Family List ($0 \leq 0.4$ g/bhp-hr PM)