State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER DE-11-001-02

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 (Rypos ActiveDPF/C™)

The California Air Resources Board (ARB) staff has reviewed Rypos' request for verification of their active diesel particulate filter and diesel oxidation catalyst system (Rypos ActiveDPF/C™). 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 ActiveDPF/C™ reduces emissions of diesel particulate matter (PM) consistent with a Level 2 device (greater than or equal to 50 percent reduction) (Title 13 California Code of Regulations [CCR] sections 2702 [f] and [g] and section 2708) and complies with ARB January 1, 2009, NO_2 limit (Title 13 California Code of Regulations [CCR] Appendix A section 2702 [f] and section 2706 [a]). Accordingly, the Executive Officer determines that the Rypos ActiveDPF/C™ merits verification as a Level 2 Plus system for diesel engines on rubber tired gantry (RTG) cranes, subject to the terms and conditions specified below.

This verification is subject to the following terms and conditions:

- The engine must be used in a RTG crane application.
- The engine is greater than 50 hp and certified to Tier 3 nonroad diesel engine emission standards or older.
- The engine must be in its original certified configuration if it was certified to Tier 1, Tier 2, or Tier 3 nonroad diesel engine emission standards.
- 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 or pre-certification.
- Rypos must review actual operating conditions (duty cycle, baseline emissions, and engine backpressure) prior to retrofitting an engine with the Rypos ActiveDPF/C™ 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 in Table 1 below.

Table 1: Summary of Conditions for the RYPOS ActiveDPF/C System	
Parameter	**Value**
PM Verification Level	Level 2 Plus: • PM - at least 50% reduction. • NO_2 - meets January 2009 limit.
Regeneration System	Active
Applications	Both diesel-electric and diesel-hydraulic rubber tired gantry (RTG) crane applications.
Engine Type	Diesel-fueled, with or without turbocharger, certified Tier 3 or older off-road engines.
Engine Models	Tier 3 or older off-road engines.
Engine Horsepower	Greater than 50 hp.
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.
Minimum Exhaust Temperature for Filter Regeneration	Not Applicable (NA). Active DPF.
Maximum consecutive minutes at idle	NA. Active DPF.
Number of Hours of Operation Before Cleaning of Filter Required	Inspect every 1000 hours and clean if needed. Active DPF.

The Rypos ActiveDPF/C™ 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, and a downstream diesel oxidation catalyst.

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

No changes are permitted to the device unless approved by ARB. ARB must be notified in writing of any changes to any part of the Rypos ActiveDPF/C™ and these changes must be evaluated and approved by ARB. Failure to report any changes shall invalidate this Executive Order.

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

Marketing of the Rypos ActiveDPF/C™ 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 [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/2011/PM2+/N00/OF/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 system continues to meet the standards and procedures of California Code of Regulations, Title 13, section 2222, et seq and 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-11-001-01 is hereby superseded and is of no further force and effect.

Executed at Sacramento, California, this 2nd day of July 2012.

James N. Goldstene
Executive Officer
by:

Cynthia Marvin, Chief
Stationary Source Division