State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER DE-08-006

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 Section 39515 and 39616 and Executive Order G-02-003;

Relating to Exemptions under Section 27156 of the Vehicle Code, and Verification under Sections 2700 through 2710 of Title 13 of the California Code of Regulations

Cleaire Advanced Emissions Controls (Cleaire)
Longview™ System

ARB has reviewed Cleaire's request for verification extension of its Longview™ system (the "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 Cleaire Longview™ system reduces emissions of diesel particulate matter (PM) consistent with a Level 3 Plus device (greater than or equal to an 85 percent reduction), and achieves a 25 percent reduction in oxides of nitrogen (NOx) (Title 13 California Code of Regulations (CCR), Sections 2702 (f) and (g) and Section 2708). Accordingly, the Executive Officer determines that the system merits verification and, subject to the terms and conditions specified below, classifies the Longview™ system as a Level 3 Plus system with a 25 percent NOx reduction for heavy-duty on-road vehicles using engines from the engine families listed in Attachment 1.

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

- The engine is originally manufactured from model year 1993 through 2006 having an engine family name listed in Attachment 1.
- The engine does not employ exhaust gas recirculation.
- The application must have a duty cycle with a temperature profile greater than 260 degrees Celsius for at least 25 percent of the time.
- The engine must be in its original certified configuration.
- The engine must not have a pre-existing diesel particulate filter from the original equipment manufacturer.
- The engine must not have a pre-existing diesel oxidation catalyst from the original equipment manufacturer.
- The engine must be certified for on-road applications at a PM emission level of at most 0.1 grams per brake horsepower-hour (g/bhp-hr), and greater than 0.01 g/bhp-hr.
- The engine must be four-stroke.
- The engine must be turbocharged.
- 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 engine must be operated on fuel that has a sulfur content of no more than 15 parts per million by weight.
- The system must not be operated with fuel additives, as defined in Section 2701 of Title 13 of the CCR, unless explicitly verified for use with the fuel additive(s).
- The system must not be used with any other systems or engine modifications without ARB and manufacturer's approval.
- The other terms and conditions specified below.

IT IS ALSO ORDERED AND RESOLVED: That installation of the Longview™ system, manufactured by Cleaire Advanced Emissions Controls of 14775 Wicks Boulevard, San Leandro, California 94577, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the Longview™ system is exempt from the prohibitions in Section 27156 of the Vehicle Code for installation on heavy-duty on-road vehicles using engines listed in Attachment 1.

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

The Longview™ system consists of a lean NOx catalyst, secondary fuel injection system, electronic controller, control sensors, and a catalyzed passive diesel particulate filter. The fuel injection system includes a fuel pump, injector, injector block, and a pressure regulator. The sensors include a manifold absolute pressure sensor, engine speed sensor, two exhaust temperature sensors, and an engine backpressure sensor. The major components of the Longview™ system are identified in Attachment 2. Schematics of the approved product and engine labels are shown in Attachment 3.

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

No changes are permitted to the device without the written approval of ARB. Changes from the verified design without written approval of ARB shall invalidate this Executive Order.

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

Marketing of the Longview™ 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 approval is obtained from ARB.

This Executive Order shall not apply to any Longview™ system advertised, offered for sale, sold with, or installed on a motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

The ARB estimates that the Longview™ system might incur a fuel economy penalty between three and seven percent depending on the application.

As specified in the Diesel Emission Control Strategy Verification Procedure (Title 13 CCR Section 2706 (g)), ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is:

CA/CLE/2008/PM3+/N25/ON/LNF01

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Cleaire is responsible for honoring a 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 (ASTM) specification D6751 applicable for 15 parts per million sulfur content; and
- 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.

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 2710.

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

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

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

Executed at El Monte, California, this 9th day of December 2008.

/s/

Robert H. Cross, Chief
Mobile Source Control Division

Attachment 1: ARB Approved Engine Families for the Longview™ System
Attachment 2: Parts List for the Longview™ System
Attachment 3: Labels for the Longview™ System