

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER DE-03-001

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code, Div. 26, Part 5, Chap. 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

The California Air Resources Board (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 the ARB hereby finds that the Cleaire Longview™ system reduces emissions of diesel particulate matter (PM) consistent with a Level 3 device (greater than or equal to 85 percent reductions), and obtains a 25 percent reduction in oxides of nitrogen (NOx) (Title 13 California Code of Regulations ("CCR") sections 2702 (f) and (g) and section 2708). The Executive Officer further finds Cleaire was unable to demonstrate system compliance with the 20 percent NO₂ limit which takes effect January 1, 2004 (Title 13 CCR section 2706(a)). Therefore, the Executive Officer finds that the system will be in noncompliance with that limit. 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 system, achieving 25 percent NOx for those engines having an OEM oxidation catalyst for the engines and applications listed in Tables 1 and Attachment 1.

Table 1: Appropriate Applications for the Longview System

Preexisting (Original Equipment Manufacturer "OEM") Device	Application
Oxicat equipped	Urban Bus
Oxicat equipped	Truck

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

- The engines are model year 1994 through 2002 Navistar DT466, Cummins ISM or Cummins M11 having the engine family numbers listed in Attachment 1.
- The engines do not employ exhaust gas recirculation (EGR).
- 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 have a pre-existing OEM oxidation catalyst.

- The engine must not have a pre-existing diesel particulate filter.
- The engine must be certified in California for on-road applications.
- The engine must be certified 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 should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
- Lube oil, or other oil, should 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 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 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.

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.

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

No changes are permitted to the device. The ARB must be notified in writing of any changes to any part of the Longview™ system. Any changes to the device must be evaluated and approved by the ARB. Failure to do so 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 the 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 (i)), the ARB assigns each Diesel Emission Control Strategy a family name. The designated family name for the verification as outlined above is: CA/CLE/2003/PM3/N25/ON/LNF02 of the system-labeling requirement.

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

In addition to the foregoing, the 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 California Code of Regulations, Title 13, Section 2222, et seq and California Code of Regulations, Title 13, Sections 2700 through 2710.

Vehicles certified 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.

A handwritten signature in black ink, appearing to read 'Bob Cross', followed by a long horizontal line that tapers to the right.

Robert H. Cross, Chief
Mobile Source Control Division

Attachments (2)

Attachment 1. Oxidation Catalysts Cummins M11, Cummins ISM and
Navistar/International DT466 1994 – 2002 Engine Families Appropriate for
Verification

Engine Family	Make/Year
RCE661FJDAAA	Cummins M11, 1994
SCE661FJDAAA	Cummins M11, 1995
TCE661FJDABA	Cummins M11, 1996
WCEXH0661MAC	Cummins M11, 1998
XCEXH0661MAC	Cummins M11, 1999
XCEXH0661MAG	Cummins ISM, 1999
YCEXH0661MAG	Cummins ISM, 2000
1CEXH0661MAP	Cummins ISM, 2001
2CEXH0661MAP	Cummins ISM, 2002
RNV466D6DAAA	Navistar, 1994
WNVXH0466CCB	Navistar, 1998
WNVXH0466CCD	Navistar, 1998