

**State of California  
AIR RESOURCES BOARD**

**EXECUTIVE ORDER DE-04-007**

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

Lubrizol Engine Control Systems  
PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System  
(PuriNOx™ is also known as Performix™)

ARB has reviewed Lubrizol Engine Control Systems (LZ-ECS) 's request for verification of the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ 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 PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System reduces emissions of diesel particulate matter (PM) consistent with a Level 2 device (greater than or equal to 50 percent reductions) and reduces oxides of nitrogen emissions by 20 percent (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 PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System as a Level 2 system, for the applications listed in Table 1 and engine families listed in Attachment 1.

Table 1: Appropriate Applications for the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System

Diesel Emission Control Strategy	Application
PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System	Off-Road Port, Railway Yards, and other Intermodal/Freight Handling Operation Applications only

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

- The engines are originally manufactured from model year 1996 through 2002 having the engine family numbers listed in Attachment 1.
- The engines do not employ exhaust gas recirculation.
- The application must be able to tolerate a reduced peak engine power of 20 percent.
- The engine must not use optical or conductive fuel sensors, nor water absorbing fuel filters.
- The engine must not use the following models of the Bosch fuel pump: VP30, and VP44.
- The vendor must ensure that customers are fully aware of the attached application, storage and usage requirements.
- The customer must meet the application storage and usage requirements.
- The engine must not have a pre-existing diesel particulate filter or diesel oxidation catalyst.
- The engine must be certified in California for off-road applications.
- The engine must be certified at a PM emission level of at most 0.4 grams per brake horsepower-hour (g/bhp-hr), and greater than 0.01 g/bhp-hr.
- The engine must be four-stroke.
- The engine can be turbocharged or naturally aspirated.
- The engine can be mechanically or electronically injected.
- 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 PuriNOx™ emulsified diesel fuel.
- The other terms and conditions specified below.

IT IS ALSO ORDERED AND RESOLVED: That installation of the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System, manufactured by Lubrizol Engine Control Systems of 29400 Lakeland Blvd., Wickliffe, Ohio 44092-2298, has been found not to reduce the effectiveness of the applicable vehicle pollution control system, and therefore, the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ 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 PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System consists of an emulsified diesel fuel and a diesel oxidation catalyst. The major components of the AZ Purimuffler™ or AZ Purifier™ are identified in Attachment 2. End-users are required to follow the guidelines on operation and storage as listed in the owner's manual of PuriNOx™ fuel. In particular, there are strict requirements to ensure that PuriNOx™ does not remain static or left standing beyond a certain amount of time.

This Executive order is valid provided that installation instructions for PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ 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 PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System, as exempted by ARB, which adversely affect the performance of the vehicle's pollution control system, shall invalidate this Executive Order.

No changes are permitted to the system. The ARB must be notified in writing of any changes to any part of the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System. Any changes to the system must be evaluated and approved by ARB. Failure to do so shall invalidate this Executive Order.

Marketing of the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ 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 PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ 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 use of the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System might incur a fuel economy penalty between ten to fifteen percent depending on the engine and application.

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/LUB/2004/PM2/N20/OFF/SYS01.

Additionally, as stated in the Diesel Emission Control Strategy Verification Procedure, Lubrizol Engine Control Systems 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 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.

Furthermore, Lubrizol must fulfill the conditions stated in the Resolution from the California Environmental Policy Council on April 30, 2004 (see Attachment 3). Lubrizol must provide cumulative national sales information and report to ARB on the status of the other conditions contained in the Resolution every six months.

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.

Executed at El Monte, California, this 29<sup>th</sup> day of October 2004.

//s//

Robert H. Cross, Chief  
Mobile Source Control Division

Attachment 1: ARB Approved Model Year 1996 to 2002 Engine Families for the PuriNOx™ and AZ Purimuffler™ or AZ Purifier™ System

Attachment 2: Part Numbers and Model Numbers of the AZ Purimuffler™ or AZ Purifier™

Attachment 3: Resolution from the California Environmental Policy Council on April 30, 2004