Air Resources Board

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TO: All Interested Parties

SUBJECT: REVISIONS TO THE DRAFT PROCEDURE FOR APPROVING AFTERMARKET DIESEL PARTICULATE FILTERS FOR ON-ROAD HEAVY-DUTY DIESEL ENGINES

On December 4, 2014 and April 7, 2015 Air Resources Board (ARB or Board) staff held two public workshops to discuss general concepts (http://www.arb.ca.gov/diesel/mod-part/presentation.pdf) and to present a draft procedure (http://www.arb.ca.gov/diesel/mod-part/reg-language.pdf) for approving aftermarket diesel particulate filters (DPF) for 2007-2009 on-road heavy-duty diesel engines.

Original equipment manufacturer (OEM) on-road heavy-duty diesel engines model year 2007 and later are certified with exhaust aftertreatment systems, which typically include a DPF. An aftermarket DPF approval program would allow for additional options in the market place for the end-user. Currently, OEM filters are the only option available to replace DPFs after expiration of the warranty period. The California Vehicle Code 27156 and 38391 requires ARB approve an exemption before a person can install, sell, offer for sale, or advertise any device, apparatus, or mechanism intended for use with, or as a part of, a required motor vehicle pollution control device or system that alters or modifies the original design or performance of the motor vehicle pollution control device or system. The procedure will allow ARB to evaluate non-OEM aftermarket parts for DPFs for 2007-2009 model year heavy-duty diesel engines to determine if they can be used in place of OEM devices.

ARB has determined existing aftermarket procedures are inadequate to evaluate aftermarket DPFs due to their unique technical considerations. The new procedure must be robust enough to adequately assess such critical aspects as backpressure, regeneration, durability, and vehicle/engine compatibility. The draft procedure attempted to address these important technical and administrative issues. Major elements in the draft procedure included:

- Emission Testing
  - OEM part after 500 hours laboratory aging
  - Aftermarket part after 500 hours laboratory aging and 500 hours field demonstration
- Durability/Compatibility Testing
  - 1st stage: 500 hours laboratory aging
  - 2nd stage: 500 hours field demonstration
  - Additional two, 200 hours field demonstrations
- Warranties
  - 5 years/150,000 miles product warranty
  - 5 years/150,000 miles installation warranty
- Other Requirements — reporting, recordkeeping, labelling, authorized installer, pre-installation assessment, prohibition on resale of used part, recall provision, et cetera.

Since the workshop staff has received numerous comments and suggestions from interested parties. Based upon these comments and recommendations, staff is proposing changes to the draft procedure and is providing a summary of proposed amendments and changes to the previously released draft procedure. A summary of these changes are presented in Table 1. A more detailed discussion for each point is also provided at this time. The formal proposal and rulemaking materials will be released for public review and comment on or before October 2, 2015.

Table 1: Summary of Draft Procedure Requirements and Revisions

Criteria	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Emission Control Groups	~40	6
Laboratory aging hours	500	300
OEM part laboratory aging	Required	Not required
OEM part emission testing	Required	Not required
Product warranty	5 years/150,000 miles	2 years/unlimited miles
Installation warranty	5 years/150,000 miles	2 years/unlimited miles
Authorized installer	Required	Not required
Reporting for the installer	Required	Not required
Swapping	Not allowed	Allowed
Bond	Not required	Required

Emission Control Group (ECG)

Draft Procedure (April 7, 2015)	Revisions (June 2015)
~40	6

In the draft procedure, Emission Control Group was defined as:

"Emission control group" means a group of like engines and applications from the perspective of how the modified part will interact with the engines and how the engines will interact with the device. The emission control group for any modified part may only consist of engines from a single engine manufacturer and one DPF part number.

Staff is proposing a modification to this definition. Staff will eliminate the OEM part number requirement and is proposing a broader definition for the emission control group. Staff considered comments received and assessed the OEM engine and aftertreatment configuration for these model years to identify 6 major emission control groups based on OEM engine manufacturer, OEM market share, and aftertreatment configuration.

The 6 ECGs are identified in the following table:

Table 2: Proposed 6 ECGs Concept[1]

ECG#	Representative OEM Manufacturer	Testing Requirements
1	Cummins	Full testing required[2]
2	Detroit Diesel Corporation	Full testing required[2]
3	International/Navistar	Full testing required[2]
4	Volvo/Mack	Full testing required[2]
5	General Motors/Isuzu/Mitsubishi	See note[3]
6	Caterpillar	Full testing required[2]

[1] Hino is excluded from this evaluation procedure because its unique aftertreatment design is out of the scope of this aftermarket DPF evaluation procedure;
[2] Full testing requirements include laboratory aging, field demonstration and emission testing;
[3] Applicants which only want ECG#5 must conduct full testing. Applicants that successfully complete all requirements for ECG 1, 2, 3, or 4, must only conduct field demonstrations for ECG#5.

Staff's reduction of the number of ECGs will substantially reduce the testing cost while still acknowledging differences in engine design among the major OEMs that may affect

engine and aftermarket part durability and functionality. This reduction in cost will encourage participation in the aftermarket DPF program.

Testing Requirements

	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Laboratory aging hours	500	300
OEM part laboratory aging	Required	Not required
OEM part emission testing	Required	Not required

In the draft evaluation procedure, the testing sequence was described as:

- 500 hours laboratory aging (new OEM DPF and new aftermarket DPF)
- Emission testing (laboratory aged OEM DPF and aftermarket DPF)
- 500 hours field compatibility trials (laboratory aged aftermarket DPF only)
- Emission testing (aftermarket DPF after 500 hours field trial)

Staff is proposing to eliminate laboratory aging and emission testing requirements for the OEM DPF, and reduce the laboratory aging duration for aftermarket DPF from 500 hours to 300 hours. The field compatibility trials remain the same. Staff is working on other details to finalize the testing procedure in consideration of received comments and recommendations.

Staff's proposal will help reduce the testing cost and shorten the application time while still addressing the aftermarket DPF durability and functionality issues. This reduction in cost and time will also encourage participation in the aftermarket DPF program.

Warranty

	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Product warranty	5 years/150,000 miles	2 years/unlimited miles
Installation warranty	5 years/150,000 miles	2 years/unlimited miles

Staff is proposing to reduce the product warranty and the installation warranty from 5 years/150,000 miles to 2 years/unlimited miles. This reduction aligns the warranty closer to that of OEM replacement parts while still recognizing that an aftermarket part undergoes less testing and therefore should have a longer warranty than an already proven OEM part. In addition, the proposed 2 years/unlimited miles warranties still provide for sufficient time to monitor warranty claims for potential issues.

Swapping Policy

	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Swapping	Not allowed	Allowed

Staff is proposing that swapping of the aftermarket DPF is only permitted under certain terms and conditions. These restrictions would ensure the aftermarket DPF can still be appropriately tracked for warranty purposes but allows for increased flexibility within the same fleet or owner operator. Staff is working on finalizing the regulatory language to incorporate a path which allows a swapping policy.

Authorized Installers and Reporting Obligations for the Installers

	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Authorized installer	Required	Not required
Reporting for the installer	Required	Not required

In the draft procedure, an authorized installer is required and the installer must ensure modified parts are properly tracked and reported, including how they will ensure notification compliance with systems which exceed the warranty rate (4 percent triggers) prior to the annual reporting requirement.

Staff is proposing to remove the requirements of having authorized installers and also proposing to remove the warranty reporting obligations for installers. However, manufacturers would still be responsible for tracking part sales and installations as part of meeting warranty obligations.

Bond Requirement

	Draft Procedure (April 7, 2015)	Revisions (June 2015)
Bond	Not required	Required*

*Staff is still researching this concept

Given the significant reduction in upfront testing, staff is considering requiring all successful applicants maintain a bond to ensure adequate protection for the end user. This bond requirement will help in creating creditability and accountability for the aftermarket DPF manufacturers should product recalls or other issues arise.

Additional information relating to the modified part procedure will be made available on the following ARB website: http://www.arb.ca.gov/diesel/mod-part/mod-part.htm. An email listserve will be used to notify stakeholders of upcoming events and activities related to the proposed Modified Part evaluation procedure. If you would like to receive notification by email of upcoming events, please sign up at: http://www.arb.ca.gov/listserv/listserv.php. If you are a person who needs assistance in a language other than English, please go to http://www.arb.ca.gov/as/eeo/languageaccess.htm or contact the Bilingual Coordinator at (916) 323-7053.

We welcome and encourage your participation in this rule making. If you have any questions about this process or the proposed procedure, please contact Shawn Daley, Manager, at (626) 575-6972 or by email at shawn.daley@arb.ca.gov.

Sincerely,

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